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THE ARCHAEOLOGICAL INVESTIGATIONS OF THE METROTECH PROJECT BROOKLYN, NEW YORK

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CHAPTER 1: INTRODUCTION

by

William I. Roberts IV

This report documents the archaeological testing and data recovery excavations completed within the MetroTech project area in central Brooklyn, New York City, reviews the history and prehistory of this location, presents the analyses performed on the recovered materials, and provides results and conclusions regarding the lots investigated. This work formed the final parts of the archaeological cultural resources review of the development now known as MetroTech, previously called the Metropolitan Technology Center. MetroTech was planned during the early 1980s. The development consists of a commercial, academic and high technology office complex planned to occupy a ten block sixteen acre area of downtown Brooklyn just northeast of Borough Hall. Eight new buildings and the renovation of three existing buildings are included (Forest City MetroTech Associates 1986). The first of two phases of construction is presently underway under the overall direction of the developer, Forest City Ratner Companies. Since the MetroTech project is partially financed with an Urban Development Action Grant from the United States Department of Housing and Urban Development and was determined by the City of New York to have an effect on several properties included in, or eligible for inclusion in the National Register of Historic Places, the National Historic Preservation Act of 1966 required that a Memorandum of Agreement be drawn up. After consultation among the Advisory Council on Historic Preservation, the New York State Historic Preservation Office and the City of New York such a memorandum dated 25 March 1988 was approved. The Memorandum of Agreement stipulated that an archaeological testing program be developed for all locations determined to be archaeologically sensitive and threatened by impacts associated with the construction. Once these testing programs were approved by the New York City Landmarks Preservation Commission and the New York State Office of Parks, Recreation and Historic Preservation they would be implemented. Upon completion of the testing written reports were to be submitted to the above agencies for their review. Those locations having no significant archaeological resources would then be cleared for potential construction, while those with such resources would be evaluated against the National Register of Historic Places criteria to determine their eligibility for inclusion in the Register. Mitigation plans consisting of avoidance and preservation, or data recovery excavations were to be prepared for all Register eligible resources, in consultation with the reviewing agencies. These plans were implemented and when completed, end-of-fieldwork letters were to be submitted for each location mitigated to the reviewing agencies. Following the analysis of data recovered as mitigation, a draft report was to be submitted to the reviewing agencies for comment, with any changes recommended to be incorporated into the final report (Advisory Council on Historic Preservation 1988).

Greenhouse Consultants Incorporated was requested by the Forest City Ratner Company to undertake the archaeological cultural resources review, testing and potential mitigation outlined above during early 1989. Archaeological testing took place intermittently in several episodes from June 14, 1989 through June 1, 1990 on seven former lots. Data recovery excavations took place in three episodes from August 23, 1989 through July 18, 1990 on five of the seven lots.

This fieldwork resulted in the identification of ten features associated with the water supply and sewage disposal practices of households occupying six of the seven lots. Six of these features proved to be undisturbed and were excavated during the data recovery. Of these six features, two cisterns and two privies located in three lots were found to contain extensive refuse deposits. These deposits were associated with the long term domestic occupation of the lots by three families of English and Irish extraction during the latter half of the nineteenth century. The six features completely excavated and the four extensive refuse deposits recovered provided the bulk of the information presented in this report.

Table 1.1 Lots Tested with Results

Block/Lot	Street Address	Feature Found	Comments
143/12	104 Johnson Street	Cistern	Well-preserved
143/12	104 Johnson Street	Privy	Well-preserved
143/17	108 Johnson Street	Privy	Destroyed by looters
143/26	304 Bridge Street	Privy	Previously disturbed
143/26	304 Bridge Street	Cistern	Destroyed by looters
143/28	308 Bridge Street	Privy	Well-preserved
143/28	308 Bridge Street	Dry well	Well-preserved
143/12	59 Lawrence Street	Cistern	Well-preserved
2047/4	319 Bridge Street	None	-----
2047/5	317 Bridge Street	Privy	Partly looted
2047/5	317 Bridge Street	Dry well	Well-preserved

Description of Project Area

The MetroTech project area is located in central Brooklyn and consists of all or part of ten blocks which are confined within a quadrilateral bounded by Tillary Street to the north, Flatbush Avenue Extension to the east, Willoughby Street to the south and Jay Street to the west. More specifically, the MetroTech project area includes all of Block 132 except the northeastern corner now under the Flatbush Avenue Extension; all of Blocks 142, 143 and 2047; the triangular portion of Block 2048 southwest of the Flatbush Avenue Extension; the northern three-fourths of Block 147; the northern halves of Blocks 148 and 2058; all of Block 2059 excepting the location of the standing Holy Family Chapel/Zion Baptist Church; and a small triangular portion of Block 2060 just south of the intersection of Gold Street and the Flatbush Avenue Extension. See Figure 1 for the location of the project area.

CHAPTER 2: PROJECT AREA HISTORY

by

William I. Roberts IV

Summary of Previous Investigations

Prior to the involvement of Greenhouse Consultants Incorporated in the study of cultural resources within the MetroTech project, two background research reports were completed on all or part of the project area. The first of these was titled "Cultural Resource Reconnaissance, Metropolitan Technology Center, Brooklyn, New York". It was authored by Susan Kardas and Edward Larrabee during 1984. This report provides an overview of the ten block area described above, details the general prehistory and history of the project area and vicinity, describes the present conditions as of early 1984, and gives recommendations regarding history, archaeology and standing architecture (Kardas and Larrabee 1984). The second background research study was titled "Metropolitan Technology Center, Brooklyn, New York, Phase 1: Cultural Resources Summary". This second report was authored by Nan A. Rothschild and Susan A. Dublin during 1985. It provides a more detailed assessment of Blocks 143 and 2047 dealing only with the historic period, and attempts to determine who lived in the structures on these blocks and whether or not archaeological remains associated with them could have survived until 1985 (Rothschild and Dublin 1985).

The prehistory of the project area and vicinity is summarized in the earlier background research report. The three major periods of prehistoric occupation in the northeastern United States, the Paleo-Indian, Archaic and Woodland periods, are each briefly described. An assessment is made regarding the potential for prehistoric occupation in the project area for each period. The report concludes that although the MetroTech project area may have been used for hunting and the cultivation of crops during prehistory, it was probably not a prehistoric habitation site (Kardas and Larrabee 1984:8-12).

The history of the project area and vicinity during the Colonial period is also summarized in the first background research report. Cartographic and documentary evidence from the seventeenth century Dutch occupation is reviewed, but no specific information regarding the project area could be derived from these sources. The later seventeenth and eighteenth century British occupation is then discussed. The cartographic evidence from this period is greater in quantity and quality than that for the preceding Dutch occupation, but the details regarding the project area itself are relatively few (Kardas and Larrabee 1984:13-15). The Ratzer Map of 1766-1767 shows the project area as part of two large farms extending from the "Road to Flatbush" to the marsh along the southwestern side of the Wallabout Bay (ibid.:Figure 5). Military actions took place on Long Island during the Revolutionary War and parts of Brooklyn were fortified but none of this took place within the project area (ibid.:14-15).

Kardas and Larrabee next provide a summary of the nineteenth century history of the project area and vicinity. Mention is made of the establishment of the Village of Brooklyn in 1816, the subsequent growth of both Brooklyn and Williamsburgh along with their street grids, and the delayed development to the south and east of Wallabout Bay. Prior to 1824 the project area remained as parts of two large farms owned by the Johnson and Duffield families. The Johnson farm is then used as an example. The first sales of subdivided lots to people outside the family occurred in 1829 with the last sale by a Johnson recorded in 1850. Nearly all the subdivided lots in the project area have residences on them by 1855, the date of the Perris Map. Mention is made of the construction of eight churches in the project area from 1836 until 1880. The Civil War is briefly mentioned and maps of 1866, 1874 and 1886 are included. The earliest church had been documented by 1886, and the Robinson Atlas of that year is described as depicting the project area as a mature residential neighborhood (Kardas and Larrabee 1984:18-20, Figures 7-10).

The next section of the first background research report attempts to characterize the project area in terms of "urban development, the socio-economic status of the residents, ethnic affiliation, and other components of cultural nature" (ibid.:25). The nineteenth century maps and atlases are reviewed. By 1855 the entire project area is subdivided into lots, with about 45 percent occupied by brick masonry structures, 45

percent with wood frame structures, and 10 percent vacant. Nearly all appear to be residences. Lot size did not vary much. Width ranged from 17 to 30 feet and depth from 80 to 107 feet. Kardas and Larrabee use the small lot size to infer that the project area contained modest housing. They then describe the surviving examples of these mid-nineteenth century structures based on visual examination. They conclude that these were three bay structures with entrance to one side or centered, and had either two and one-half stories with a gable roof or three stories with a flat roof. The ornamentation was minimal, with trim around the doorway, over the windows, and in brackets at the roofline. They once again characterize these row houses as modest, although solidly built. Kardas and Larrabee then attempted to use city directories of 1855, 1867, 1871, 1895 and 1902 to determine the occupations of some of the residents of the project area. Bricklayers, clerks, conductors, detectives, janitors, leather dressers, police, printers and widows are noted, all of whom were likely to find employment in the government and financial center around Borough Hall, just to the southwest. The information described above from cartographic sources, local histories, inspection of the property, evidence of occupations and family names is then summarized. They conclude that this location was a typical part of Brooklyn that did not have a particular neighborhood name and was not particularly well known. The project area was laid out as a densely built area of middle or working class housing beginning about 1840. It was a largely residential neighborhood with some shops particularly along Myrtle Avenue. This pattern continued until the 1920s when several large offices and factories were erected and the residential nature of the area declined. Some information is then offered to provide a characterization of the ethnic makeup of the project area. It is suggested from information in city directories that a moderate percentage of the occupants during the 1850s and 1860s had English surnames. Interviews with two local residents and surviving signs on some of the local businesses are used to suggest that the project area became predominately Irish around 1900 (Kardas and Larrabee 1984:25-29). The remainder of this chapter is used to list and describe the nine churches found within or adjacent to the project area (ibid.:30-35).

The penultimate chapter of the first documentary research report on the MetroTech project details the conditions of the project area as of 1984. General comments are presented block by block (ibid.:36-45), followed by descriptions of specific points of interest. Two standing structures listed as New York City Landmarks are noted first. These are the Bridge Street African Methodist Episcopal Church at 311 Bridge Street on Block 2047, Lot 14; and the Old Brooklyn Fire Headquarters Building at 365-367 Jay Street on Block 147, Lot 12. The latter building is also noted as being on the National Register of Historic Places. Other standing structures potentially eligible for inclusion in the National Register are then noted. Structures at 100, 106, 108, 110 and 120 Johnson Street are listed, with particular mention made of 108 Johnson Street, the only surviving Federal Period structure in the project area, all five structures being on Block 143. Structures at 136, 138 and 140 Duffield Street and 125, 127 and 129 Myrtle Avenue are then listed, all on Block 2047. The final structures mentioned are the former Moravian Church and minister's house at 345 and 347 Jay Street on Block 147 (ibid.:62-63). A comparison with Figure 13: "Cultural Resource Base Map" differs somewhat in the standing structures included as being significant or requiring further study. Three structures are included as being of National Register or New York City Landmarks status: the Bridge Street African Methodist Episcopal Church, Old Brooklyn Fire Headquarters, and 108 Johnson Street. An additional eleven standing structures in the project area are included as possibly significant and therefore requiring additional study: 100 106, 110 and 120 Johnson Street; 61 Lawrence Street; 136, 138 and 140 Duffield Street; 127 Myrtle Avenue; and, 345-347 Jay Street (ibid.:Figure 13). Areas retaining archaeological potential are then discussed, limited to those from the mid- to late nineteenth century. Parts of two blocks are included in this category. These consist of rear yards behind houses along Lawrence, Johnson and Bridge Streets on the northern end of Block 143; and the rear yards of 128 through 140 Duffield Street on Block 2047 (ibid.:64). A comparison with the same category of resources shown on Figure 13 further reduces the number of rear yards to ten on Block 143 (61 Lawrence Street; 100, 104, 106, 108, 110 and 112 Johnson Street; 304, 306 and 308 Bridge Street) and four on Block 2047 (134, 136, 138 and 140 Duffield Street) (ibid.:Figure 13).

The final chapter of the initial background research report is devoted to recommendations based on the literary research and visual reconnaissance conducted. Preservation in place is recommended for two New

York City Landmarks status structures, the Bridge Street African Methodist Episcopal Church and the Old Brooklyn Fire Headquarters. Detailed historical and architectural study of thirteen standing structures is recommended, including 100, 106, 108, 110 and 120 Johnson Street; 61 Lawrence Street 136, 138 and 140 Duffield Street; and 127 and 129 Myrtle Avenue; and, 345 and 347 Jay Street. A program of subsurface archaeological testing is recommended for lots on the northern end of Block 143 and eastern side of Block 2047, including only the fourteen lot mentioned as on Figure 13 above (ibid.:65-66, Figure 13).

The second background research report focuses on issues raised in the first report. The second report deals only with the historic period since the first report rules out significant prehistoric use of the project area. The second report, authored by Rothschild and Dublin, attempts to determine first if parts or all of the project area have a connection with persons or events important to national or local history or could advance scientific knowledge of the past, and second, whether archaeological deposits from these times could survive to the present. The authors note that deep features such as privies, wells and cisterns are more likely to survive than living surfaces (Rothschild and Dublin 1985:1-2). The second report limits the area studied from the full project area to only portions of Blocks 143 and 2047. This follows the recommendations of the first report but expands the sensitivity areas on both blocks to include lots with nineteen residences on the northern half of Block 143 and lots with seven residences on the southern half of Block 2047 (ibid.:3-4). This incorporates all the locations deemed by Kardas and Larrabee to be potentially archaeologically important, adds a few adjacent properties on Block 143 and the three lot parcel just south of the Bridge Street African Methodist Episcopal Church on Block 2047, which was a garden owned by the Polytechnic University during the 1980s.

The earliest property transactions including the project area are dealt with in the second chapter of the Rothschild and Dublin report. Beginning with the earliest extant deeds from the seventeenth century, the ownership of the two farms that once made up the MetroTech project area is traced through property transactions to the initial subdivisions during the 1820s (Rothschild and Dublin 1985:5-7). The farm that included the southeastern half of the project area was sold by the heirs of Sussanna Dubbles to Hendrick Sleght in 1688. Sussanna inherited the property from her husband, Joris Dirckse, who had been granted the farm by the Dutch Governor William Kieft in 1646 (Liber 1:100, quoted in Rothschild and Dublin 1985:5). The Sleght family transferred this property to Carel Debevois in 1704 (Liber 3:6, quoted in Rothschild and Dublin 1985:5). Carel Debevois subsequently died, and his farm passed eventually to his granddaughter Margaret Duffield. She left the property to her heirs in 1829 (Liber 26:86; Liber 27:13; Liber 27:21, quoted in Rothschild and Dublin 1985:5). The northwestern portion of the project area was transferred from Harmon Joras to George and Trentye Jacobsen in 1692 (Liber 1:295, quoted in Rothschild and Dublin 1985:6). The same parcel was again transferred in 1755 from Martin and Elizabeth Ryerse to Barent Johnson (Liber 16:44, quoted in Rothschild and Dublin 1985:6). John Barent Johnson inherited this farm from his father, Barent Johnson. Upon John Barent Johnson's death circa 1824, the farm became the property of his sons: Evan Malbone Johnson, Samuel Roosevelt Johnson and William Lupton Johnson (Liber 14:143, quoted in Rothschild and Dublin 1985:6). The northwestern part of Block 143 became the property of Samuel R. Johnson (Rothschild and Dublin 1985:6). The remainder of the second chapter in the Rothschild and Dublin report discusses the fact that no eighteenth century cartographic sources show any structures within the project area, and that the Battle of Long Island, the only Revolutionary War action fought in Brooklyn, did not take place on the project area (ibid.:7-8).

During the first two decades of the nineteenth century there were no significant changes within the MetroTech project area compared with the situation at the end of the eighteenth century. The project area remained parts of the Johnson and Debevoise farms. During 1819 the Lott Map was drawn up showing all the present streets excepting the Flatbush Extension, although there is no evidence that the streets within the project area were constructed that year. Evidence from the Spooner directory indicate that by 1822 Willoughby, Jay, Bridge and Gold Streets and Myrtle Avenue were all opened. The 1827 Hooker Map shows structures along Tillary Street indicating that it was probably opened by that date, It is during this decade that changes in the ownership of the two farms that made up the project area begin. By 1824 the Johnson farm had been divided among three sons of John B. Johnson. During the 1820s the Debevoise

farm passed from Johannes Debevoise to his daughter Margaret Duffield. By 1829 Margaret Duffield had divided the farm among her children, Anna Prince, Margaretta Willoughby and her husband Samuel A. Willoughby, and Susan Lawrence and her husband Charles K. Lawrence (Rothschild and Dublin 1985:11). These property transactions set the stage for the subdivision of the farms that followed, and the surnames of the individuals involved provided the origins for nearly half the street names in the project area. None of the principal owners of this property lived within the project area during the years 1830 through 1835 (ibid.:11-12). No detailed maps of the project area exist between the Hooker Map of 1827 and the Perris Map of 1855. Rothschild and Dublin relied instead on other documents including deeds, census records and directories for this period (ibid.:12).

The second documentary research report then provides a lot by lot summary of the property transactions and residents covering the period from the initial subdivision of the farms to the end of the nineteenth century (Rothschild and Dublin 1985:13-25). Chains of title, and lists of occupants derived from various directories, are also provided as appendices. The chapter on the nineteenth century history of Blocks 143 and 2047 ends with a summary. All of the properties studied were residential except 120 Johnson Street on Block 143 (Lot 23) which had a commercial establishment on the ground floor. The majority of the properties studied on Block 143 and the west side of Block 2047 were initially owner occupied. The properties studied along Duffield Street on Block 2047 were rentals, probably two family dwellings. Only a few of the owner occupied properties remained in possession of one family for a large part of the century, including 59 Lawrence Street, 104 and 108 Johnson Street, and 300, 304, 317 and 319 Bridge Street (ibid.:25). Using census data, the residents of the two blocks are characterized as of northern European background, including English, Irish and German. In 1855 and 1865 the majority were American born, but by 1875 increasing numbers were immigrants. The economic background of theses residents is characterized as middle class, including clerks, artisans and shopkeepers. Two exceptions are noted, Hazadiah Coffin, a sea captain living at 104 Johnson Street; and Henry Hagner, a lawyer living at 108 Johnson Street (ibid.:26).

The penultimate chapter of the Rothschild and Dublin report covers the evidence for land disturbances within the lots studied. This evidence is derived from records in the Brooklyn Department of Buildings, the Perris Map of 1855, and the Sanborn Insurance Map of 1887, 1904 and 1911. All of the lots summarized on both blocks had largely undisturbed backyards as of 1985 with the following exceptions. 59 Lawrence Street on Block 143 was completely covered by three structures. The rear two would have destroyed fragile backyard surfaces but possibly not deep features since they have no cellars. 100 Johnson Street had only a very narrow backyard left just behind the house and a three foot wide alleyway along the east side. Also on Block 143, 120 Johnson Street (also numbered 296-298 Bridge Street), contained a masonry store building that covered the entire lot. This building had foundations to eight feet below grade which would have destroyed any surfaces or features once present here. On Block 2047, 317 Bridge Street, had several one story frame sheds constructed over most of its yard. These would have destroyed surfaces but probably not deep features. All other lots considered had surviving open backyards (Rothschild and Dublin 1985:33-41).

The second documentary research report finishes with a chapter devoted to conclusions and recommendations. Archaeological investigations consisting first of ground penetrating radar survey of ten lots following by physical testing of the most promising are included. Potential archaeological mitigation of a sample of the lots with intact features is also suggested (Rothschild and Dublin 1985:43).

During 1985 a report on the standing structures within the MetroTech project area was prepared. This report, authored by Robert E. Meadows, was entitled "Survey of Structures in the Metropolitan Technology Center Project Area" (Meadows 1985). This report provides descriptions and photographs of 21 standing structures located on four of the ten blocks of the MetroTech project area. Two-thirds of these structures are located on Blocks 143 and 2047, the focus of the archaeological concerns. The structures examined on Block 143 included 100, 106, 108, 110 and 120 Johnson Street; 59 and 61 Lawrence Street; and, 304, 306 and 308 Bridge Street (Meadows 1985:3-18, 27-30). These structures were all evaluated for eligibility

for designation as New York City Landmarks and listing in the National Register of Historic Places. Only 108 Johnson Street was found to be individually eligible, although the remaining nine structures could be considered as contributing elements of a historic district (ibid.:45). The structures examined on Block 2047 were 136, 138 and 140 Duffield Street and 127 Myrtle Avenue (ibid.:19-26). None of these four structures were found to be individually eligible for inclusion in the National Register or as New York City Landmarks. These four structures were also not considered as potentially contributing to a historic district (ibid.:46). The issue of a historic district is further considered by comparing the MetroTech structures with the historic districts of Brooklyn Heights and Cobble Hill. The Meadows report concludes that the structures in the project area do not qualify as a historic district (ibid.:45-46)

Additional Historic Research:
It was at this point in the history of the MetroTech project that Greenhouse Consultants Inc. became involved. The first task was to review the two existing documentary reports summarized above and prepare a proposal for archaeological testing of selected lots. It was decided through discussions with Dr. Sherene Baugher of the New York City Landmarks Preservation Commission staff that three criteria must be met for testing to be undertaken. The lot in question must have been occupied during the nineteenth century for a period of at least 25 years by one family or homogeneous group of people. This occupation must include the time range when water main and sewer connections were made and there must be reason to believe that features and/or other deposits from this time period would not have subsequently been destroyed. The Environmental Impact Statement for the MetroTech project provides evidence regarding the availability of water and sewers:

> City water mains were first used in Brooklyn in 1859. By 1860 9,302 house taps were in existence. This number increased to 22,244 by 1866 and 64,460 by 1885. There was some resistance to connecting to the city system, perhaps because householders had to bear the cost. As late as 1883, 275 wells were still in use, despite known problems with the quality of water supply aquifer.
>
> Plans for city sewage disposal were not completed for the entire city of Brooklyn until 1869. By 1869, 24,761 private connections had been installed. By 1885, this number had increased to 65,164 (McKeown and Franz 1987:III:178).

The review of the documentary research reports, particularly the Rothschild and Dublin report, led to the conclusion that six lots on Block 143 and two lots on Block 2047 should be considered for testing. The lots on Block 143 considered were 104 and 108 Johnson Street; 300, 304 and 308 Bridge Street; and 59 Lawrence Street. 300 Bridge Street was ruled out when inspections of the property revealed that demolition of this house and the adjacent structures had evidently disturbed the lot, leaving the former backyard a pitted rubble strewn expanse of mud. 104 Johnson Street had been demolished and the entire lot had become part of a parking lot used by the Brooklyn Press who occupied 59 Lawrence Street adjacent to the south. 59 Lawrence Street was completely covered by structures. An inspection of the property revealed that only the front of three structures had a basement. The other three lots had standing structures and open rear yards. This inspection also revealed that the lots inspected were too heavily overgrown, strewn with debris, and had various obstacles such as fences and changes in grade to make a ground penetrating radar survey possible. Rothschild and Dublin's suggestion to use remote sensing techniques was abandoned at this time. See Figure 2 for the location of lots investigated by Greenhouse Consultants Incorporated.

The chain of title and lists of occupants for Block 143 can be found in Appendices 3 and 4 of the second documentary research report on the MetroTech project (Rothschild and Dublin 1985:App. 3 and 4). 104 Johnson Street was purchased by Hazadiah Coffin in 1847. During 1872 his heirs and widow transferred the lot to Mary C. and Harriet Coffin (ibid.:App. 3). Hazadiah Coffin, shipmaster, was resident there in 1850. His widow, Sarah Coffin was living there as of 1861. In 1865 both Emily Coffin. schoolteacher, and Roland Coffin, seaman, are listed. Harriet Coffin, music teacher, was living there in 1875. The directory of 1892 lists Emily Coffin again (ibid.:App. 4). The Coffin family both owned and occupied 104 Johnson Street from 1847 until 1892 or later. 108 Johnson Street was sold to Henry Hagner in 1851. Ten years later Hagner transferred the property to John C. Smith who transferred it back again during the same year.

These are evidently the only deed references for this lot from Hagner's original purchase until the end of the century (ibid.:App. 3). Henry Hagner, lawyer, is listed as resident at 108 Johnson Street from at least 1855 until 1892 (ibid.:App. 4). Hagner owned and occupied 108 Johnson Street for at least 37 years and probably 41 years or longer. 304 Bridge Street was purchased by John L. Dyke in 1864. No other deed transactions are listed in the chain of title for the nineteenth century (ibid.:App. 3). John L. Dyke, a cooper, is listed as resident at 304 Bridge Street in both 1861 and 1870. Evidently the Dyke family were residents there through the remainder of the century (ibid.:20, App. 4). It can be concluded that John Dyke and his family both owned and occupied 304 Bridge Street for 39 years during the nineteenth century. 308 Bridge Street was sold to William A. Mercein in 1844. The directory of 1841/2 lists him as resident there. The property was sold to Reuben P. Carr during 1867. Reuben Carr, a builder, is listed as resident there in directories of 1875 and 1885. George Carr, a mason, is listed as resident at 308 Bridge Street in 1892 (ibid.:21, App. 3 and 4). The Carr family owned and occupied this property for at least 25 years from 1867 until 1892. 59 Lawrence Street was sold by Samuel and Elizabeth Johnson to Michael Kelly in 1846. During 1876 this property was transferred to Mary E. Kelly and Ann O'Neill. Two years later Ann O'Neill transferred her interest to Mary E. Kelly (ibid.:App. 3). The directory of 1855 lists Michael Kelly, wood dealer, as resident of 59 Lawrence Street. The directory of 1870 contains the same listings (ibid.:App. 4). During 1898 59 Lawrence Street was sold by a Mary Purcell. The property was subsequently purchased by the Berns Veterinary Hospital during 1925. They evidently held it until 1973 when it was sold to the owners of the Brooklyn Press (Meadows 1985:14). The Brooklyn Press occupied 59 Lawrence Street from 1973 through 1990. The Kelly family both owned and occupied 59 Lawrence Street for at least 32 years from 1846 until after 1878.

The chains of title and lists of residents for Block 2047 are presented as Appendices 5 and 6 in the second background research report on MetroTech (Rothschild and Dublin 1985: App. 5 and 6). The chain of title for 317 Bridge Street (Lot 5, Block 2047) shows the purchase of the property in 1848 by George W. Lee from Henry Vail. Lee's devisee sold the property to James Shea in 1882. The Lee family held the property from 34 years (ibid.:App. 5). George W. Lee is listed as resident at 317 Bridge Street in 1855, 1875 and 1880. The references give his occupation as clerk at the Navy Yard in 1855, and clerk in 1875 (ibid.:App. 6).

The ownership of 319 Bridge Street is not as clear. The chain of title established by Rothschild and Dublin for 1832-1891 is as follows:

Table 2.1 Chain of Title 319 Bridge Street

Lot 4	319 Bridge Street	Liber:Page
1832	Samuel Willoughby to Edward Crummey	34:397
1834	Edward Crummey to Andrew Cropsey	45:2
1854	Henry Vail to Jeremiah Mundell	352:540
1862	Jeremiah Mundell to John F. Hennessey	572:546
1891	John Willey to Wiley Overton (lease)	2045:221

(Rothschild and Dublin 1985:App. 5)

The chain of title presented has at least two obvious gaps. The transaction from Cropsey to Vail (or an immediate owner) between 1834 and 1854 is missing, as is that from Hennessey to Wiley (or an intermediary) between 1862 and 1891. The list of residents from 319 Bridge Street shows Jeremiah Mundell, a painter, there in 1855. John Hennessey is listed for 1865 as a real estate agent. He appeared again in 1875 as a city assessor and a final time in 1880. It can be concluded that Hennessey was resident for the period 1862 through 1880. Sometime between 1880 and 1891 he must have sold the property. His occupancy could be as long as 28 years but only the first 18 years are certain. The existing evidence

suggests that an occupation by the Hennessey family for over 25 years is possible, but gaps in the record make confirmation of this impossible.

The second criterion that must be met is that the former backyards of the lot in question was not subsequently covered by a building with a basement or other deep subsurface disturbance. An examination of the 1855 Perris Atlas shows that the lot was to become 317 Bridge Street was formerly numbered 261. At that time there was one structure in the lot set back about five feet from the street. This structure was 20 feet by 35 feet in size with a 10 by 20 foot rear extension (probably the kitchen). The Robinson Atlas of 1886 shows the same building on this lot which has been renumbered 317. The next available detailed map is Sanborn 1904. This map shows that an outbuilding has been erected at the rear of the lot which is labeled "shed". This outbuilding has two main rooms. The larger covers the rear sixteen feet and extends across its twenty foot width. Along the northern boundary of the lot the smaller room extends twelve feet east to west by six feet north to south. The most recent map obtained that depicts structures in the 317 Bridge Street lot is the Sanborn map of 1939 (originally published 1915 but revised 1939). The main house is largely unchanged although a small five foot by five foot extension has been made along the south side. The shed at the rear is still extant although the six by twelve foot northern room has been demolished. In summary, the cartographic evidence indicates that the house at 317 Bridge Street was built prior to 1855 and stood until 1939 or later. It was modified only slightly over this period. Sometime between 1886 and 1904 a shed was constructed at the rear of the lot. This shed was larger in 1904 than in 1939, but there is no evidence from either depiction that suggests it had a cellar or deep foundation. It is our opinion that 317 Bridge Street meets the second criterion in that the only structure built over the backyard was a shed which probably would not have disturbed the deep features such as privies, wells, cisterns or refuse pits which may have been used by the Lee family from 1848 through 1882.

The same four historic maps were examined to determine whether or not potential evidence in the rear of 319 Bridge Street could survive. The 1855 Perris Atlas shows that this lot was formerly #263. At that time one structure covered the front half of the lot extending from about two feet away from the western or street-front boundary to about 50 feet east of this lot line. The Robinson Atlas of 1886 shows the same building on the lot which has been renumbered 319. The next available map, Sanborn 1904, shows the same building again, without any additions. The final available map, the Sanborn 1915, revised in 1939, shows that the original structure has evidently been removed and replaced by two structures. The western structure fronting Bridge Street cover approximately 60 feet. Both evidently covered the full width of this lot. There is no evidence regarding the existence of a cellar under this eastern structure. If this structure had no basement then it is possible that features such as privies and cisterns could survive beneath the surface of the garden that presently occupies 315-319 Bridge Street. It is our opinion that 319 Bridge Street probably meets the second criterion.

The architectural study of the structures within the MetroTech project area concluded that several were worth saving. It was ultimately decided that the houses at 100, 106, 108 and 110 Johnson Street would be moved to a new location. The location chosen was the northern part of the garden adjacent to the Roman Catholic Church of St. Boniface facing Duffield Street on Block 2058 (McKeown and Franz 1987:vi-72). This part of the garden formerly consisted of three lots, none of which had been studied in the documentary research reports. Greenhouse Consultants proposed doing additional background research on these lots, 184-188 Duffield Street.

During July 1989 a memorandum was prepared to describe the research undertaken and the results obtained. This memorandum was augmented with copies of the historic maps from 1855 through 1941 and submitted as a brief report to New York City Landmarks Preservation Commission in January 1990. That report concludes:

> ... that all three of these lots that now make up the Duffield Street parcel were multiple apartment tenements and therefore occupied by more than one family at any given time. Even if the owners lived in one of the apartments, any features found in the yards could not be attributed to any specific family. This conclusion is based on twentieth century descriptions of the number of apartments or families per structure, and a comparison of the

nineteenth and twentieth century cartographic sources which do not indicate any structural changes from 1855 through 1941. Therefore, we recommend that subsurface testing will not be necessary in these lots (Roberts and Adams 1990:2).

Information from New York State Census records further indicated that 188 Duffield Street was occupied by members of eight families including people of English and Irish background (ibid.). This indicated that the occupation was not one ethnic group.

The review of the two documentary research reports on the MetroTech project and the new research completed during 1989 led to the conclusions that archaeological testing be undertaken within seven lots on two of the three blocks examined. Testing was recommended for 59 Lawrence Street, 104 and 108 Johnson Street, and 304 and 308 Bridge Street, all on Block 143. Testing was also recommended for 317 and 319 Bridge Street on Block 2047, but not for any of the three lots studied on Block 2058.

During the analysis of material recovered from the MetroTech excavations, questions regarding the backgrounds of the families that occupied the houses and lots investigated were raised. Greenhouse Consultants undertook a limited amount of additional genealogical research in an attempt to answer some of these questions. By this time word of the existence of the MetroTech collections had started to spread among the local archaeological community. A member of this community, Marjorie Ingle, expressed interest in studying these collections after the termination of the present project. In preparation for this study she undertook some additional research into the federal census data from the years 1860, 1870 and 1880. The results of both these efforts are summarized below in Tables 2.2, 2.3 and 2.4.

104 Johnson Street, The Coffin Family

Louis Coffin's genealogical work on the Coffin family traces its lineage back to medieval England. Emigrating from Devonshire, they settled in New England during the seventeenth century (Coffin 1962:35-42). They were concentrated at first in Nantucket (ibid.:43). The Coffin family was excelled in seamanship. There was, for example, General John Coffin who defended England during the War of 1812 (ibid.:75). Sir Isaac Coffin of Boston was an admiral in the Royal Navy. Captain Seth Coffin commanded a whaling ship in the late eighteenth century (ibid.:77). The genealogy lists Hezediah Coffin of Nantucket, a shipmaster as well as Hezekiah Coffin who died at sea in 1815 near the island of Timor (ibid.:87-89). Two men by the name of Coffin are listed as having been born in Brooklyn - Benjamin (born 1814) and Jared (born 1835 (ibid.:221, 228). Their occupations are not noted. Hazadiah Coffin of Johnson Street shows up neither in the genealogy nor in the Business Directory. The only Coffin to appear in Curtin's Directory is a lumber dealer by the name of Joseph (Curtin 1872-73:59).

The Coffin family was an old and prominent maritime family with a connection to Brooklyn. As with many families of English descent, Old Testament names appear frequently, including "Hezediah" and "Hezekiah". Even though Hazadiah of 104 Johnson Street is not mentioned in the sources it may be assumed with some certainty that he was a member of this large family of seamen.

The fact that the Coffin family were shipowners provides evidence that they were economically better off than other families in this neighborhood. This inference is further supported by the fact that another house on Block 143, 61 Lawrence Street, was owned by the Coffins and operated as a rental property from 1847 through 1870 (Rothschild and Dublin 1985:Appendices 3 and 4). Table 2.2 provides lists of the occupants of 104 Johnson Street for the years 1860, 1870 and 1880.

TABLE 2.2
Composition of Households Occupying
104 Johnson Street

Year	Household Member	Age	Occupation
1860	Sarah Coffin *	68 years	
	(Note: husband, ship master dies c. 1855)		
	Emily B. Coffin -	40	
	Mary Coffin #	36	
	Roland Coffin -	34	Ship master
	Harriet F. Coffin *	23	
1870	Sarah Coffin *	75	Keeping house
	Emily Coffin -	50 (?)	
	Mary Coffin #	40	Teacher
	Harriet Coffin -	35 (?)	
	Harriett O'Connell ? -	24 (?)	
	Martha O'Connell ? #	21	
1880	Emily Coffin	60 (?)	House keeper
	Mary C. Coffin, sister	50 (?)	At home
	Harriet Coffin, sister	43 (?)	At home
	Homadine H. Lou, niece	34	At home
	Martha Andrews	30	At home

Place of Birth: * = Massachusetts
- = Unknown
= New York

(Compiled from United States Census for 1860, 1870, and 1880 by Marjorie Ingle.)

308 Bridge Street, The Carr Family

The Carr family were originally an English Quaker family which had settled in Rhode Island. Eventually they migrated to Long Island (Young 1937:1-5). There was a Walter Carr of Brooklyn who was evidently related to this old Long Island family. He assisted Florence Young with her genealogical research. Curtin's Directory lists a number of individuals by the name of Carr who had businesses in Brooklyn (Curtin 1872-73:55). Among them was a tailor, a stationer, a dyer and a lawyer, but no mention is made of anyone in the building trades. From the information provided it may be said that there was a branch of the Carr family in nineteenth century Brooklyn and that they may be described as having been "middle-class". These is no evidence that all of the individuals of that name were related to the Long Island family. There is also no evidence that George and Rubin Carr, (builders), of 308 Bridge Street were in any way related to the other individuals of the same name. See Table 2.3 for a list of occupants of 308 Bridge Street in 1860, 1870 and 1880.

59 Lawrence Street, The Kelly Family

Curtin's Directory lists an M. and T. Kelly who dealt in kindling wood at 63 Jay Street (Curtin 1873-74:139). No other information could be found on the Kelly Family. See Table 2.4 for a list of occupants of 59 Lawrence Street in 1860, 1870 and 1880.

TABLE 2.3
Composition of Households Occupying
308 Bridge Street

Year	Household Member	Age	Occupation
1860	W. Hyde #	46 years	Gentleman
	Eliza Hyde #	44	
	Erastus Hyde #	23	Clerk
	Maria Hyde #	21	School teacher
	Francis Hyde #	19	Ship master
	Emma Hyde #	15	
	Eliza Hyde #	13	
	Charles Hyde #	8	
	Maria Mercein #	78	
	Susan Mercein #	47	
	Andrew Mercein #	33	
	Bridget Keats ? *	25	Domestic
	John Johnston #	58	Gentleman
	Sarah Johnston #	58	
	Emily Johnston #	22	
	B. Branklyn ? #	30	Patent roofer
1870	Rubin Carr #	46	Mason
	Eliza Carr +	46	Keeping house
	George Carr #	22	Mason
	Amelia Carr #	20	
	Anna Carr #	18	
	Emma Carr #	16	
	Evelyn? Carr #	14	
	Julia Carr #	8	
	----- Carr #	4	
1880	Rubin Carr #	54	Mason/builder
	Eliza Carr, wife +	54	H.
	Evelyn Carr, daughter #	23	At home
	Julia A. Carr, ---- #	17	At home
	Ida B. Carr, --- #e	14	At home

Place of Birth: + = Connecticut
- = Unknown
= New York

(Compiled from United States Census for 1860, 1870, and 1880 by Marjorie Ingle.)

TABLE 2.4
Composition of Households Occupying
59 Lawrence Street

Year	Household Member	Age	Occupation
1860			
Household Number 1			
	Michael Kelly *	60 years	Firewood dealer (Business on Jay Street)
	Elizabeth Kelly *	60	Clerk
	Patrick Kelly, brother *	62	Firewood dealer
	Ann Kelly *	23	
	Mary Kelly *	10 (?)	
Household Number 2			
	Thomas Donley *	26	Carpenter
	Hannah Donley *	26	
Household Number 3			
	---- Hanigan *	50	
	Mary Hanigan *	49	
	Mary Hanigan #	20	Seamstress
	Jane Hanigan #	18	Seamstress
1870			
The following individuals are enumerated as being members of the same household at this dwelling.			
	Michael Kelly *	70	Wood yard
	Elizabeth Kelly *	70	Keeping house
	Mary Kelly *#	20 (?)	----
	James Estay? *	60	Cartman
	Margaret Estay? *	40	
	James Marborough? *	40	Wheelwright
	Catherine Marborough #	10	At school
	Catherine Gilbert? #	10	At school
	Pat Higgins *	60	Cartman
	Elizabeth Higgins *	40	
1880			
Household Number 1			
	Michael Kelly *	80	Retired wood dealer
	Mary Kelly, niece *	20	Housekeeping
	Callaria O'Neil, niece +	18	Housework
Household Number 2			
	Chas Collins *	52	Truckman
	Katherine Collins, wife *	52	Keeping house
	---- McGinny, sister-in-law *	53	At home
	Katie McGinny, niece #	21	Straw hat

Place of Birth: * = Ireland
+ = Norway
# = New York

(Compiled from United States Census for 1860, 1870 and 1880 by Marjorie Ingle.)

CHAPTER 3: ARCHAEOLOGICAL FIELD INVESTIGATIONS

by

William I. Roberts IV

The archaeological testing of the seven lots on Blocks 143 and 2047 within the MetroTech project area took place in three episodes. This schedule was necessitated by the problems of obtaining access to the lots on Block 2047 which were covered by the Polytechnic University garden, and awaiting the demolition of the 59 Lawrence Street structures which were used by the Brooklyn Press. Two types of field testing methods were employed during the three episodes of testing. Shovel testing was used during the first episode, and backhoe trenching for the other two episodes. In the case of the first episode, it was necessary to conduct a second phase of testing in which the shovel tests were expanded to larger rectangular excavation units. Surface inspection was used in areas of good surface visibility to supplement the shovel testing. See Figure 3 for the location of shovel tests and backhoe trenches on Block 143. See Figure 4 for the location of backhoe trenches on Block 2047.

Archaeological testing of the backyard areas of 104 and 108 Johnson Street, and 304 and 308 Bridge Street on Block 143 was conducted from the 14th through the 23rd of June 1989, and again from July 29-August 4, 1989. Shovel testing was used during the eight days in June to determine the presence or absence of features and/or other deposits dating to the last four decades of the nineteenth century. If such features or deposits were present, they could preserve evidence relating to the use of these properties by the families documented above: the Coffins, Hagners, Carrs and Dykes.

The methodology employed for the shovel testing was rather straight forward. Roughly square tests approximately 1.5 feet on a side were excavated to a depth of at least 2.4 feet, until a feature was identified or subsoil was exposed, or until the test was impeded by excessive ground water or other obstacles. All soil from the shovel tests were screened through 1/4 inch mesh for the recovery of artifacts. Soils were excavated and recorded by natural stratigraphic deposits. For all of the shovel tests, the strata encountered were measured, described and recorded utilizing the Context System. See Appendix 3 for a description of this system, and Appendix 2 for the original survey record forms.

Up to four transects of four or five shovel tests were planned for each lot, yielding a maximum total of 80 tests if all were necessary and possible. The shovel tests were to be concentrated at the rear of the lots and just behind the original house locations, which is where privies and cisterns/wells respectively were expected. A total of 51 shovel tests were completed. Most of the shovel tests were approximately 1.5 feet by 1.5 feet. Several were expanded to a maximum size of about three feet.

Based on the results of the shovel testing detailed below, it was recommended that excavation units be opened in seven locations, within all four lots tested. A memorandum describing the shovel testing conducted and the results thereof was submitted to the New York City Landmarks Preservation Commission staff for their review, and the second phase of testing was approved. Two additional shovel tests were included for 304 Bridge Street since it was possible to have the abandoned automobile removed.

Greenhouse Consultants conducted a second phase of archaeological testing at four lots within Block 143 (104 and 108 Johnson Street; 304 and 308 Bridge Street) in the Borough of Brooklyn from July 24 - August 4, 1989. This testing consisted of the excavation of formal excavation units at the seven locations where shovel tests excavated during the first phase of testing had produced positive results. Four of the excavation units measured five feet square, and the other five feet by eight feet, five feet by nine feet and approximately ten feet square. The purpose of this second phase of testing was first to determine whether the deposits uncovered in the shovel tests were archaeological features and then to assess the approximate date range of these features and to determine their probable function.

The second type of archaeological field testing of these properties proved that all four lots had privies at the rear of the property, and that 104 Johnson Street, 304 Bridge and 308 Bridge Street had cisterns or wells just behind the house. All of these features were filled during the nineteenth century and remained undisturbed with the exception of the privy and cistern at 304 Bridge Street. Mitigation consisting of manual archaeological excavation of the surviving undisturbed features as well as mapping and photographing of the disturbed features was recommended and subsequently approved by the New York City Landmarks Preservation Commission staff.

Mitigation excavations were recommended for six features within four lots on Block 143 and two features within one lot Block 2047. All were approved by Dr. Sherene Baugher, the senior archaeologist on the staff of the New York City Landmarks Preservation Commission. The general research objectives for the mitigation excavations were to obtain information regarding the construction and function of features relating to water supply and sewage disposal as well as reasons for their placement within the lots; and to obtain information regarding the lives of the five families that used these features and subsequently filled them after they went out of use. This information could then be compared and contrasted with that from similar features excavated in the region, noting that very few such features have been excavated within Brooklyn. See Figure 5 for the location of excavation units on Block 143.

The mitigation excavations took place in three episodes, reflecting the schedule for the testing of the various lots within Blocks 143 and 2047. The methodology employed for the mitigation data recovery consisted of the complete excavation of the fill of the features by natural stratigraphic deposits. All soil recovered was screened through 1/4 inch mesh for the recovery of artifacts. The stone and brick linings of these features were in good condition, so shoring was not necessary. Plywood sheeting along one section of Excavation Unit 11 was needed to keep the loose rubble deposits there from subsiding. As noted above in the section on testing, it was necessary to expand several of the excavation units to encompass entire features. Since a number of the features proved to be rather deep it was also necessary to obtain ladders for access, and ropes, hooks and a pulley for the safe removal of buckets of soil. Feature fill deposits were excavated in their entirety without leaving half-sections of baulks standing, in order to eliminate potential collapses. This also speeded the recording process since only the profiles of the features were drawn with their fill layers reconstructed from the elevation data. See Figure 6 for the location of excavation units on Block 2047.

104 Johnson Street

Testing Type 1. Sixteen shovel tests were completed (Contexts 11-26). Two of the tests (14 and 19) produced evidence of possible features. In the southeastern corner of the lot, Shovel Test 14 was excavated to a depth of three feet and no subsoil was observed. The entire profile recorded was consistent with fill deposits within a feature (possibly a refuse pit or privy). In the northwestern corner of the backyard approximately five feet south of the location of the rear wall of the house (now demolished) a stone slab was encountered at a depth of about one foot below grade in Shovel Test 19. This slab, which was too large to remove during the shovel testing, was considered as potentially covering a feature (such as a well or cistern).

Table 3.1 Archaeological Investigations of 104 Johnson Street: Block 143, Lot 12

Context No.	Description	Date Excavated	Comment	Date of Fill
11-26	Shovel Tests	June 1989	-----	-----
100-109	Excavation Unit 1	July - Sept. 1989	-----	-----
108	Cistern	Sept. 1989	Intact	1860s-1880s
700-708	Excavation Unit 7	Aug. - Oct. 1989	-----	-----
707	Privy	Sept.- Oct. 1989	Intact	1860s-1880s

Testing Type 2. A five by five foot unit (Excavation Unit 7) was excavated in the southeastern corner of the lot where Shovel Test 14 was unable to reach any subsoil. This unit revealed two sides of a stone-

lined rectangular or square feature. The top context of fill below the uppermost surviving stones was removed. Artifacts from this context were given a preliminary examination in the field and found to date from the end of the nineteenth century. They included several small patent medicine bottles. It was concluded that the feature encountered was a stone-lined privy based on its location at the rear of the lot and its construction, and that it had probably been filled during the late nineteenth century. Excavation was then halted in Excavation Unit 7.

A five foot by five foot unit (Excavation Unit 1) was excavated in the northwestern portion of this former backyard where Shovel Test 19 had encountered a stone slab below the surface. This slab and a second one were found to cap a brick and mortar feature. In order to fully expose this feature, Excavation Unit 1 was extended four feet to the north to form a five foot by nine foot unit immediately adjacent to the rear wall of the now demolished house. A circular mortar-lined brick cistern approximately five feet in diameter with a beehive shaped domed top was uncovered. Associated with this cistern was a brick and mortar overflow drain. Fill could be seen within the cistern approximately 1.5 feet below the top. This fill was not removed, but artifacts were recovered from deposits above the stone slabs and surrounding the exterior of the cistern. These appeared to date from the late nineteenth century or very early twentieth century. It was concluded that this feature was a cistern based on its location, construction and associated drain and that it had probably been filled in during the turn of the century or before. Excavation was then halted in Excavation Unit 1.

Mitigation. Excavation Units 1 and 7 were located within the former rear yard of 104 Johnson Street. The house had been demolished prior to the start of the entire MetroTech project. During the 1980s this lot made up approximately two-thirds of the Brooklyn Press parking lot, who occupied 59 Lawrence Street adjacent to the south. Shovel testing here located two features, a cistern and a privy. The cistern was located along the western boundary of the lot just south of the rear (southern) wall of the former house. This feature was investigated with Excavation Unit 1. The privy was located in the southeastern corner of the lot, as far away from the house as possible. Mitigation fieldwork on these two units took place from August 23 through October 10, 1989. Both units had been started during the preceding testing phase.

Excavation Unit 1 which began as a five foot square was expanded to a rectangle five feet east-west by nine feet north-south. This unit investigated the circular brick cistern which was the original water supply for the house. It had a dome-shaped top with a circular opening capped with flagstone when found. It was well made and lined with a layer of mortar on the interior of the sides and floor. The walls of the cistern were assigned Context 108.01. The fill within was excavated by natural strata and assigned Context 108.02 through 108.06. Context 108.07 was the brick and mortar floor of the cistern. The fill of the cistern was largely composed of coal ash, partially burnt coal and slag, all probably from the furnace and/or coal grates used to heat the house. This material was found in such profusion that it was not possible to quantify it. The vast majority was disposed of in the field. Several other features were uncovered in Excavation Unit 1, including a row of flagstones set vertically parallel to the rear of the house, a small posthole and a brick drain. The row of flagstones was probably a garden or path boundary and the posthole for a fence or clothesline. The brick drain, Context 103.01, began at the top of the cistern and led away to the southeast towards the center of the lot. The sides were brick set on edge which were capped with horizontal bricks. The base consisted of flagstones. The drain was filled with a dark yellow brown sandy silt, Context 103.02. There was not enough of the drain exposed to determine slope, but it was the belief of the Principal Investigator based on the direction it led, that it served as an overflow for the cistern. Attempts were made to trace the drain with a steel probe, but the soil of the parking lot was too compact.

Excavation Unit 7 began as a five foot square and was expanded to a rectangle 6.5 feet north-south by 7.5 feet east-west. This encompassed the entire privy which was the only feature found in the unit. The privy walls were assigned Context 707.01 and the fill Context 707.02 through Context 707.14. There was no floor found, only subsoil beneath the walls and fill. Flotation samples were taken from Contexts 707.10 and 707.12.

108 Johnson Street

Testing Type 1. Twelve shovel tests were completed (Contexts 1-10, 27, 28). This lot consisted largely of an overgrown garden with cement pathways. It was necessary to demolish this concrete surface by hand in three locations just behind the house to facilitate shovel testing. In the southeastern corner of the lot, Shovel Tests 4 and 7 produced evidence of a possible feature, one shovel test excavated to a depth of 3.6 feet and no subsoil was encountered. The entire soil profile recorded was consistent with fill deposits within a feature (possibly a refuse pit or privy).

Table 3.2 Archaeological Investigations of 108 Johnson Street: Block 143, Lot 17

Context No.	Description	Date Excavated	Comment	Date of Fill
1-10, 27, 28	Shovel Tests	June 1989	-----	-----
200-211	Excavation Unit 2	July, Sept. 1989	-----	-----
211	Privy	October 1989	Looted	Nineteenth century?

Testing Type 2. A five foot by five foot unit (Excavation Unit 2) was excavated at the southeastern corner of this lot where Shovel Tests 4 and 7 had uncovered a few bricks and failed to reach subsoil. This unit revealed two sides of a stone-lined rectangular or square feature. The upper portion of fill below the surviving stones was removed. These contexts did not contain any obviously modern materials. It was concluded that this feature encountered was a stone-lined privy based on its location and construction, and that it had probably been filled during the late nineteenth century. Excavation was then halted in Excavation Unit 2.

Mitigation. Excavation Unit 2 was located in the southeastern corner of the rear yard of 108 Johnson Street, where Shovel Tests 4 and 7 a possible feature. Excavation Unit 2 was started as a five foot square which revealed two sides of a stone-lined privy. This privy was positioned as far as possible from the house. Excavation Unit 2 was expanded during the mitigation of September 1989 to a seven foot square in order to encompass the southern and eastern sides of the privy. The privy was five feet east-west by 4.75 feet north-south. Excavation Unit 2 was located in the rear yard of a vacant house surrounded by a chain link fence. Despite this protection, the privy within Excavation Unit 2 was destroyed through looting by artifact hunters on the weekend of September 30 - October 1, 1989. No further work was conducted within Excavation Unit 2 or the remainder of 108 Johnson Street following this incident, except drawing a sketch plan. This plan shows the general location of Excavation Unit 2, the privy, and a cylindrical brick cistern 5.1 feet in diameter located by the artifact hunters in the northwestern corner of the rear yard.

304 Bridge Street

Testing Type 1. Nine shovel tests were completed (Contexts 39-36, 51). This lot was the most heavily overgrown of those tested. It also included a wrecked automobile situated just behind the rear wall of the house. Since the auto was not moved during our initial testing phase, several potential test locations could not be done. Four of the nine shovel tests produced evidence of possible features. In the rear of the lot three shovel tests adjacent to one another all produced evidence of one or two possible features. Shovel Test 29, located nearest to the southwestern corner of the lot, hit a stone slab at 0.8 feet below grade. Shovel Test 31, located five feet to the north, revealed the edge of a similar slab at 1.6 feet below grade. The shovel tests located five feet further north (32 and 30) came down on the edge of a large deep feature that evidently had been emptied by artifact hunters and backfilled recently. No subsoil was observed to a depth of 4.6 feet. Interviews with employees of the Brooklyn Press, whose building had access through a rear door to the yard, confirmed that this location had been excavated within this decade by persons searching for artifacts. In the northeastern corner of the rear yard adjacent to the wrecked auto, a brick-lined feature was encountered at approximately 0.7 feet below the surface of a stone pavement. Soil consistent with fill was observed to the west of the bricks and soil resembling the subsoil to the east.

Testing Type 2. A five foot by five foot unit (Excavation Unit 3) was excavated at the center of the western end of this lot where Shovel Tests 31 and 32 had revealed stone slabs and failed to reach subsoil. Excavation Unit 3 revealed two sides of a square or rectangular stone-lined feature. Approximately five feet of fill was removed from this feature and obviously modern artifacts such as plastic wrappers were encountered throughout. It was concluded that this feature was a stone-lined privy based on its location and construction. It was also concluded that this privy had been emptied by artifact hunters from five to eight years before the testing based on the stratigraphy encountered and interviews with local informants. Excavation was then halted in Excavation Unit 3.

Table 3.3 Archaeological Investigations of 304 Bridge Street: Block 143, Lot 26

Context No.	Description	Date Excavated	Comment	Date of Fill
29-36, 51-53	Shovel Tests	June-July 1989	-----	-----
300-303	Excavation Unit 3	July 1989	-----	-----
302	Privy	July 1989	Previously disturbed	20th century
600-603	Excavation Unit 6	August 1989	-----	-----
602	Cistern	August 1989	Looted	19th century

Two additional shovel tests were excavated in the eastern end of this backyard in locations formerly underneath a wrecked automobile (Contexts 52, 53). Both tests reached subsoil and encountered no potential features. These tests were located to the south of Shovel Test 51 which had uncovered several bricks in a curving line, near the northeastern corner of the backyard. After the automobile was removed, this location appeared to be somewhat disturbed. The remnants of the stone paving slabs that had been at this location were removed and the upper half a foot of soil was shoveled. This action revealed the brick feature which covered most of the approximately ten foot square area investigated (Excavation Unit 6). This feature was determined to be a circle of bricks lined with hard mortar with a diameter of approximately seven feet. The western half of the fill was then removed to a depth of four feet. Green plant material as well as modern plastic artifacts were recovered throughout this deposit. It was concluded that it had been emptied very recently by artifact hunters (probably July 29) based on the nature of the fill excavated and knowledge of when the automobile was removed. Excavation was then halted in Excavation Unit 6.

Mitigation. Excavation Units 3 and 6 were located in the rear yard of 304 Bridge Street. Shovel testing in this overgrown garden had located two features, a cistern and a privy. The privy was stone-lined and located in the center of the western end of the lot, as far from the house as possible. The cistern was constructed of brick and mortar and cylindrical in shape. It was located just west of the northwestern corner of the house. The privy was investigated with Excavation Unit 3, and the cistern with Excavation Unit 6.

Excavation Unit 3 was begun during testing as a six foot square. The privy itself was assigned Context 303 and the fill with Context 302. Context 302 was removed until the bottom half of excavation was 7.5 feet below grade. The fill was consistently modern, including such artifacts as cellophane food wrappers with the labels still legible. Excavation was abandoned at this point and the only task undertaken here during mitigation was to draw a plan of the unit. Conversations with the staff of the Brooklyn Press, whose rear fire exit was just west of Excavation Unit 3 indicated that artifact hunters had emptied this privy several years prior to our investigations.

Excavation Unit 6 was a rectangle 8.5 feet east-west by nine feet north-south, except that the southeastern and southwestern corners were not excavated as they were completely outside the cistern. During the testing phase the overburden was removed revealing the brick and mortar cistern (Context 601) and its fill (Context 602). The western half of Context 602 was removed to five feet below grade, at which point the eastern side collapsed. Modern artifacts such as plastic and cloth as well as green leaves were found.

This indicated that the cistern bad been looted by artifact hunters sometime between June 23 and August 1, 1989. The only task undertaken here during mitigation was the drawing of a plan.

308 Bridge Street

Testing Type 1. Fourteen shovel tests were completed (Contexts 37-50). Three of these produced evidence of possible features in two locations. In the center of the rear of the lot, Shovel Test 44 was excavated to a depth of three feet and no subsoil was observed. This soil profile was consistent with the fill of a feature. Near the center of the lot, approximately twelve feet behind the rear wall of the house, Shovel tests 40 and 41 encountered the exterior stone lining of a circular feature (possibly a well or cistern).

Table 3.4 Archaeological Investigations of 308 Bridge Street: Block 143, Lot 28

Context No.	Description	Date Excavated	Comment	Date of Fill
37-50	Shovel Tests	June 1989	-----	-----
400-408	Excavation Unit 4	July - Sept. 1989	-----	-----
407	Privy	Aug. - Sept. 1989	Intact	1860s-1880s
500-506	Excavation Unit 5	July - Sept. 1989	-----	-----
505	Dry well	Aug. - Sept. 1989	Intact	very little evidence

Testing Type 2. A five foot by five foot unit (Excavation Unit 4) was excavated adjacent to the existing fence at the west side of this lot near where Shovel Test 44 was unable to reach subsoil. This unit revealed a stone foundation running north-south parallel to the fence and only about 1.5 feet to the east. At this time the unit was extended three feet to the west under the existing fence. This extension revealed that the stone foundation was the east side of a square or rectangular stone-lined feature. The top 0.5 feet of the fill was removed from this feature and no modern artifacts were observed. It was concluded that this stone-lined feature was a privy and that it had been filled in no later than the beginning of this century. Excavation was then halted in Excavation Unit 4.

A five foot by five foot unit (Excavation Unit 5) was excavated in the east central portion of the backyard where Shovel Test 40 and 41 had uncovered the edges of a circular stone feature about four feet in diameter covered by two courses of roughly laid unmortared stones. As was the case in Excavation Unit 1, the upper 1.5 to 2.0 feet of this feature were empty. Below this space were several layers of relatively clean silts. The upper 0.5 to 1.0 feet of these deposits were removed, and no obviously modern artifacts were observed. Artifacts recovered included a rubber ball. It was concluded that this circular stone feature was probably a well based on its location, construction and the existence of a small brick drain leading to it. It was further concluded that this well was filled in prior to the beginning of this century, based on the artifacts recovered. Excavation then ceased in Excavation Unit 5.

Mitigation. Excavation Units 4 and 5 were located within the rear yard of 308 Bridge Street. Shovel testing located two dry-stone features, a privy at the rear of the yard, and what was ultimately identified as a dry-well near the center of the yard. The privy was assigned as Excavation Unit 4 and the dry-well as Excavation Unit 5. Mitigation field work on these two units took place from August 23 through September 15, 1989.

Excavation Unit 4 which began as a five foot square in the center of the west side of the rear yard of 108 Johnson Street, was extended three feet further west during testing. Shortly after mitigation began on this unit, it was extended a second time; one foot to the north and the south and two feet further west. Excavation Unit 4 was completed as a seven by ten foot rectangle with the long axis running east-west. The unit had been started with its west side abutting a chain link fence, but it became clear that the parking lot to the west had encroached on the lot boundary so that the fence was about five feet east of the actual western boundary of the lot. It was necessary to remove a considerable amount of modern

debris from above this feature, especially to the west of the chain link fence. It was necessary to cut and roll back the fence during the working hours. The stone lining of the privy was assigned Context 403. The privy was roughly square at the top but became close to circular below the uppermost two or three courses. The fill of the privy consisted of ten layers, Context 407.01 through Context 407.10, all removed by natural strata. Flotation samples were taken from Contexts 407.04 and 407.08.

Excavation Unit 5 was begun as a five foot square near the center of the rear yard of 308 Bridge Street during testing in July 1989. Two shovel tests at this location produced evidence of a stone lined feature. The lack of mortar between the stone indicated that this feature was not a cistern. It was also evidently not a privy due to its position in the lot, and the fact that a privy had already been found here in Excavation Unit 4. The stone feature was assigned Context 505.01. A brick drain very similar to that seen in Excavation Unit 1 (104 Johnson Street) was identified running from the direction of the house to its terminus at this stone feature. The drain was assigned Context 505.02. The fill was excavated as thirteen natural stratigraphic deposits, identified as Context 505.03 through Context 505.15. The entire feature was only about six feet in depth, starting at the top of the stones. The fill was primarily sand and silt with very few artifacts, a marked contrast with the undisturbed privies and cisterns found (Excavation Units 1, 4 and 7). Following the excavation of the fill, Excavation Unit 5 was expanded two feet to the east becoming an "L" shaped unit. This was done to further investigate the drain (Context 505.02) and an iron alloy tank set in the ground just to the south (Context 501).

The brick drain was constructed of bricks set on their sides on top of a flagstone base and covered with bricks set horizontally. The bricks were held together and to the base stones with mortar. A black silt filled the interior. Elevations points were taken of Context 505.02, but the length exposed was insufficient to establish the slope. Overall, the shallow depth of this stone-lined feature, the nature of its fill, and its location in the center of the backyard at the end of a brick drain, were the deciding factors in interpreting Context 505.01 as a dry-well. It would have functioned as an overflow for the cistern. 308 Bridge Street was originally served by a large circular brick cistern located in the northeastern corner of the rear yard just west of the house. A rough excavation by artifact hunters slightly enlarged by the field crew revealed a mortar lined brick cistern seven feet in diameter located with its center 4.25 feet west of the west wall of the standing structure and eight feet south of the northern lot boundary. This cistern had been bisected by the extension of the rear of the house probably during the early twentieth century.

59 Lawrence Street

Testing. The episode of archaeological testing within the MetroTech project area that took place during March 1990 consisted of the investigation of 59 Lawrence Street on Block 143. The methodology employed was as follows. The outlines of the test trenches were positioned within the lot using the Block 143 Damage Map and fiberglass surveying tapes. Fluorescent spray paint was then used to mark their edges on the surface of the parking lot. A backhoe was used to break through the concrete floor where necessary, and to excavate the areas. Backhoe excavation proceeded slowly, removing approximately 0.5 feet of soil at a time. Excavation proceeded in this manner until the potential artifact bearing deposits or features were observed. The backhoe operator was occasionally instructed to remove a bucket of soil to be examined, which was placed on a relatively clean section of the concrete floor. This soil was then screened through 1/4 inch mesh in order to recover artifacts. Artifacts were also recovered when they were observed in the trench by the backhoe operator to selectively remove them with the backhoe bucket. Soil strata were measured, described and recorded for all trenches, according to the natural deposits observed. Selected sections exposed by the backhoe excavation were cleaned, drawn and photographed.

From March 21-23, 1990 archaeological testing was conducted at 59 Lawrence Street. Two backhoe trenches were excavated, one just behind the original structure and the second at the rear of the lot. Both crossed the full width of the lot and ranged in length from five to eighteen feet. The western trench, Excavation Unit 8, successfully located a dome-shaped brick cistern near the southeastern corner of the original structure. The eastern trench, Excavation Unit 9, thoroughly explored the rear of the lot, but failed to locate any intact privies or other features despite very careful excavation to a depth of five to seven feet

below grade. Plan and section drawings were made and photographs taken, and Excavation Unit 9 was backfilled.

The mechanical trenching at 59 Lawrence Street proved within just three days the existence of an undisturbed brick cistern just behind the original structure, and the absence of any surviving features at the rear of the lot. Mitigation consisting of complete manual excavation of the surviving feature was recommended and subsequently approved by the New York City Landmarks Preservation Commission staff.

Table 3.5 Archaeological Investigations of 59 Lawrence Street: Block 143, Lot 12

Context No.	Description	Date Excavated	Comment	Date of Fill
800-806	Excavation Unit 8	March-April 1990	Backhoe trench	----
806	Cistern	March-April 1990	Intact	1860s-1880s
900-903	Excavation Unit 9	March 1990	Backhoe trench	----

Mitigation. Excavation Unit 8 was an "L" shaped unit located within the confines of the former one-story brick structure that occupied the center of the 59 Lawrence Street lot. The west side of this unit was located five feet east of the rear wall of the original house. Excavation Unit 8 extended north-south across the full 25 foot width of the lot, and it east-west dimensions were thirteen feet for the southernmost nine feet and six feet for the remainder. Excavation Unit 8 was started by backhoe excavation during March 1990 testing episode. Mitigation of Excavation Unit 8 took place from March 26 through April 9, 1990. Methodology consisted primarily of the complete manual excavation of the fill from the mortar and brick lined cylindrical cistern with a domed top found. The cistern was assigned Context 805. The fill was removed as eleven natural deposits, Contexts 806.01 through 806.11. This fill consisted mostly of a mixture of coal ashes, silt and sand. Artifacts were extremely numerous and preservation of organic materials was excellent because the deposits were consistently moist. Unlike the cistern in Excavation Unit 1 (104 Johnson Street), the Excavation Unit 8 cistern had never been punctured at the bottom. This accounted for preservation of organic material.

317 and 319 Bridge Street

Testing. The third and final episode of archaeological testing within the MetroTech project area took place during May and June 1990 and was designed to investigate the southern two of the three lots that made up the Polytechnic University Student Center Garden along the west side of Block 2047. The methodology used was the same as that described for the testing at 59 Lawrence Street.

From May 29 through June 1, 1990 archaeological testing was conducted at 317 and 319 Bridge Street. Four backhoe trenches were excavated, one just behind each of the original structures and the others at the rear of the lots. All four crossed the full width of the lot investigated and ranged in length from three to fourteen feet. The western trench in lot 5, Excavation Unit 13, successfully located a dome-shaped brick and stone cistern or dry-well near to the southeastern corner of the original structure. The eastern trench in lot 5, Excavation Unit 11, thoroughly explored the rear of the lot and located the lower part of the privy. This feature was truncated at a depth of six to seven feet below grade. Plan and section drawings were made, photographs taken, and Excavation Unit 11 was backfilled. The two trenches in lot 4 were excavated to depths of at least five feet across the full width of the lot, but failed to locate any intact features (Excavation Units 10 and 12). Excavation Units 10 and 12 were then backfilled.

Table 3.6 Archaeological Investigations of 319 Bridge Street: Block 2047, Lot 4

Context No.	Description	Date Excavated	Comment	Date of Fill
1001-1006	Excavation Unit 10	May 1990	Backhoe trench	----
1201-1209	Excavation Unit 12	May 1990	Backhoe trench	----

The mechanical trenching at 317 and 319 Bridge Street resulted in the discovery of two features within the former rear yards of 317 Bridge Street, a partially intact privy at the rear and cistern or dry-well near the center of the yard. This testing also proved the absence of surviving features or other significant deposits within 319 Bridge Street, adjacent to the south. Mitigation consisting of the manual archaeological excavation of the entire cistern/dry-well and the remaining undisturbed portion of the privy was recommended and subsequently approved by the New York City Landmarks Preservation Commission staff. As will be seen in the following sections, as excavation of the surviving features on Blocks 143 and 2047 proceeded, interpretation of the types of features and their functions changed.

Table 3.7 Archaeological Investigations of 317 Bridge Street: Block 2047, Lot 5

Context No.	Description	Date Excavated	Comment	Date of Fill
1101-1108	Excavation Unit 11	May-July 1990	Backhoe trench	----
1106	Privy	July 1990	Partly disturbed, partly looted	19th century?
1301-1316	Excavation Unit 13	May-July 1990	Backhoe trench	----
1311	Dry well	July 1990	Intact	1850s

Mitigation. Excavation Unit 11 was a rectangle 25 feet north-south by 5 feet east-west with a semi-circular extension located in the center of the west side creating a maximum width of 10 feet. Excavation Unit 11 occupied the rear of the 317 Bridge Street lot. Excavation Unit 11 was started by backhoe excavation during May to June 1990 testing episode. Mitigation of Excavation Unit 11 took place from July 5-18, 1990. The primary purpose of this mitigation was to excavate the possibly undisturbed fill of the circular stone-lined privy found here. The privy had been truncated probably by later construction. A sixteen by twenty foot shed is shown here on the 1904 Sanborn Map. The stone lining of the privy was assigned Context 1105. The top layer of fill which appeared to be recently disturbed was designated Context 1106.01. Below this deposit, three additional fill layers were removed, Contexts 1106.02 through 1106.04. These deposits appeared to be possibly undisturbed so they were screened through a 1/4 inch mesh, whereas Context 1106.01 was not. In retrospect, it appears that this privy was looted by artifact hunters during June 1990 when over four feet of the 4.7 feet of remaining deposits were disturbed.

Excavation Unit 13 was a rectangular 25 feet north-south by 5 feet east-west with an extension approximately three feet wide along most of the northern fifteen feet of its eastern side. Excavation Unit 13 crossed the full width of the 317 Bridge Street lot and was situated approximately 60 feet east of the Bridge Street lot boundary. Excavation Unit 13 was started by backhoe excavation during May to June 1990 testing episode. Mitigation fieldwork for Excavation Unit 13 took place from the 5th through the 18th of July 1990. The primary purpose of this fieldwork was to manually excavate the fill and builders' trench of the dry-well found here, constructed mostly of dry stone with a red brick and mortar dome-shaped top. The dry-well was assigned Context 1310. The fill consisted of four layers of silty sand and clayey silt assigned Contexts 1311.01 through 1311.04. Context 1311.01 was probably mixed with more recent debris from above when the top of this feature was found and opened with the backhoe. The other layers of fill within the dry-well contained very few artifacts, as was the case for the other dry-well investigated in Excavation Unit 5. The dry-well had a builder's trench around it. The northern half of this trench was excavated until no more soil could be taken out due to the restricted space available. Three deposits within the builders' trench were identified and assigned Contexts 1314, 1315 and 1316.

CHAPTER 4: STRATIGRAPHY

by

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This chapter presents brief summaries of the stratigraphy encountered during the archaeological investigations of Block 143 and 2047 within the MetroTech project area. It is organized by lot starting with those on Block 143 and concluding with Block 2047. Information from the testing and mitigation episodes for each lot are combined when possible. The relationship of context number, street address, block and lot numbers can be found in Table 4.1.

104 Johnson Street

Sixteen shovel tests were excavated in the former rear yard of 104 Johnson Street, which was used most recently as a parking lot. These shovel tests were numbered 11 through 26, with the various layers within each test receiving decimal subdivisions of the main number. For example, the second layer in Shovel Test 15 is Context 15.02. Beneath the surface layer, which consisted of gravel and compacted sandy silt there were from two to five strata. Eight tests consisted of three strata, four tests had two, three tests had four and one test had five strata. The color of the top layer was generally black, (thirteen cases), but very dark grey and very dark brown were also observed. Thickness ranged from 0.1 feet.

Beneath the top layer, the texture of the soil in Stratum 2 generally ranged from silt to sand, with silt being the most common texture. In two tests (Shovel Test 24 and 26), Stratum 2 consisted of a layer of cinders, or ashes with coal and cinders. This material was presumably deposited as fill to support the surface of the parking lot. The depth of Stratum 2 ranged from 0.4 feet to 2.6 feet below grade. Stratum thickness, generally between 0.1 feet to 0.9 feet , ranged up to 2.1 feet. Soil colors included: yellow brown, dark yellow brown, dark brown, brown-dark brown and very dark grey. Variants of these colors were present in five tests where soil colors was observed to be mottled. The high degree of variance in soil color, as well as in stratum depth, reflects the high degree of disturbance here.

There were twelve shovel tests in which a third stratum containing cultural material was present. Soil textures were either silts or loams. Bottom depths generally ranged between 0.8 feet and 3.0 feet, with one case at 4.3 feet. Soil colors included dark yellow brown and dark brown, dark grey brown, very dark grey and black. One case exhibited mottled colorations: yellow red, yellow brown and dark yellow brown.

There were eight shovel tests in which a fourth stratum containing cultural material was present. Soil texture ranged from sandy clay to silty sand. Soil colors observed were dark yellow brown, medium brown, dark brown and very dark grey brown. Bottom depths were recorded at 1.2 feet to 4.2 feet below grade and stratum thickness ranged from approximately 0.2 feet to 2.7 feet.

There were only two cases in which a fifth stratum that contained cultural material. The soil here was dark yellow brown clayey silt or sandy silt. Bottom depths were 1.7 feet and 3.2 feet below grade and stratum thickness was approximately 0.5 feet and 1.4 feet.

There was one shovel test where a sixth stratum was observed containing cultural material, a dark yellow brown sandy silt encountered at 2.5 feet below grade. Stratum thickness was approximately 0.8 feet.

Subsoil was encountered in seven of the shovel tests excavated at 104 Johnson Street. Soil texture was generally silty sand, except for two cases where it was silt and sandy silt. Soil colors were either yellow brown or dark yellow brown. Bottom depths ranged from 2.6 feet to 4.0 feet below grade. Stratum thickness fell between approximately 0.4 feet and 2.1 feet.

Table 4.1 Context Locations and Descriptions

Part 1 Block 143

Context	Description	Street Address	Block:Lot
1-10	Shovel Tests	108 Johnson Street	143:17
11-26	Shovel Tests	104 Johnson Street	143:12
27-28	Shovel Tests	108 Johnson Street	143:17
29-36	Shovel Tests	304 Bridge Street	143:27
37-50	Shovel Tests	308 Bridge Street	143:28
51-53	Shovel Tests	304 Bridge Street	143:27
60	Unstratified	304 Bridge Street	143:27
61	Unstratified	108 Johnson Street	143:17
100-109	Excavation Unit 1	104 Johnson Street	143:12
108	Cistern	104 Johnson Street	143:12
200-211	Excavation Unit 2	108 Johnson Street	143:17
211	Privy, looted	108 Johnson Street	143:17
300-303	Excavation Unit 3	304 Bridge Street	143:26
302	Privy, disturbed	304 Bridge Street	143:26
400-408	Excavation Unit 4	308 Bridge Street	143:28
407	Privy	308 Bridge Street	143:28
500-506	Excavation Unit 5	308 Bridge Street	143:28
505	Dry well	308 Bridge Street	143:28
600-603	Excavation Unit 6	304 Bridge Street	143:26
602	Cistern, looted	304 Bridge Street	143:26
700-708	Excavation Unit 7	104 Johnson Street	143:12
707	Privy	104 Johnson Street	143:12
800-806	Excavation Unit 8; Backhoe trench	59 Lawrence Street	143:12
806	Cistern	59 Lawrence Street	143:12
900-903	Excavation Unit 9; Backhoe trench	59 Lawrence Street	143:12

Part 2 Block 2047

1001-1006	Excavation Unit 10; Backhoe trench	319 Bridge Street	2047:4
1101-1108	Excavation Unit 11; Backhoe trench	317 Bridge Street	2047:5
1106	Privy, partly looted	317 Bridge Street	2047:5
1201-1209	Excavation Unit 12; Backhoe trench	319 Bridge Street	2047:4
1301-1316	Excavaton Unit 13; Backhoe trench	317 Bridge Street	2047:5
1311	Dry well	317 Bridge Street	2047:5

In the shovel tests where subsoil was not encountered, there were either obstacles (such as, tree roots or large rocks), or in the case of Shovel Test 19, a possible feature (a flagstone). In other cases the use ofa shovel became unwieldy at depths artifacts were still being recovered. This was the case with Shovel Test 14 which was entirely within feature fill.

Excavation Unit 1 was located in the northwestern corner of the former rear yard of 104 Johnson Street, just south of the former house location where evidence of a cistern was found in Shovel Test 19. A total of seventeen natural contexts were identified in Excavation Unit 1, including five layers of fill within the red brick and mortar cistern. The uppermost deposit was Context 100, a very dark brown compact silty loam that formed the surface of the parking lot here. Below this layer, Context 101, a dark yellow brown silty sand, was encountered. When the unit was extended, it was possible to see a break in this deposit, so he top part was excavated as Context 101 and the bottom part as Context 106, described as a mottled very dark grey brown, brown and white silt with inclusions of building rubble, mortar and plaster. When this material was removed, four new contexts were revealed, Context 102 through 105. Context 102 was a large flagstone, part of which was seen in Shovel Test 19. Context 103 was a red brick and mortar drain. When this drain was excavated, the structure itself was designated Context 103.01 while the dark yellow brown sandy silt. The filled most of the channel was assigned Context 103.02. Context 104 was a small posthole filled with black silty loam, which cut into Context 105, a dark yellow silty sand. When Context 105 was removed, four additional contexts were uncovered, Context 107 through 110. Context 107 was a grey brown silty sand with charcoal smears. Context 108 was decimally subdivided into seven parts. Context 108.01 was the brick and mortar cylinder with partially domed top that formed the structure of the cistern. Context 108.02 through 108.06 were layers of fill within the cistern, and Context 108.07 the brick and mortar floor of the cistern. Context 109 was a ceramic drain pipe running west to east just south of the rear of the former house. Context 110 was an alignment of flagstones set vertically at the northern end of Excavation Unit 1 just behind the former house. The fill of the cistern would be subdivided into two varieties based on the soil descriptions. The upper four layers were composed mostly of coal ashes, sand and silt while the bottom layer was a loamy silt without ashes. The similarity of the soil descriptions for the top four layers and the differences between these deposits and the bottom layer indicate that two methods of deposition may be evident here. The top layer of fill within the cistern. Context 108.02, was a dark yellow brown sand with mortar and ashes approximately 0.05 feet thick. Below this Context 108.03 was a light brown grey coal ash with coal fragments 2.93 feet thick. The next fill layer, Context 108.04, was a dark yellow brown coal ash with coal and slag 2.21 feet thick. Context 108.05 was a dark yellow brown silty sand 0.13 feet in thickness. The bottom layer within the cistern, Context 108.06, was a black loamy silt with evidence of decomposing organic materials such as leaves 0.21 feet thick. The floor of the cistern, Context 108.07, consisted of red bricks lined with mortar. One or two bricks had been removed near the center of the cistern to allow water to drain into the soil once the feature ceased to be used as a water supply. Context 108.06 probably represents debris that settled out of the water when the cistern was in use, while the remaining fill deposits represent the deliberate disposal of ashes and other household debris. See Figure 7 for plan and section drawings of Excavation Unit 1.

Excavation Unit 7 was located in the southeastern corner of the former rear yard of 104 Johnson Street, where Shovel Test 14 encountered probable feature fill to three feet below grade. The top layer, Context 700, consisted of a black silt with profuse gravel that made up the parking lot surface. Below this was a very dark grey sandy silt. When this was removed two deposits were seen with their interface marking the apparent boundary of the feature. Within the roughly square feature was Context 703, a light yellow brown sand with decomposed mortar. Outside this was Context 704, a dark yellow brown sandy silt. Below Context 703 was Context 705, a very dark grey brown silty loam. Below this was Context 706, a dark yellow brown sandy silt. All these three deposits, Context 703, 705 and 706, were thin. They measured 0.13, 0.15 and 0.36 feet respectively. All three were probably fill of the privy, but the lack of a stone wall separating the fill from the surrounding soil meant that they could be mixed with other deposits. When Context 706 was removed, the dry-stone walls of the privy, Context 707.01, could be defined. Within the privy an additional thirteen layers of fill were excavated. Nearly all were loams and the majority contained coal ash. Context 707.02 consisted of a very dark grey silt loam 0.15 feet thick. Context 707.03 was a

mottled very dark grey and dark grey brown silty loam with some coal ash. Below this was Context 707.04, a very dark brown sandy loam with coal, coal ash and brick 0.79 feet thick. The next layer, Context 707.05 was a dark brown sandy loam with coal and coal ash 0.58 feet thick. Below this was Context 707.06, a mottled dark yellow brown sandy loam with coal ash 1.05 feet thick. The next layer, Context 707.07, was the thickest privy deposit at 1.58 feet. Context 707.07, a mottled dark yellow brown and dark grey brown sandy loam with coal ash, was potentially disturbed by artifact hunters over the weekend of 30 September - 1 October 1989. The bottom part of this layer was artificially subdivided and designated Context 707.08 since it was possible that artifacts from other proveniences had been mixed with this deposit. Below the Context 707.07/707.08 deposit was Context 707.09, a dark grey brown silty loam with coal ash that was 1.05 feet thick. Below this was Context 707.10, a mottled dark brown and dark yellow sandy loam with coal ash 0.72 feet thick. Large stones resembling those of the privy walls were initially seen in Context 707.09 and were removed with Context 707.10. The next fill layer, Context 707.11, was a dark yellow brown silty loam 0.50 feet thick. Below this was Context 707.12, a very dark grey brown silty loam with coal ash and pockets of silt that was 0.98 feet thick. Below this was Context 707.13, a mottled strong brown and grey brown silty sand with small cobbles 0.16 feet thick. The bottom layer of privy fill Context 707.14 was a dark yellow silty sand with small cobbles that was only 0.04 feet thick. Below this was subsoil resembling the dark yellow brown sandy silt seen in Shovel Test 12. See Figure 8 for plan and section drawings of Excavation Unit 7.

108 Johnson Street

Twelve shovel tests were excavated in the rear yard of 108 Johnson Street. The tests were numbered 1 through 10, 27 and 28. In nine cases where shovel tests generally consisted of three strata. In two cases three strata. In two cases four strata were present and in one case, five strata were observed. Subsoil was reached in all test except three (see below).

The topsoil in all cases was a loam, usually with a high proportion of silt. The depth, below grade, of the topsoil, generally ranged between 0.7 feet and 1.0 foot. In one case 0.4 was observed. Soil color was generally either very dark brown or black. In two cases the topsoil was a very dark grey or very dark grey brown.

In three cases (Shovel Tests 8, 9 and 10), the surface was covered by cement. Judging by the depths of the top soil in other parts of the lot, it appears that in these three cases the topsoil was removed and replaced with either gravel and sand fill, or building material and sand, presumably to support the concrete surface.

A second stratum containing cultural material was present in all test except Shovel tests 8 and 10 where the disturbance overlaid subsoil.

Bottom depths were generally between 1.1 feet to 1.8 feet below grade but ranged from 1.1 feet to 2.9 feet below grade. Stratum thickness was generally from 0.5 feet to 1.2 feet. A wide spectrum of soil colors were present including: strong brown, brown-dark brown, dark yellow brown, dark brown, very dark brown and very dark grey brown. Variants of these colors were also present in three cases where the soil was mottled.

A third stratum containing cultural material was observed in six shovel test. Here, the soil was either predominantly silty or sand. In one case where the soil had apparently been mixed, the texture was described as a combination of silty clay ad silty loam. Bottom depths ranged from 2.0 feet to 4.0 feet and stratum thickness from 0.6 feet to 2.5 feet. Soil colors were either dark brown, very dark grey brown, or dark yellow brown or a combination of variants of these colors.

There was only one case where a fourth stratum with cultural material was present (Shovel Test 1). The soil was a mottled yellow brown and dark brown silty clay. Bottom depths was 2.5 feet and stratum thickness was 0.5 feet.

The subsoil at 108 Johnson Street was either silt or sand. Bottom depths clustered between 2.6 feet to 3.0 feet below grade, but went to as deep as 4.2 feet and 0.9 feet. Subsoil colors were brown-dark brown, strong brown, yellow brown, dark yellow brown and yellowish red. There were three cases where subsoil was not reached. In two cases (Shovel Tests 3 and 4), cultural material was recovered to depths of at least three feet at which point using a shovel became unwieldy. In Shovel Test 7, a brick feature was encountered at the bottom of the test necessitating further investigation. Shovel Tests 4 and 7 were within or adjacent to the privy investigated by Excavation Unit 2.

Excavation Unit 2 investigated the square stone-lined privy located in the southeastern corner of the rear yard of 108 Johnson Street. Twelve contexts were identified with one number being subdivided decimally. Context 200 was a very dark grey brown silty loam with flagstones. Context 201 was described the same as Context 200 but without flagstones. Below Context 201, three deposits were encountered. Context 202 was a black silty loam with organics. Context 204 was a dark brown silty loam with coal ashes, and Context 203 was a small pit filled with very dark brown silty loam and obviously recent artifacts that cut into Context 204. When these deposits were removed, the stone walls of the privy became visible and were assigned Context 205. All the remaining contexts identified were deposits within the fill of the privy. The uppermost fill deposit was Context 206, a very dark grey brown silty loam. Context 207, a medium brown sand was beneath Context 206. Context 208, a very dark brown silty loam was under Context 207. Context 209, a mottled dark yellow brown and pale brown silty sand with slag and cinders was beneath both Context 208 and Context 206. Context 210, a very dark grey brown silty loam was beneath Context 208 where Context 209 was not found. Context 211.01, a very dark brown loamy silt, covered the entire privy and was beneath both Context 209 and Context 210. Context 211.02, described as a dark brown silty loam was under Context 211.01 and also covered the entire privy. At this point in the excavation the privy was destroyed through looting by artifact hunters, so it is not possible to determine the total number of soil layers originally in the deposits nor the total depth of the feature.

304 Bridge Street

Twelve shovel tests were excavated in the rear yard of 304 Bridge Street which was an heavily overgrown garden at the time of testing. An abandoned car was present during most of the testing period, so the final two shovel tests were completed after it was removed. The shovel tests were numbered Shovel Test 29 through 36 and 51 through 53.

From two to four layers were encountered in the shovel tests. In the eight cases where the subsoil was reached, either three or four layers were recorded. In these tests, the top layer was either a black silty loam or flagstones in two tests just west of the house. The second layer was usually yellow brown, sometimes mottled with grey brown. In the two cases with flagstones in the top layer, the second layer was a grey silty loam. Below the second layer was either subsoil, or what appeared to be slightly disturbed subsoil containing artifacts. The subsoil and third layer where present, were either silty sand or sandy silt, usually dark yellow brown in color.

In four of the tests (Shovel Tests 29, 31, 32 and 51) no evidence of subsoil was found. Shovel Test 29, in the southwest corner of the lot, hit a buried flagstone too large to be removed, at 0.8 feet below grade. Five feet north of Shovel Test 29, Shovel Test 31 encountered a dark yellow brown silty sand with coal, metal and shell inclusions from 0.9 feet below grade to the bottom of the test at 3.2 feet below grade. One piece of stone was seen in the north side of the test at 1.6 to 2.1 feet below grade. Ten feet north of Shovel Test 29, Shovel Test 32 encountered the edge of a stone-lined pit. Within the feature a very dark brown silty sand extended from 0.8 feet to at least 4.6 feet below grade. Excavation Unit 3 was placed between Shovel Test 31 and Shovel Test 32. Shovel Test 51 just west of the northwest corner of the house hit a curving line of mortared red bricks at 0.7 feet below the surface. To one side of this line of bricks was a dark yellow brown silty sand, while on the opposite side was a very dark grey brown silty loam with ash inclusions. This was interpreted as a probable cistern and excavation was halted. This location was included within Excavation Unit 6.

Excavation Unit 3 investigated the square stone-lined privy in the center of the west side of the lot. Four contexts were identified: Context 300, a black silty loam topsoil; Context 302, a very dark grey mixture of ash and silty loam with fragments of mortar; and, Context 303, the dry-laid stone walls of the privy. Excavation ceased at 7.5 feet below grade since Context 302 contained obviously modern artifacts such as cellophane food wrappers throughout.

Excavation Unit 6 investigated the circular brick cistern located just west of the northwestern corner of the house. Four contexts were identified: Context 600, a grey silty loam with flagstones; Context 601, the red brick and hard mortar cistern; Context 602, the mixed and recently disturbed fill of the cistern with inclusions such as green leaves; and, Context 603, a yellow brown silty loam found outside the feature. The western half of Context 602 was removed to 5.0 feet below grade when the exposed section collapsed. Excavation ceased at this point since the fill of the cistern contained very recent inclusions throughout. See Figure 9 for plan drawings of Excavation Units 3 and 6.

308 Bridge Street

Fourteen shovel tests were excavated in the rear yard of 308 Bridge Street which was a slightly overgrown garden at the time of testing. The shovel tests were numbered 37 through 50.

From two to four layers were identified in the fourteen shovel test. In the ten locations where subsoil was reached, from two to four layers were recorded. The top layer was nearly invariably a silty loam sometimes with paving bricks set into it. Its color ranged from dark grey brown to black with very dark grey brown predominating, and its average thickness was 0.6 feet. In the five tests where there was only one other layer between the topsoil and subsoil, this second layer ranged in texture from silt to sand with silty sand most common. The color was usually a mottled combination including dark yellow brown or yellow brown. The average thickness of this second layer was 1.3 feet. In the three tests where there were two layers between the topsoil and the subsoil, the second layer was usually a mottled sandy silt combining colors including very dark greys and grey browns. It averaged 1.0 foot thick. Below this layer in these three tests was a third layer dark yellow brown in color with a texture ranging from silt to sand. This third layer averaged 1.3 feet thick. The subsoil ranged in texture from sand to clayey silt to with silt sand predominately. Colors ranged from yellow brown through brown to strong brown with dark yellow brown by far the most common. The subsoil was reached at an average depth of 2.4 feet below the surface.

Shovel Test 39, 40, 41 and 46 did not hit subsoil. Shovel Test 44 came down on the edge of a probable feature, but hit probable subsoil to the east of the feature. Shovel Test 30 Exposed part of an iron alloy tank which was far too large to remove. Both Shovel Test 40 and Shovel Test 41 exposed parts of a dry-stone feature that was later identified as a dry-well. Topsoil in Shovel Test 39 through 41 had a dark yellow brown mixture of sand and silt below the topsoil and above the stone feature. Excavation Unit 5 investigated the stone dry-well and metal tank seen in Shovel Tests 39, 40 and 41. Shovel Test 44 exposed the edge of the stone-lined privy at the center of the west side of the lot. Topsoil was a black silty loam 1.2 feet thick. This covered both the probable brown sand subsoil and a mottled dark yellow brown and very dark brown sandy silt with building rubble (Context 44.02) which was determined to be the top of the privy fill. Excavation Unit 4 further investigated the privy. Shovel Test 46 had four layers of soil. The topsoil was a dark grey brown silty loam with bricks. It was 0.4 feet thick. Below this were two layers of loam, the upper one dark yellow brown and 1.1 feet thick, and the lower dark brown and also 1.1 feet thick. Below these three layers was a dark grey silty sand with ash inclusions which extended to at least 4.3 feet below the surface. This proved to be the disturbed fill of the partly demolished circular brick cistern exposed later by artifact hunters, but during testing it was not identified as such. The close proximity of Shovel Test 46 to one of the cellar window wells suggested that this soil was part of a builders' trench for the western expansion of the original house.

Excavation Unit 4 was located in the center of the rear or western end of the 308 Bridge Street lot, where the edge of a stone-lined privy had been exposed in Shovel Test 44. A total of seventeen natural soil

deposits were recorded in Excavation Unit 4, of which ten definitely represent the fill of the privy. The top context was Context 44, a mottled very dark brown and yellow brown humus. Below this was Context 401, a black loam with roots which contained a number of obviously modern artifacts such as styrofoam and aluminum pop-tops. Below Context 401 was Context 402, a mottled dark yellow brown and very dark grey brown sandy loam. All three of these deposits, Context 400 through Context 402, probably represent modern debris deposited over the former backyard of 308 Bridge Street from the parking lot to the west. The parking lot surface was approximately three feet above that in the backyard, so debris fell from the higher elevation creating these deposits that were thickest at their western boundaries. When this debris was removed, three additional deposits were revealed. Running roughly north-south across the original square unit was an alignment of stones and red bricks without mortar which was designated Context 403. West of this was Context 404, a medium brown silty loam. East of Context 403 was Context 405, a dark yellow brown silty sand. Context 405 is nearby certainly the subsoil identified as the third or fourth stratum in most of the shovel tests completed in this yard. As Excavation Unit 4 was expanded, Context 403 was further revealed to be a roughly square stone feature. Within this feature, Context 404 covered 406, a dark yellow brown loamy silt. Although both Context 404 and 406 were within the privy walls, there was a possibility that they were still some what disturbed and mixed with the parking lot refuse above. Outside the privy excavation was halted with Context 405, the deepest deposits identified. Within the privy, a dark yellow brown silty sand, Context 407.01, was identified beneath Context 406. Below Context 407.01 were Context 407.02 through 407.10. These were layers of privy fill varying in texture from sand to silty clay. Colors seen ranged from grey brown through strong brown and brown to yellow brown. Dark yellow brown was most common. Below this bottom fill layer, Context 407.10, more yellow brown silty sand subsoil was observed but not excavated. See Figure 10 for plan and section drawings of Excavation Unit 4.

Excavation Unit 5 was located near the center of the rear yard of 308 Bridge Street, where Shovel Test 39 through 41 had exposed portions of a stone feature later determined to be a dry-well. A total of 22 natural deposits were recorded in Excavation Unit 5 including thirteen that represented layers of fill within the dry-well. The top context was Context 500, a very dark grey brown silty loam. When this topsoil was removed, six contexts were exposed. Context 501 was an iron or steel tank somewhat southeast of the stone-lined dry-well. Context 502, a black silty loam, was the trench that the tank was set in. Context 503 was a mottled dark grey brown and dark yellow brown layer of sandy silt. Context 504 was a deposit of dark brown silty loam with stone and brick rubble. Context 505 (later designated 505.01) was a group of two or three flat stones, and Context 506 was a posthole filled with dark brown silt and decomposing wood. Contexts 502, 504 and 506 all cut Context 503. Context 505 was visible at the top of Context 503 but was became larger as Context 503 was removed. No builders' trench for Context 505 could be seen cutting Context 503, so it appears that Context 503 was deposited after Context 505 was capped with stones. Context 505.01 was used to refer to not only the top layers of stones but also the complete dry stone-lining of the dry-well. Context 505.02 was a drain explored in Excavation Unit 1, Context 103. Context 505.03, a thin layer of very dark grey brown silty clay. The dry-well was filled with thirteen distinct deposits designated Context 505.03 through 505.15. These thirteen layers were stacked as if in a layer cake. They ranged in texture from clay with sand inclusions to plain sand, with sandy silt and silty sand most common. Thickness ranged from 0.96 feet to 0.004 feet. Many layers were quite thin. The bottom six layers totaled 0.89 feet thick, and the entire thirteen contexts were only 4.04 feet thick. Beneath Context 505.15 more subsoil was encountered, similar to the yellow brown silty sand seen in the shovel testing. See Figure 11 for plan and section drawings of Excavation Unit 5.

59 Lawrence Street

Excavation Unit 8 was located in the center of the lot at 59 Lawrence Street, approximately 65 feet east of Lawrence Street and 50 feet west of the east lot wall.

The top stratum of the trench consisted of loosely compacted sandy silt with a quantity of building rubble. General artifacts included ceramics, pipe stems, shells, bone and unidentified pieces of rusted iron.

Beneath this layer at a height of approximately 33.47 feet above mean sea level was a circular brick cistern designated Context 805, with an outside diameter of approximately 8.0 feet and an opening at the top, the diameter of which was approximately 2.23 feet. The inside walls and floor were lined with a layer of mortar which was approximately 0.02 feet thick.

Within the cistern there were eleven layers of fill representing potentially separate episodes of deposition. These layers were assigned Context 806.01 through 806.11. Stratum thickness was generally highest toward the center of the cistern, directly below the opening at the top from where refuse was deposited. Though gravity would tend to move objects down from the top of the refuse heap to the sides of the interior cistern wall, evening out the layer somewhat, the deposit would still maintain a slightly higher elevation towards it center. Thickness in the following summary refer to this center point as the sides of the interior of the cistern which were inaccessible to the transit.

The top layer of fill inside the cistern, Context 806.01, was a layer of dark grey brown coal ash and bricks with some silt. Cultural material included ceramics, container glass, clam shell, nails, paper and paper clips. Quantities of brick, coal and mortar were weighed and discarded.

The second layer of fill inside the cistern, Context 806.02, consisted of a dark yellow brown loosely compacted silty loam with coal ash. The thickness of the stratum was approximately 0.73 feet. Artifacts recovered included ceramics, glass and metal. Brick, coal and mortar was weighed and discarded.

The third layer of fill inside the cistern, Context 806.03, consisted of brown loosely compacted silt with mortar and ash. Stratum thickness was 0.56 feet. Cultural material included ceramics, container glass, pipe fragments, iron nails and bone. Brick, coal and mortar was weighed and discarded.

The fourth layer of fill inside the cistern, Context 806.04, consisted of pale brown fine sand with inclusions of mortar and ash. Stratum thickness was approximately 0.90 feet. Artifacts included ceramics, container glass, pipe fragments, leather, bone, eggshell and a rubber comb. Brick, coal and mortar was weighed and discarded.

The fifth layer of fill inside the cistern, Context 806.05, consisted of dark yellow brown fine silt with some coal and coal ash. There was also a lens of powdered charcoal in the southwest quadrant of the layer. Stratum thickness was approximately 0.24 feet. The only cultural material observed was brick, coal and mortar which was weighed and discarded.

The sixth layer of fill inside the cistern, Context 806.06, consisted of greyish brown moist, loosely compacted, coal ash, with silt and cinders. Artifacts included fragments of ceramics and glass, container glass, pipestem fragments, leather, metal, bone and shell. Brick, coal, mortar and rusted iron was weighed and discarded. Context 806.06 was 0.53 feet thick.

The seventh layer of fill inside the cistern, Context 806.07, was a mixture of brown silt with grey coal ash in equal proportions. Stratum thickness was approximately 0.86 feet. Artifacts included a number of whole bottles. Brick, coal, mortar and rusted iron was weighed and discarded.

The eighth layer of fill inside the cistern, Context 806.08, was a mottled pale brown and very dark grey brown compacted silt with coal ash and cinders. Stratum thickness was approximately 0.14 feet. Brick, coal, mortar and rusted iron was weighed and discarded.

The ninth layer of fill inside the cistern, 0.25 feet thick, was assigned Context 806.09. The soil, which was damp and mottled, was a combination of several colors of silt including very dark grey, and dark yellow brown mixed with black coal ash. A great quantity of cinder and coal was noted. Brick, coal, mortar and unidentified pieces of rusted iron were weighed and discarded.

The tenth layer of fill inside the cistern, Context 806.10, was a moist compacted dark yellow brown sandy silt, approximately 1.11 feet thick. Brick, coal, mortar and unidentified pieces of iron were weighed and discarded.

The bottom layer of fill inside the cistern, Context 806.11, was a moist and mottled, compacted slightly sandy silt with profuse coal ash, cinders and coal fragments. Soil colors were black, grey brown and dark grey. Stratum thickness was approximately 1.41 feet. Brick, coal, mortar and rusted iron was weighed and discarded. The bottom of the cistern floor was approximately 23.68 feet above mean sea level. The floor was intact and no attempt to puncture it was made. See Figure 12 for plan and section drawings of Excavation Unit 8.

Excavation Unit 9 was located at the rear or eastern end of the 59 Lawrence street lot. It crossed the entire 25 foot width of the lot and extended from 7.5 to 17.5 feet west of the rear lot line. Three strata were identified during this backhoe excavation. The top stratum, Context 900, consisted of compact sandy silt with much building rubble. Beneath Context 900, the second stratum consisting of loose silty sand with building rubble and stones was designated Context 901. The deepest deposit identified was Context 902, a compact sand with large stones that lay beneath Context 901.

317 Bridge Street

Excavation Unit 11 was located in the eastern section of the Polytechnic Institute Student Center Garden at 317 Bridge Street, approximately 25-51 feet from the south lot line and about two feet from the east lot boundary. Beneath the asphalt surface there were four strata of fill evidently deposited or disturbed during the present century.

The top four strata, Contexts 1101 through 1104, consisted of various shades of brown (including dark yellow brown, dark brown and very dark brown) silty sand. Due to the high degree of disturbance observed within these layers, the soil was not screened. Diagnostic artifacts were, however, selectively removed by hand for laboratory analysis, these included ceramics, ceramic pipe stems, whole and fragmented glass containers, an automotive spark plug and fragments of black plastic garbage bags. In addition, a large quantities of red brick were observed in Context 1102.

Beneath Stratum 4 at a depth of approximately 7.76 feet were the remains of a stone-lined privy, the diameter of which was approximately 5.0 feet outside and 4.0 feet inside. The privy was assigned Context 1105. The location, within the trench was approximately 7.8 feet from the northern section and one foot from the eastern section. The privy had evidently been looted by artifact hunters. Context 1106.01 was assigned to the obviously disturbed privy fill.

Three layers of possibly undisturbed fill, Contexts 1106.02 through 1106.04, were excavated within the privy itself. The uppermost of these strata, a brown silt sand with inclusions of gravel was 0.24 feet thick. Artifacts recovered included ceramics, container glass, flat glass, coal, cinder and red brick.

The second stratum of fill within the privy, Context 1106.03, was a dark yellow brown silty clay with sand 0.21 feet thick. Cultural material included ceramics, coal, cinder, red brick and unidentified pieces of rusted iron.

The third and lowest stratum of privy fill, Context 1106.04, was a mottled brown silty clay, and a brown/dark brown sandy silt 0.15 feet thick. Cultural material included ceramics, container glass, flat glass, leather, wood, a shell button, brick, mortar, cinder, slag and shell.

Subsoil was encountered in the privy below Context 1106.04 at 23.19 feet above mean sea level. The soil, a brown/dark brown silt with inclusions of sand, was devoid of cultural material. The subsoil, which was seen beneath the privy stones, indicated the bottom row of privy stones was situated within this layer. See Figure 13 for plan and section drawings of Excavation Unit 11.

Excavation Unit 13 was located in the center of the Polytechnic Institute's Student Center Garden at 317 Bridge Street, approximately 20.0 feet from the eastern lot boundary and 31.6 feet from the southern lot boundary. The trench measured approximately 12.1 feet east to west and 23.9 feet north to south. Seven layers of fill were revealed beneath the asphalt surface to a depth of 5.7 feet, and an outlying a layer of decomposed mortar and a nineteenth century dry-well.

Six of the seven layers of fill were sandy in texture. Colors included dark brown, dark yellow brown, dark grey brown and very dark grey. Profuse building rubble was observed in Stratum 6 beneath the asphalt and from Stratum 7, layer of very dark grey brown loam, ceramics, container glass and a metal light fixture were observed.

Beneath these layers of fill at a depth of approximately 5.7-8.6 feet, there was a layer of light yellow brown decomposed mortar probably associated with the remains of the dry-well that was situated just beneath it. The dry-well, Context 1310, circular in form had an outside drain entrance. The dry-well was located 42.4 feet from the southern boundary and 34.5 feet from the eastern lot boundary. The uppermost portion was constructed of three layers of red brick which overlaid dry stone walls. The depth of the top row of brick was approximately 5.81 feet below grade.

Inside the dry-well, four strata of fill were recorded. The topmost layer, Context 1311.01, a mottled dark brown silty sand, and dark yellow brown sand with pockets of very dark grey brown coal ash was encountered at a depth of approximately 8.65 feet. Cultural material consisted of ceramics, container glass, flat glass, plastic, nails, bone, rubber hose, metal and asphalt. Thirty pounds of mortar and 140 pounds of red brick were weighed and discarded. This top layer of fill was probably mixed with debris falling above the backhoe excavation.

The second layer of fill inside the dry-well, Context 1311.02, a mottled dark brown and yellow brown silty sand with pockets of clay, was encountered at a depth of 10.09 feet below grade. The few artifacts recovered included ceramics, glass, bone and coal along with eight pounds twelve ounces of red brick.

Context 1311.03, the third layer of fill within the dry-well was a dark yellow brown silty sand with pockets of yellow brown clay silt, and dark yellow brown iron oxide staining. Artifacts included flat glass, iron, coal and five pounds of red brick.

At a depth of approximately 11.06 feet, Context 1311.04, a layer of dark yellow brown compact clayey silt with inclusions of strong brown and iron stains were encountered. No cultural material was observed in this layer. This layer may be subsoil slightly disturbed during construction of the dry-well. See Figure 14 for plan and section of Unit 13.

Several layers of soil were removed from around the dry-well in order to search for and excavate an associated builders' trench.

Southeast of the dry-well was Context 1305, a layer of mottled dark brown and dark yellow brown sandy silt which yielded ceramics, container glass, flat glass, nails, clam shells, plastic, styrofoam, aluminum pull tabs, etc.

East of the well at a depth of approximately 3.34 feet below grade was Context 1306, a layer of black silty loam which was interpreted as a buried topsoil. Cultural material included ceramics, container glass, flat glass, nails, screws and bone. Context 1306 may well be the original backyard surface in 317 Bridge Street.

Beneath this layer of silty loam were two layers of yellow brown soil Context 1307, a sandy silt at 3.61 feet below grade, and Context 1308 a silty sand at 4.15 feet, which appeared to represent either disturbed

or redeposited subsoil. Cultural material included ceramics, container glass, window glass, shell, brick, metal, coal and coal ash.

This disturbance may have resulted from the excavation of the dry-well, as it appears that the builders' trench for the well, encountered at 4.70 feet was originally cut from either Context 1309 or 1308.

The builders' trench was excavated only on the north side of the well. Three separate strata were recorded down to depths below 6.87 feet. The upper two strata Context 1314 and 1315, were dark yellow brown silt, in one case, and silty sand in the other. Artifacts consisted of ceramics (whiteware and earthenware), flat glass, clam shell, bone, metal, brick, coal, slag and mortar. The lowest layer, Context 1316, a mottled dark yellow brown and brown dark brown silty clay was devoid of cultural material.

319 Bridge Street

Excavation Unit 10 was located in the southeastern portion of the Polytechnic University Student Center Garden approximately 93 feet from Bridge Street and two feet from the east lot boundary. The dimensions of the trench were approximately 25 feet long by five feet wide. Six deposits were identified, numbered Context 1001 through Context 1006.

The top stratum was a yellow brown sandy silt with gravel, approximately 0.6 feet thick. Stratum 2 was a dark grey brown silt, encountered between 0.6 feet and 1.2 feet below grade. Red bricks and a plastic jar were recovered from this layer. Stratum 3, a yellow brown sand, approximately 3.3 feet thick contained two features. One was a concrete and gravel wall at the north end of the trench. The other feature was a concrete foundation with stones on top of it in the south section of the trench, and from which mortar and stones were recovered. The bottom layers, Stratum 4, encountered between 4.5 feet and 5.6 feet below grade, was a yellow brown silty sand from which no cultural material was recovered.

Excavation Unit 12 was located in the south central portion of the Polytechnic University Student Center Garden approximately 51 feet from Bridge Street and beginning at the south lot boundary. The dimensions of the trench were approximately 25 feet long by five feet wide, crossing the entire lot from the southern to the northern boundary.

Nine deposits were identified in Excavation Unit 12, numbered Context 1201 through Context 1209. In the east section of the trench, the top layer of soil was a very dark grayish brown sandy loam with gravel, approximately 0.1 feet thick. Stratum 2, approximately 0.1 feet to 0.9 feet thick, was a dark brown sandy loam. Stratum 3, another dark brown sandy loam between 0.9 feet and 2.7 feet below grade contained a brick and concrete wall in the next section of the trench, approximately 11.0 feet long from the south section. At the interface of Stratum 3 and 4, at a depth of approximately 1.6 feet to 3.0 feet below grade, there was another concrete wall in the north section of the trench. Stratum 4, a brown sandy clay, was interpreted as subsoil.

In the west section of the trench, the stratigraphy varied from that described for the east section. The top layer was asphalt (approximately 0.1 feet thick) below which there were two strata of fill and one of subsoil. The upper fill layer was an olive grey sand with gravels (approximately 0.4 feet below grade). The second fill layer was a dark brown silty sand with brick fragments (approximately 0.4 feet to 1.2 feet below grade). The subsoil, encountered between 1.2 feet and 2.2 feet below grade was a black silty sand, apparently oil stained.

Chapter 5: Artifact Processing and Analysis for the 1989 Field Season

(104 Johnson, 108 Johnson, 304 Bridge, and 308 Bridge Streets)

by

Mansoureh Niamir

Subsequent to all fieldwork, all the finds were placed in marked plastic bags. The bags were arranged in context number order and the finds were treated in this sequence through out the processing stages. At the initial stage of washing, similar finds were grouped together according material characteristics and each group was washed according to conservation requirements. The majority of artifacts were washed in room temperature tap water with added ORVUS paste (modified sodium lauryl sulfate) which is a non-ionic detergent. Harsh detergents leave an alkali residue if not completely rinsed away, which will chemically attack certain artifacts (the overglaze decoration on porcelain, for example). ORVUS is a mild and free-rinsing surface active agent with a low pH of 6.3. Diagnostic metal artifacts were systematically dewatered by submersion in acetone, immediately after rinsing. The corroded and non-diagnostic metal finds were weighed, counted, recorded and then discarded. The same treatment was applied to architectural fragments including bricks, mortar, cement, plaster and wood. Well preserved and diagnostic samples were retained from these categories. Bones and other fragile organic finds recovered were usually dry brushed, or gently washed in water and quickly set out to dry. The standard procedure employed was slow air drying on screens in the laboratory processing area.

All recovered materials were catalogued according to the National Parks Service Cultural Material database taxonomy for artifacts (see Appendix 1). At this initial stage, the aim was to do a very basic identification and to obtain a count of the finds. The main concentration was on the class, material and technical data of the artifact along with the count and weight. Discarded items were both counted and weighed also. If possible all diagnostic historic artifacts such as glass and ceramics were dated based on the stylistic and technical criteria according to the TPQ (*terminus post quem*, or the beginning date of manufacture). The TPQ provides a time frame for establishing the initial date after which the deposit had to have been laid down.

Subsequent to cataloging, all artifacts were then computer inventoried on dBase III+ software which provided sorted catalogues with counts for each excavated group of artifacts by units of stratigraphic association. The final inventory is reproduced on paper and appears in this report.

After completion of the initial inventory, all artifacts were grouped according to material and stylistic characteristics. The groups fell into the following categories:

ceramics
glass
bone
small finds
pipes
coins

Each of these individual groups were assigned to a different researcher for the second stage, analysis.

The Principal Investigator of the Metrotech project decided that due to the shortage of time and budget to concentrate on the finds from four areas in this second-level stage. These areas were deemed significant for the understanding the occupational sequence of the buildings at 104 Johnson Street and 308 Bridge Street. Thus the artifacts from contexts in the 100s, 400s, 500s and 700s were used in this stage of the processing work. Artifacts from the 100 contexts are from the 104 Johnson Street cistern while the 700 contexts represent the finds from the privy at the same location. Artifacts from the 400 contexts are from the privy of 308 Bridge Street while the 500 contexts represent the dry well.

Chapter 6: Glass Analysis for 104 Johnson and 308 Bridge Streets

by

Mansoureh Niamir

Introduction to the Glass Section

A large group of glass artifacts were recovered from the Metrotech project at 104 Johnson Street and 308 Bridge Street. The glass artifacts of those contexts in the 100s, 400s, 500s, and 700s were studied along with a few additional whole diagnostic pieces which could provide additional information. The main emphasis at this stage, on the instruction of the Principal Investigator, was to concentrate on the details that could describe the functional aspect of the piece and provide at date either in the form of a range or an exact TPQ. The main aim was to obtain a chronological sequence for these groups of contexts and so be able to date the stratigraphy of the layers in the privy, cistern and dry well which are represented by these contexts. It was also hoped that the functional analysis would provide information about the socioeconomic levels attained by the occupants of 104 Johnson Street and 308 Bridge Street.

Documentary sources included those at the Greenhouse Laboratory and the Brooklyn Historical Society, located a few blocks away from the site of Metrotech. Many researchers have studied glass and have compiled a chronological table reflecting the developments in manufacturing techniques. It is possible to compare Metrotech glass fragments with these technical characteristics and create a chronological list for this site. The main source used for this study was Olive Jones and Catherine Sullivan, *Glass Glossary*, which covers all aspects of the technological developments in the manufacturing of glass. Their samples are from sites in Europe, Canada, and the United States. Their work has become standard in the archaeological research work conducted in the East Coast. George S. and Helen McKearin are notable researchers on the subject of American glass. They have approached this subject from the stylistic aspect and have categorized a large number of decorative features of glass and provided some chronological evidence for the developments of these styles. Their book entitled *American Glass* has been used in this study for the stylistic analysis of the glass from the Metrotech site.

Many varieties of glass artifacts were recovered. Only those items that could provide more chronological evidence were culled from the collection and studied intensively. For example, there was no time to study the large amount of pane glass recovered. No attempt was made at mending and checking of pieces for the possibility of cross mends between levels which could provide the Principal Investigator with additional conclusions about the way the deposits were laid in these various contexts. No study was made of the possible glass companies that manufactured these pieces. The mold details of many items were not checked. Glass lighting devices were not studied at all.

The main foci studied were the physical shape of the artifact, embossed commercial marking, and manufacturing techniques. These characteristics have been documented and dated by specialists. The terminology used in this chapter is based on Jones and Sullivan (1985) and McKearin and McKearin (1989). If an observed characteristic lacked a corresponding term in the reference books, a term was chosen which was generic and adapted to popular language. For example, the term "drugstore" bottle was used to refer to the wide range of products sold in a drugstore. "Medicine" bottles and "perfume" bottles are distinctively packaged products sold in a pharmacy and therefore constitute separate categories.

Thus the main groups of glass chosen for further analysis in this report are:

Liquor bottles	Cathedral bottles
Flask	Tumblers
Drugstore bottles	Press molded glass
Medicine vials	Stemwares
Ink bottles	Closures
Perfume bottles	

Liquor Bottles:
Making liquor glass containers was a lucrative business for many glass houses. Gin, rum, wine, whiskey, brandy, seltzer water, ginger ale, mineral water and olive oil were stored in these types of containers. Liquor bottles were popularly known as case bottles, wine flasks, wine bottles and egg bottles.

The tradition of making these types of containers goes back to the fifteen century or earlier. The free blown method initially was used for the manufacture of these containers in European countries. By the late 1730s there is evidence that English 'wine' bottles were mold blown, the dip-mold type being more common. The mold-blown or dip-mold method of manufacturing is unsuitable for dating bottles since those techniques do not have a clear commencement or termination in their use. However, their existence should be noted and documented, since these bottles carried such a variety of liquids in order to meet the demands of people in all walks of life. It is not known if the early glass houses established in the United States followed the same tradition as their British counterparts in manufacturing these containers.

Some scholars agree that the form of 'liquor' containers follows a pattern of development that can be given a very approximate date. The end of the seventeenth century saw a shortnecked bulbous or squat bodied vessel with a deep push-up base. The bottle could be free or mold-blown. The neck has a two part finish (see Plate 33) containing a plain lip with a string rim. The body becomes elongated after 1730, as well as more cylindrical and narrow. Liquor bottle bases gradually changed from having a deep push-up base to having flat bases. By 1830 this transformation is noticeable. Olive or dark green glass was used causing the term 'black glass' to be applied to these containers.

According to Hume (1969:62), prior to the bulbous wine bottles another popular type existed that was mold blown and was known as case bottles. Case bottles possessed a square sided body which enabled a dozen to be packed in a box or case. These containers were also known as gin or rum bottles because of the type of stored liquid.

Liquor bottles may have lettered panels, seals and decorative engravings (see Plate 34). Some of these patterns provide evidence of date and ownership.

Another category in this group of glass containers is those used to store mineral water, soda water and beer (see Plates 35 and 36). Bottles of this type were more elongated and cylindrical than the liquor bottles. A lighter colored glass, such as a light mint or aquamarine was used. Due to the nature of the stored liquid, the stopper or lid used differed from bottle to bottle. Soda bottles required special type stoppers, for example, the Hutchinson stopper (introduced in 1879) due to the carbonation of the liquid.

Many of these glass containers have been found at 104 Johnson and 308 Bridge Street. Due to the fragile nature of glass, whole or complete pieces are rare. There is considerable evidence for mendable pieces. Many bottles were embossed with either manufacturer and/or product name which yield evidence for commodities used and preferred by the residents of these lots.

Table 6-1 features a list of liquor bottles from 104 Johnson and 308 Bridge Streets. Soda, case, wine, whiskey, liquor and beer bottles are included.

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
60.00	6.2	18.5	2.5	0.5	Soda bottle	1	F David 488 To 492 Flushing Ave Brooklyn FTD Aqua	2 piece mold	ca. 1750-ca. 1880	
302.00	7.2x7.2	0.0	0.0	0.4	Case bottle	1	Base Olive green Square Pontil Dome basal profile	Blown	late 18th century	
407.01	---	0.0	2.8	0.4	Wine bottle	1	Cylindrical neck String rim Flat lip Olive green	Blown	late 18th century	
407.03	---	0.0	2.4	0.3	Wine bottle	1	Cylindrical neck String rim Flat lip Olive green	Blown	late 18th century	
407.04	5.5	23.8	2.5	0.2	Water? bottle	1	Whole Mint Cylindrical Conical pushup String rim Cracked off lip	Blown	late 18th-early 19th centuries	
407.07	8.3	2.9	2.6	0.3	Wine bottle	1	Olive green	Ricketts Mold Mold-blown	1820-1840	1822
700.00	3.5x8.4	20.4	2.5	0.4	Whiskey bottle	1	One Pint 2	Fully automatic		1903
702.00	8.4x5.1	21.6	2.5	0.2	Liquor bottle	8	Mends to complete Embossed Ball neck Rectangular base w/rounded corner	Semi-automatic 2-piece mold w/separate base		1881

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
707.02	6.5	24.0	2.6	0.5	Beer bottle	1	Embossed Liebmann Breweries Inc L Registered Brooklyn, NY Bottle Not to be Used Refilled or Sold Must be Returned Liebmann Brewer	Fully automatic		1903
707.06	7.0	0.0	0.0	0.3	Beer bottle	1	Brown Stout R.C. & T. New York Emerald green	2 piece mold pontil mark? Separate base?	ca. 1750-ca. 1880	
707.07	5.2	23.8	2.0	0.3	Water or drugstore bottle	1	Aquamarine	2-piece mold with separate base	ca. 1850-mid 1920s	
707.09	9.5	0.0	0.0	0.5	Wine bottle	1	Dark green Dome push-up WOOLFALL ~	Mold-blown	early 19th century	
707.09	9.6	0.0	0.0	0.6	Wine bottle	1	Dark green Dome push-up	Mold-blown	early 19th century	
707.09	6.3	0.0	0.0	0.2	Liquor bottle	1	Mint Cylindrical Narrow deep conical push-up	Blown	late 18th-early 19th centuries	
707.09	6.5	0.0	0.0	0.3	Liquor bottle	1	Emerald green Narrow cylindrical Remains of paper label=mid-19th century	Mold-blown Cup bottom mold	ca. 1850	
707.10	---	0.0	3.2	0.4	Wine bottle	1	Emerald green V-shaped string rim	Mold-blown	early 19th century	
707.10	6.6	18.5	2.7	0.4	Soda bottle	1	Emerald green Dear Born's Sodawater New York 'D'	Mold-blown Post bottom mold? Pontil Grid & smoot	ca. 1850	
707.10	10.6	0.0	0.0	0.2	Liquor bottle	1	Aquamarine Flat base	Mold-blown Pontil	early 19th century	
707.10	7.5	0.0	0.0	0.3	Liquor bottle	1	Aquamarine Rounded cone push-up	Mold-blown Pontil	early 19th century	

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.10	9.3	0.0	0.0	0.5	Wine bottle	1	Dark green Conical push-up	Mold-blown	early 19th century		
707.10	8.2	0.0	0.0	0.2	Liquor bottle	1	Aquamarine Rounded cone push-up Pontil	Mold-blown	early 19th century		
707.10	---	0.0	3.0	0.2	Wine bottle	3	Mends Olive brown Bulged neck V-shaped string rim	Mold? blown	late 18th-early 19th centuries		
707.10	---	0.0	2.8	0.3	Wine bottle	1	Olive green Bulged neck Rounded string rim	Mold-blown	late 18th-early 19th centuries		
707.10	---	0.0	2.0	0.3	Wine bottle	2	Mends Olive green Bulged neck V-shaped string rim	Mold-blown	late 18th-early 19th centuries		
707.11	9.5	0.0	0.0	0.4	Wine bottle	1	Olive green Rounded cone push-up	Mold-blown	early 19th century		
707.11	9.5	0.0	0.0	0.4	Wine bottle	1	Olive green Dome push-up	Mold-blown	early 19th century		
707.11	7.1	0.0	0.0	0.2	Liquor bottle	19	Mends Aqua 8-sided ribbed body Dome base w/pontil Embossed 'provost'	Mold-blown	early 19th century		
707.11	6.6	22.0	2.7	0.5	Wine bottle	1	Olive green	Ricketts mold Mold-blown	1820-1840		1822
707.11	4.8	0.0	3.4	0.4	Wine bottle	8	Mends Olive green V-shaped string rim Cracked-off lip Globular body Embossed seal "EBEN COFFIN"	Blown	18th century		
707.11	6.1x6.1	0.0	4.2	0.3	Case bottle	2	Olive green Square base Domed basal profile Embossed 'cross' Short neck Flanged lip	Blown	18th century		
707.12	3.0	0.0	0.0	0.3	Wine bottle	1	Olive green String rim Cracked-off lip	Mold-blown	18th century		

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	8.2x8.1	0.0	0.0	0.3	Liquor bottle	15	Mends Aqua Square Domed base Ribbed body Pontil	Mold-blown	early 19th century		
707.12	4.0x3.7	3.7	0.0	0.3	Glass seal to olive oil bottle	1	Olive green Round Stamped Whole Embossed "HUILE D'OLIVE SURFINE CLARIFIEE" Figure of windmill in center	Blown			
707.12	---	0.0	2.8	0.4	Wine bottle	1	Olive green Bulged neck V-shaped string rim	Mold-blown	early 19th century		
707.12	---	0.0	2.9	0.2	Wine bottle	1	Olive green Bulged neck V-shaped string rim	Mold-blown	early 19th century		
707.12	7.5	0.0	0.0	0.2	Wine bottle	1	Olive green Cylindrical body & base Rounded cone Basal profile push-up type Pontil	Mold-blown	early 19th century		
707.12	8.4	0.0	0.0	0.3	Wine bottle	3	Olive green Mends Cylindrical base & body Concave basal profile w/small mamelon	Mold-blown	early 19th century		
707.12	9.2	0.0	0.0	0.3	Wine bottle	1	Olive green Cylindrical body Push-up type Conical basal profile	Mold-blown	early 19th century		
707.12	8.2	0.0	0.0	0.5	Wine bottle	1	Olive green Cylindrical body Push-up type Conical basal profile	Mold-blown	early 19th century		

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	3.9	0.0	0.0	0.3	Rum or case bottle	1	Olive green Flanged lip	Mold-blown	18th century		
707.12	3.1	0.0	0.0	0.4	Wine bottle	1	Double cracked lip w/possible handle Olive green	Mold-blown	18th century		
707.12	6.2	19.0	2.5	0.3	Wine bottle	15	Mends Olive green Cylindrical body & neck Rounded string rim Flattened lip Rounded cone basal profile Push-up type	Blown	late 18th-early 19th centuries		
707.12	---	0.0	2.7	0.3	Wine bottle	1	Olive green Bulged neck V-shaped string rim	Mold-blown	early 19th century		
707.12	---	0.0	3.0	0.1	Water? bottle	1	Aqua Cylindrical neck Rounded lip	Blown	early 19th century		
707.12	---	0.0	3.3	0.4	Wine bottle	1	Olive green Bulged neck Rounded string rim	Mold-blown	early 19th century		
707.12	12.0	0.0	0.0	0.4	Wine bottle	3	Globular body Olive green Shallow dome push-up Mends	Mold-blown	18th century		
707.12	---	0.0	2.7	0.2	Wine bottle	1	Olive green Cylindrical neck V-shaped string rim	Mold-blown	early 19th century		
707.12	---	0.0	3.0	0.3	Wine bottle	1	Olive green Bulged neck V-shaped string rim	Mold-blown	early 19th century		
707.12	9.5	0.0	0.0	0.3	Wine bottle	1	Olive green Cylindrical body & base Conical basal profile Push-up type	Mold-blown	early 19th century		
707.12	---	0.0	2.7	0.2	Wine bottle	1	Olive green Bulged neck V-shaped string rim	Mold-blown	early 19th century		

Table 6-1 Liquor Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	8.2	0.0	0.0	0.3	Wine bottle	1	Olive green Cylindrical body Push-up type Conical basal profile				
		*** Total ***				119					

Flasks:
In the early nineteenth century, the production of flasks for whiskey became a very popular and profitable product for many of the glass houses. According to McKearin (1948:456), it is possible that the Pitkin Glass Works in Connecticut (1783-1830) was the first to produce this type of container. The most popular of this variety were pictorial flasks that had portraits of past presidents (George Washington, Zachary Taylor), popular personalities, symbols such as the American flag or eagle, Masonic themes or even popular news items of the day, such as the railroad. Popular colors were amber, olive or emerald green, aquamarine and blue. The darker color helped protect the stored liquid.

One unbroken violin or scroll flask was recovered at 104 Johnson Street (see Plate 37). Based on the work by Edwin Barber, McKearin (1948:484) dates this type of flask to between 1845 and 1870. The body is heart-shaped with thick vertical ribbings. Two pair of scrolls, one at the top and one near the base give the flask its other popular name. Unfortunately here, the clear eight-pointed star seen in finer examples have become small bumps on the shoulder and between the upper pair of scrolls.

This flask was made in a two piece mold and held by an iron rod for the completion of its one part finish of cylindrical neck and flat plain rim. This technique was popular between ca. 1750 to ca. 1880.

Table 6-2 summarizes technical information on the single, unbroken flask recovered at 104 Johnson Street.

Table 6-2 Flasks

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
707.07	4.4x7.1	18.1	2.8	12.2	Violin flask	1	Scroll	2 piece mold pontil mark	ca. 1750-1880	ca. 1845-1870
	*** Total ***					1				

Drugstore Bottles:
Patent medicine, prescription, drugstore, and medicine bottles are terms used to describe a group of glass containers manufactured in the eighteenth and nineteenth centuries. Many types of substances were sold in these bottles such as poisons, perfumes, smelling salts, hair tonic, shaving lotions, commercial patented medicines and druggist-prepared medicinal formulas. Food products and condiments, such as pepper sauce, oil and vinegar were also marketed in these bottles. See Plates 38-48.

Drugstore bottles were the earliest products of American glass houses. Between the late eighteenth and late nineteenth century a large number of glass houses produced only these types of bottles to fulfill the great commercial demand. The time period was one of great fraud and misrepresentation in the manufacture of medicine and drugs. Due to the lack of a federal drug control policy, many of the manufactured tonics, killers, bitters, liniments, cures, restoratives, elixirs, balsams, ointments, mixtures, remedies, and renovators were nothing more than a mixture of alcohol, sugar and water (Fike 1987:3). Some concoctions contained opium and clearly advertised this on the container (see Plate 45). Cures for diverse diseases as headaches, toothaches, cancer, diabetes and lung problems were claimed for one medicine.

Shrewd entrepreneurs obtained patents from the United States Patent Office. However, the container, not the contents, was patented and became the trademark. The government rarely checked the contents or their formula. Fifteen hundred patents were issued by the United States Patent Office by late 1850 (Fike 1987:3). The Federal Pure Food and Drug Act of 1906 and later legislation, forced the manufacturers to improve their products from all aspects.

The shape of the drugstore bottles was formed by functional, aesthetic and legislative issues. Depending on the nature of the substance, the buyer had to be able to easily hold the bottle, pour it, drink it or take out a small portion. So wide-mouthed containers, with prescription lips for pouring, and patent lips for drinking gave distinctive characteristics to drugstore bottles (see Plate 43). Advertising also gave these bottles a special nature whether in the form of paper labels or embossed letters made by special mold plates. Some legislative issues decided the bottle form, too. The recommendation in 1872 by the American Medical Association (Spillman 1983:149) asked for poison bottles to have distinctive textures and shapes. Stoppers could be strangely formed or the body of the container could be ground, etched or even have extra bumps. This enabled immediate recognition by touch. Dark color glass protected the stored content.

Many drugstore type bottles were recovered from 104 Johnson Street and 308 Bridge Street. A large number are embossed (see Plates 39-41 and 44-47) and some have press molded decoration. Hair tonic bottles and medicine containers seem to be the most common (see Plates 39-41 and 44-46).

Table 6-3 lists some technical information on different types of drugstore bottles recovered from 104 Johnson and 308 Bridge Streets. Examples included embossed and unembossed bottles.

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
12.04	2.8x2.8	8.5	1.7	0.2	Disinfectant bottle	1	CN Disinfectant West Disinfecting Company New York	Automatic Threaded lip			1903
14.04	---	0.0	2.8	0.3	Drugstore bottle	1	Amber Prescription lip	2-piece mold	late 19th-early 20th centuries		
19.02	3.5	13.4	3.4	0.3	Drugstore bottle	1		Ricketts mold	1840-1920		
56.02	4.7	6.9	3.5	0.5	Vaseline bottle	1	Chesebrough MFG Co. Patent lip	Automatic			1903
56.02	4.6	0.0	0.0	0.2	Vaseline bottle	1	Chesebrough MFG Co. Patent lip	Automatic			1903
60.00	4.6x3.1	10.0	0.0	0.3	Drugstore bottle	1	Myrtle Ave Drug Co Myrtle Ave Cor. Duffield St. Brooklyn	2 piece mold with separate base	ca. 1850-1920		
108.03	---	0.0	1.7	0.3	Drugstore bottle	1	Ball neck Flanged lip	2-piece mold	mid-19th-early 20th centuries		
108.03	5.7x3.2	0.0	0.0	0.4	Drugstore bottle	1	Rectangular with four recessed panels	2-piece mold with separate base	ca. 1850-1920		
108.03	---	13.5	1.9	0.4	Drugstore bottle	1	Rectangular with four recessed panels Downtooled lip Aqua	Mold-blown?			
108.03	5.7x3.5	0.0	1.6	0.3	Hair cream bottle	1	W.C. Currier's Cocoanut Cream for the Hair Mint	2-piece mold with post bottom mold	ca. 1850-present		
108.03	4.7x2.6	12.2	2.4	0.3	Drugstore bottle	1	Pinchot & Bruen Druggists New York Press mold decoration	2-piece mold with separate base	ca. 1850-1920		
108.04	2x3.1.0	7.5	1.9	0.3	Drugstore bottle?	1	Rectangular with recessed panels Flanged lip	2-piece mold	ca. 1750 - ca. 1880		

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
108.04	4.4x2.7	13.7	2.3	0.4	Drugstore bottle	1	Barnes Aqua Rectangular with recessed panels	2-piece mold with post bottom mold	ca. 1850-present		
108.04	3.0	8.3	2.1	0.3	Drugstore bottle?	1	Cylindrical Flanged lip	2-piece mold with separate base	ca. 1850-mid 1920s		
108.04	3.2x5.7	15.9	2.8	0.4	Drugstore bottle?	1	Rectangular with *recessed* panels Ball neck	2-piece mold with separate base	ca. 1850-mid 1920s		
108.04	3.2	8.4	2.5	0.3	Drugstore bottle? Vial?	1	Cylindrical Flanged lip	Free? blown Pontil	19th century		
108.04	4.1x2.3	11.8	2.3	0.4	Drugstore bottle?	1	Rectangular Pressed decoration of parallel horizontal ribs	2-piece mold with separate base	ca. 1850-mid 1920s		
108.04	4.7x2.6	12.5	2.4	0.3	Drugstore bottle	1	Pinochot & Brown Druggists New York	2-piece mold with separate base	ca. 1850-mid 1920s		
108.04	2.9	7.5	2.2	0.2	Drugstore bottle	1	Cylindrical Flanged lip	Ricketts mold	1840-1920		
206.00	5.5	8.9	4.3	0.5	Drugstore? bottle	1	Cylindrical Flat base Cylindrical neck Flat lip	2-piece mold with separate base	ca. 1850-1920		
300.00	---	0.0	2.8	0.4	Drugstore? bottle	1	Aqua Lip with rounded side	2-piece mold with separate base	ca. 1850-1920		
401.00	3.5x3.5	0.0	0.0	0.3	Drugstore? bottle	2	Mends Flat base Flutes	Automatic			1903
404.00	---	0.0	2.6	0.3	Drugstore? bottle	1	Milk glass Patent lip	Hand finished	late 19th-early 20th centuries		
407.03	2.8x5.0	11.4	2.0	0.4	Hair dye bottle	1	Aqua Bush's Argentine Hair Dye Almond No. 1 Water Lowell Mass	2-piece mold Pontil	ca. 1750-ca. 1880		

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
407.03	1.9x4.9	9.1	1.6	0.2	Hair dye bottle	1	Aqua Bush's Argentine Hair Dye No 2	2-piece mold with separate base Pontil	ca. 1850-1920		
407.03	6.9x4.4	21.6	3.3	0.3	Sarsaparilla bottle	2	Aqua Mends Ayer's Sarsaparilla Compound Ext. Lowell Mass U.S.A.	2-piece mold with separate base Post bottom mold?	ca. 1850-present		1848
407.04	6.4x2.0	18.5	2.9	0.3	Drugstore bottle	1	Mint Ayers Pectoral Cherry Lowell Mass	2-piece mold Pontil	ca. 1750-ca.1880		1841
407.04	6.7x4.4	16.8	3.0	0.3	Drugstore bottle	1	Aqua Dr. S.S. Fitch 714 Broadway N.Y.	2-piece mold Pontil	ca. 1750-ca. 1880		1853
407.04	3.2x5.9	16.0	2.8	0.3	Drugstore bottle	3	Mends Rectangular w/recessed panels Ball neck Prescription lip	2-piece mold with separate base	ca. 1850-mid 1920s		
407.04	7.8x5.0	25.4	2.6	0.4	Drugstore bottle		Aqua Rushton Clark & Co Chemist's New York Cod Liver Oil Bottle	2-piece mold Pontil	ca. 1750-1880		adv. 1850
407.04	6.0	14.1	3.1	0.4	Drugstore bottle	1	Cylindrical Flat base	2-piece mold with separate base	ca. 1850-1920		
407.04	3.8	8.5	2.2	0.1	Drugstore bottle	2	Mends Aqua Cylindrical Flanged lip Thin bodied	Blown mold? Pontil			
407.05	5.9	15.0	2.8	0.2	Drugstore bottle	1	Cylindrical Flat base	4-piece mold? with separate base	first half 19th century		
705.00	2.9	6.5	2.5	0.3	Drugstore bottle	1	Cobalt blue Bromo Seltzer Emerson Drug Co. Baltimore MD	Semi-automatic	1881		1889

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
705.00	2.9	6.4	2.5	0.4	Drugstore bottle	2	Mends Cobalt blue Bromo Seltzer Emerson Drug Co Baltimore MD	Semi-automatic	1881	1889
705.00	7.7x4.6	0.0	0.0	0.3	Tonic bottle	1	Cooper's New Discovery Aqua	2-piece mold with separate base	ca. 1850-mid 1920	1907
707.02	---	0.0	2.4	0.4	Drugstore bottle	2	Mends Cobalt blue "Brom... Emer... Drug" Cylindrical body & neck	Semi-automatic	1881	1889
707.02	2.9	0.0	0.0	0.2	Drugstore? bottle	1	Amber Rounded string rim	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	---	0.0	3.0	0.3	Drugstore bottle	1	Aqua Panelled side Square Patent lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	---	0.0	2.8	0.1	Drugstore bottle	1	Patent lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	---	0.0	2.2	0.1	Drugstore bottle	1	Patent lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	3.9x3.9	11.8	2.5	0.3	Drugstore bottle	1	Square Panelled sides Patent lip	2-piece mold with separate base or semi-automatic	ca. 1850-mid 1920s	
707.03	---	0.0	2.1	0.2	Drugstore bottle	1	Patent lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	5.5x3.7	13.3	2.6	0.4	Drugstore bottle	1	Philadelphia oval Prescription lip	2-piece mold with separate base	late 19th-early 20th centuries	
707.03	3.6x1.0	14.7	1.7	0.2	Drugstore bottle	1	Mint Ovoid Down-tooled lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	---	0.0	2.4	0.2	Drugstore bottle	1	Patent lip	2-piece mold with separate base	ca. 1850-mid 1920s	
707.03	4.6x2.4	9.1	2.0	0.3	Drugstore bottle	1	Philadelphia oval Prescription lip	2-piece mold with separate base	late 19th-early 20th centuries	

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
707.04	4.5x2.7	13.5	2.2	0.4	Drugstore bottle	1	Aqua Rectangular w/panelled sides Ball neck Patent lip	2-piece mold with separate base	ca. 1850-mid-1920s	
707.04	6.2x6.2	0.0	0.0	0.4	Drugstore bottle	6	Aqua Mends Square Panelled side "Cuticura System of Curing Constitutional Humors Originated by Weeks & Potters Boston"	2-piece mold with post bottom mold	ca. 1850-present	adv. 1879
707.04	3.3	5.4	2.7	0.4	Drugstore bottle	1	Aqua Cylindrical Patent lip	2-piece mold with separate base	ca. 1850-mid-1920s	
707.04	5.7x6.1	20.0	2.5	0.4	Drugstore bottle	19	Mends "UDOLPHO WOLFE'S SCHIEDAM AROMATIC SCHNAPPS" Olive green	2-piece mold Pontil? Grind & polish separate base?	ca. 1750-ca. 1880	
707.06	4.0	7.8	2.9	0.2	Drugstore bottle	1	Aqua Cylindrical neck Straight finish Folded-in lip	2-piece mold Pontil	ca. 1750-ca. 1880	
707.06	4.6x2.1	9.6	2.1	0.2	Drugstore bottle	1	Aqua Rectangular w/flat chamfers Straight finish Folded-in lip	2-piece mold Pontil	ca. 1750-ca. 1880	
707.06	2.3	11.3	1.8	0.2	Drugstore vial	4	Aqua Mends "Dr. McMunn's Elixir of Opium" Cylindrical Flat base	2-piece mold with separate base	ca. 1850-mid-1920s	1842
707.07	3.1x3.1	8.0	3.7	0.3	Drugstore bottle	1	"W.R. Cameron 313 Fulton Brooklyn NY Botanic Cream"	2-piece mold with separate base	ca. 1850-mid 1920s	

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.07	4.3x4.3	7.1	3.0	0.4	Drugstore or ink bottle	1	Square w/angular shoulder Cylindrical neck Patent lip	Semi-automatic			1881
707.07	4.6x2.8	14.2	2.5	0.2	Drugstore bottle	2	Mends "Van Buskirk's Fragrant Sozodont"	2-piece mold with separate base	ca. 1850- mid 1920s		1867
707.08	6.0x2.5	11.3	2.4	0.2	Hair tonic bottle	19	Aqua Mends "Genuine Spanish Hair Gloss C.I Fay New York"	2-piece mold with separate base?	ca. 1850-mid 1920s		
707.09	---	0.0	2.0	0.1	Medicine? bottle	1	Octagonal Ball neck Flared lip	Molded			
707.09	4.5x1.9	10.0	1.9	0.3	Drugstore bottle	1	Aqua Rectangular w/flat chamfers Folded-in lip Straight finish	2-piece mold Pontil	ca. 1750-ca. 1880		
707.09	5.1x3.2	8.2	3.5	0.4	Drugstore bottle	1	"W.R. Cameron 313 Fulton Brooklyn NY Botanic Cream	2-piece mold with separate base	ca. 1850-mid 1920s		
707.10	4.6x3.1	9.7	2.1	0.1	Drugstore bottle	1	Aqua Rectangular w/flat chamfers Folded-in lip Straight finish	2-piece mold Pontil	ca. 1750-ca. 1880		
707.10	---	0.0	3.1	0.3	Drugstore bottle	1	Aqua Ball neck Flanged lip	2 piece mold with separate base?	ca. 1850-mid 1920s		
707.10	2.8x5.0	14.6	2.5	0.3	Drugstore bottle	7	Mends "Van Buskirk's Fragrant Sozodont"	Semi-automatic?	1881		1867
707.10	3.8	0.0	0.0	0.1	Glue bottle	1	Aqua Cylindrical Flat base "...PALDINGS GLUE"	Mold-blown Pontil	18th century onward		
707.10	4.7x2.7	0.0	0.0	0.2	Drugstore bottle	1	Aqua Ovoid base	2-piece mold Pontil	ca. 1750-ca. 1880		

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.10	4.4x3.0	9.1	3.4	0.3	Drugstore bottle	10	Mends Rectangular w/flat chamfers Cylindrical neck Flanged lip	2-piece mold with separate base	ca. 1850-mid 1920s		
707.10	2.3x3.2	0.0	0.0	0.2	Snuff? bottle	1	Aqua Rectangular w/flat chamfers "...SNUFF ...DUCT ...RSHALL'S" possibly Doct./Marshall's/ Catarrh/Snuff	2-piece mold	ca. 1750-ca. 1880		ca. 1830s
707.10	5.6x3.4	0.0	0.0	0.3	Hair tonic bottle	1	Aqua Rectangular w/flat chamfers "BARRY'S ...HEROUS ...HE ...KIN ...ND HAIR"	Mold-blown	18th century onward		1851
707.11	3.8	6.1	2.2	0.2	Drugstore bottle	1	Aqua Flat base Cylindrical body Folded-in flanged lip	2-piece mold Pontil	ca. 1750-ca. 1880		
707.11	5.3x2.8	13.2	1.7	0.3	Drugstore bottle	1	Aqua Flat base Ovoid body Downtooled lip	2 piece mold Separate base	ca. 1850-mid 1920s		
707.11	5.4	0.0	4.2	0.1	Drugstore bottle	20	Mends Mint Cylindrical Flanged lip Thin bodied	Mold-blown? Pontil			
707.12	7.7x7.8	24.0	2.8	0.3	Sarsaparilla bottle	41	"Emerald Townsend's Sarsaparilla New York" Mends	Mold-blown	18th century onwards		1846
707.12	---	0.0	2.6	0.2	Drugstore? bottle	1	Ball neck? w/rounded lip	2-piece mold	mid-19th century		
707.12	3.8x3.2	6.5	2.2	0.2	Drugstore bottle	1	Mint Rectangular body Cylindrical neck Flanged lip	2-piece mold Pontil	ca. 1750-ca. 1880		

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
707.12	2.3	11.0	0.0	0.1	Drugstore bottle	1	Aqua Cylindrical body & neck Flat base Thin bodied	Free-blown Pontil		
707.12	2.3x3.9	12.3	2.0	0.2	Extract bottle	1	Mint Ovoid body J.P. PRESTON BOSTON" Possibly Preston & Merrill, Boston	2-piece mold Pontil	ca. 1750-ca. 1880	1845-1906
707.12	3.5	0.0	0.0	0.2	Drugstore bottle	1	Aqua Flat base 12-sided body	2-piece mold Pontil	ca. 1750-ca. 1880	
707.12	4.2	10.8	2.4	0.3	Drugstore bottle	2	Amber Cylindrical body & neck Flat base Flanged lip Mends	2-piece mold Pontil	ca. 1750-ca. 1880	
707.12	3.8x3.2	6.5	2.2	0.3	Drugstore bottle	1	Mint Rectangular body Cylindrical neck Flanged lip Flat base	Mold-blown Pontil	18th century onward	
707.12	2.6	5.6	2.7	0.1	Drugstore bottle	1	Mint Cylindrical body & neck Flanged lip	Mold-blown Pontil	18th century onward	
707.12	2.2x2.6	6.8	2.2	0.3	Balsam bottle	1	Aqua Pearshaped Rectangular base "Robt TURLINGTON FOR HIS INVENTED BALSAM OF LIFE LONDON JANY"	Mold-blown in 2-piece mold Pontil	18th century onward	1857-1935
707.12	3.9	8.1	2.0	0.1	Drugstore bottle	1	Mint Complete Flat base Cylindrical body & neck Flanged lip	Free-blown Pontil		

Table 6-3 Drugstore Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	5.8x2.6	14.1	2.5	0.1	Drugstore bottle	1	Rectangular with recessed panels Ball neck Patent lip "VAN BUSKIRK'S FRAGRANT SOZODONT"	2-piece mold separate base	ca. 1850-mid 1920s 1867		
707.12	3.7	6.5	3.1	0.2	Drugstore? bottle	1	12-sided body Flat base Cylindrical neck Flanged lip	2-piece mold?	mid-19th century		
707.12	3.8x2.7	0.0	0.0	0.2	Drugstore bottle	4	Mint Cylindrical body Flat base Mends	2-piece mold Pontil	ca. 1750-ca. 1880		
707.12	---	0.0	2.2	0.2	Drugstore bottle	18	Aqua Cylindrical neck Flanged lip Average rim=2.2 15 rims in total	2-piece mold separate base?	ca. 1850-mid 1920s		
707.12	2.6x2.1	0.0	0.0	0.3	Balsam bottle	6	Aqua Mends Pearshaped Rectangular base "Robt TURLINGTON FOR HIS INVENTED BALSAM OF LIFE LONDON JANY"	Mold-blown in 2-piece mold Pontil	18th century onward	1857-1935	
*** Total ***						240					

Medicine Vials:
Glass vials are a group of 'drug store' bottles which were used for pills, liquid medicine or ointment. The chief characteristic for defining a glass bottle as a vial is size. A vial should not contain more than six ounces (Jones and Sullivan et al. 1985:73). A vial is generally cylindrical in shape. Many whole vials were recovered from 104 Johnson Street (see Plates 49 and 50).

Technical information on sixteen vials is included in Table 6-4.

Table 6-4 Medicine Vials

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
11.01	2.3	6.4	1.6	0.4	Medicine vial	1	Cylindrical with plate Cylindrical neck patent lip	Automatic			1903
206.00	1.3	4.5	1.4	0.1	Medicine vial	1	Cylindrical Flanged lip	Mold-blown			
705.00	1.8	3.7	1.5	2.0	Medicine vial	1	Cylindrical Prescription lip	Mold-blown			
707.02	0.8	3.4	0.8	0.1	Medicine vial	1	Cylindrical Patent lip	Automatic			1903
707.02	1.8	3.5	1.5	0.2	Medicine vial	1	Cylindrical Patent lip	2 piece mold Separate base	ca. 1850-mid 1920s		
707.02	1.7	6.1	1.4	0.1	Medicine vial	1	Cylindrical Patent lip	Automatic			1903
707.04	0.9	4.0	0.9	0.1	Medicine vial	1	Cylindrical Flanged lip	Automatic			1903
707.04	1.8	6.3	1.6	0.2	Medicine vial	1	Cylindrical Patent lip	2 piece mold Separate base	ca. 1850-mid 1920s		
707.09	1.5	4.1	1.0	0.1	Medicine vial	1	Cylindrical Cut-off lip	Mold-blown or automatic			
707.09	1.8x1.9	4.8	1.9	0.3	Cologne? vial	1	Square Cylindrical neck Flanged lip	Mold-blown			
707.09	3.0	2.5	1.8	0.2	Ointment? vial	1	0.2	Cylindrical body & neck Cut-off lip	Mold-blown		
707.10	1.8	6.0	2.0	0.2	Medicine vial	6	Cylindrical neck & body	Mends Patent lip	Mold-blown		
707.11	1.2	4.4	1.2	0.1	Medicine vial	1	Cylindrical body & neck Flanged lip	Mold-blown or automatic			

Table 6-4 Medicine Vials

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	1.1	9.7	1.6	0.1	Medicine vial or tube	1	Cylindrical Flanged lip	Mold-blown?			
707.12	0.8	7.2	1.2	0.1	Medicine vial or tube	1	Cylindrical Flanged lip	Blown			
707.12	0.9	7.5	1.3	0.1	Medicine vial or tube	1	Cylindrical Flanged lip	Blown			
					*** Total ***	21					

Ink Bottles:
Ink containers came in three different categories, each fulfilling a special function in the steps of the art of writing. Evidence shows that ink containers were manufactured in this country from the early nineteenth century onwards.

Large ink containers, called 'master inks', functioned as storage containers (Spillman 1983:116). Master inks held anywhere from one pint to a gallon of liquid. Ink was stored either in a ready-to-use condition or in concentrated strength. Small bottles which only a few ounces of ink were used on the writing table. Small bottles could be purchased or refilled from a master ink. Inkwells were designed for use on the desk while redipping the writing implement (Spillman 1983:116). Inkwells were usually sold empty or as part of a desk set which could include a compartment for sealing wax, candles, sand shaker, stamp, sponges, blotters and/or letter openers.

No ink wells were recovered from 104 Johnson Street or 308 Bridge Street. Master ink and desk-size ink bottles were found in the 104 Johnson Street cistern and privy and the 308 Bridge Street privy (see Plate 52). The most common type of desk-size ink bottle was the 'umbrella type', in a multi-paneled conical shape. The umbrella pattern was popular during the period from 1865 to 1900 (Spillman 1983:122).

Plate 51 illustrates a desk-size ink bottle with a square base found in Context 302, the backfill of the disturbed privy at 304 Bridge Street. This ink bottle was produced on the automatic bottle machine and has a TPQ of 1903.

Table 6-5 includes technical information on one possible inkwell, two possible master inks, and fifteen ink bottles.

Table 6-5 Ink Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
108.04	6.6	6.8	2.3	0.6	Ink bottle	1	Umbrella type w/cork Aqua	2 piece mold Pontil mark	ca.1750-1880	1865-1900
108.04	6.5	0.0	0.0	0.2	Ink bottle	4	Umbrella type Mint Mends			1865-1900
108.04	4.6	8.2	2.4	0.2	Ink bottle?	1	Cylindrical 12-sided body	2 piece mold with separate base	ca. 1850-mid 1920s	
108.04	6.7	6.2	2.2	0.4	Ink bottle	1	Umbrella type Dark amber	2 piece mold with separate base	ca. 1850-mid 1920s	1865-1900
302.00	4.3x4.2	4.9	3.1	0.3	Ink bottle	1	Square body Bead string rim	Machine made	TPQ 1903	early 20th century
302.00	2.8x2.8	0.0	0.0	0.8	Inkwell?	1	Raised diamonds and parallel bands	Press molded		1830+
407.04	4.2	14.7	2.7	0.6	Master ink or drugstore bottle	1	Cylindrical 12-sided body Aqua	2 piece mold Pontil	ca. 1750-1880	
702.00	4.4x4.3	3.7	2.7	0.2	Ink bottle?	1	Square	2 piece mold or mold-blown	late 19th century	1880-1900
707.08	5.9	5.7	1.7	0.2	Ink bottle	1	Umbrella type Emerald	Possible 2 piece mold with separate base	ca. 1850-mid 1920s	1865-1900
707.09	6.8	6.2	2.0	0.2	Ink bottle	1	Umbrella type Aqua	2 piece mold with separate base	ca. 1850-mid 1920s	1865-1900
707.09	0.0	0.0	0.0	0.0	Ink bottle	4	Umbrella type Aqua			1865-1900
707.09	5.9	11.0	2.2	0.2	Master ink or drugstore type	1	Cylindrical 12-sided body Aqua	2 piece mold Pontil		ca. 1750-1880
707.09	6.8	6.8	2.0	0.3	Ink bottle	1	Umbrella type Mint	2 piece mold with separate base	ca. 1850-mid 1920s	1865-1900
707.10	0.0	6.4	0.0	0.3	Ink bottle	3	Umbrella type Emerald Mends	2 piece mold	ca. 1750-1880	1865-1900
707.11	6.6	6.6	1.9	0.3	Ink bottle	1	Umbrella type Aqua	Possible 2 piece mold Pontil	ca. 1750-mid 1920s	1865-1900

Table 6-5 Ink Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type Date
707.11	6.8	7.0	2.0	0.3	Ink bottle	1	Umbrella type Aqua	Possible 2 piece mold Pontil	ca. 1750-mid 1920s	1865-1900
707.12	5.3	5.1	3.0	0.3	Ink bottle?	1	Cylindrical 12-sided body Aqua	3 piece mold with separate base	mid-19th century?	
707.12	5.8	0.0	2.2	0.2	Ink bottle	3	Umbrella type Mint Mends	2 piece mold Pontil	ca. 1750-1880	1865-1900
		*** Total ***				28				

Perfume Bottles:
From the mid-nineteenth century on, toiletry and cosmetic items were popular. Ointment, pomade and cream jars, along with toilet water, perfume and cologne bottles were produced in many glass houses such as Boston and Sandwich Glass Company of Boston or the various glass houses in Glasboro, South Jersey. Many of the cologne bottles were patterned in designs that had such names as 'lion', 'fancy', 'diamond', 'grape', or 'tree'.

The group of cologne bottles found at 104 Johnson Street are simple in design (see Plate 53). All are mold made and only embossed with letters that advertise the cologne manufacturer and not the actual manufacturer of the glass bottle. This was a common practice in the glass industry. The glass manufacturer used a standard bottle and inserted various plates with molded lettering for different products.

Information retrieved from nine perfume bottles found at 104 Johnson Street is provided in Table 6-6.

Table 6-6 Perfume Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
108.03	0.0	15.0	2.6	0.2	Perfume bottle	1	C T Barney Perfume	2-piece mold with separate base	ca. 1850-mid-1920s		
108.04	4.0	7.6	2.3	0.2	Perfume bottle	1	Lindmark Perfumer New York	2-piece mold with separate base	ca. 1850-mid-1920s		1855
108.04	5.0	24.8	2.5	0.0	"Florida" bottle	1	Remains of paper label Mint Paper label=2nd half of 19th century	2 piece mold	ca. 1750-ca. 1880		
707.02	3.0	7.6	2.0	0.4	Cologne bottle	1	Hoyt's 10c Cologne	Semi-automatic or automatic	1881		1914
707.02	3.0	9.5	2.2	0.5	Cologne bottle	1	Hoyt's German Cologne E.W. Hoyt & Co Lowell Mass	Semi-automatic	1881		1877
707.03	3.0	8.9	2.1	0.4	Cologne bottle	1	Hoyt's German Cologne E.W. Hoyt & Co Lowell Mass	Semi-automatic	1881		1877
707.03	3.0	9.2	2.2	0.5	Cologne bottle	1	Hoyt's German Cologne E.W. Hoyt & Co Lowell Mass	Semi-automatic	1881		1877
707.03	4.0	8.3	1.7	0.3	Cologne bottle	1	Regatta Boquet John T. Lanman New London Conn.	2-piece mold with separate base Bead string rim	ca. 1850-mid-1920s		
707.04	3.0	9.3	2.3	0.4	Cologne bottle	1	Hoyt's German Cologne E.W. Hoyt & Co Lowell Mass	Semi-automatic	1881		1877
					*** Total ***	9					

Cathedral Bottles:
Cathedral style bottles functioned as containers for pickles, pepper sauce and other condiments. Unfortunately, not much is known about the manufacture of this unusual design in glassware. No complete or unbroken examples of this types of bottle was recovered from 104 Johnson Street or 308 Bridge Street. Numerous fragments are present which indicate the popularity of relishes and condiments in the diet of residents at these locations (see Plate 54). McKearin (1948:210) mentions that the Westford Glass Company, active from 1857 to 1873, produced cathedral style bottles. Most bottles were of the two-piece mold technique, having a manufacturing type date ca. 1750 to ca. 1880.

Stylistic information and attributes of ten cathedral bottles from 104 Johnson Street are listed in Table 6-7.

Table 6-7 Cathedral Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
106.00	5.7x5.7	19.0	4.3	0.3	Cathedral bottle	14	Simple arch Aqua Mends complete	2-piece mold with separate base cup bottom	after 1850		1857+
108.03	5.8x5.8	19.0	4.6	0.4	Cathedral bottle	2	Gothic arch design with lozenge pattern Aqua Mends	2 piece mold-blown	ca. 1750-1880		1857+
707.09	0.0	0.0	0.0	0.4	Cathedral bottle	2	Gothic arch design with one diamond in arch Aqua Mends	2 piece mold-blown	ca. 1750-1880		1857+
707.10	4.6x4.6	0.0	0.0	0.3	Cathedral bottle	1	Embossed sides Lozenge pattern Aqua Pontil	Mold-blown			1857+
707.10	0.0	0.0	4.6	0.3	Cathedral bottle	1	Gothic arch design Aqua Rounded rim Cylindrical neck	2-piece mold-blown	ca. 1750-1880		1857+
707.10	0.0	0.0	0.0	0.0	Cathedral bottle	20	Gothic arch design lozenge pattern with one diamond Aqua Mends	Mold-blown			1857+
707.11	5.2x5.0	0.0	0.0	0.3	Cathedral bottle	5	Gothic arch design with trifoil Aqua Mends	2-piece mold-blown	ca. 1750-1880		1857+
707.11	0.0	0.0	4.3	0.2	Cathedral bottle	1	Simple arch with trifoil Aqua Rim Ball neck	Mold-blown			1857+
707.12	9.1x8.7	24.5	0.0	0.5	Cathedral bottle	10	Gothic arch with one diamond in arch Aqua Mends	Mold-blown with separate cup Bottom base mold	after 1850		1857+

Table 6-7 Cathedral Bottles

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period	Type	Date
707.12	0.0	0.0	6.5	0.2	Cathedral bottle	1	Gothic arch design? With floral border Aqua Round rim Ball neck	2 piece mold-blown	ca. 1750-1880		1857+
		*** Total ***				57					

Tumblers:
Tumblers are found in abundance in archaeological sites and can still be found in many present-day households. Earlier tumblers, however, were much larger in size. Some have been used as commercial containers, too. For example, tumblers were and can be sold with peanut butter or jelly, (Jones and Sullivan 1985:143). There are examples of earlier tumblers in collections with engraved or etched decorations of campaign symbols, Washington's tomb and even advertisements. Evidence exists for a number of tumblers made in ink-bottle molds, another example of the multifunctional aspect of glass molds. McKearin (1948:334) mentions that pressed tumblers were first produced in 1827. However, most scholars cannot agree on a definite beginning date.

No whole or complete tumbler has been found at 104 Johnson Street or 308 Bridge Street. There are numerous fragments to attest to the popularity of this item. These pieces, though not whole, provide data of original dimensions, method of manufacture and design. Most of these pieces were press molded after which simple panel designs were left behind on the artifact. Most have tapered vertical body forms and a circular, horizontal cross-section on the inside. Bases are flat or of the shallow concave type.

Fragments of eighteen glass tumblers from 104 Johnson Street are listed in Table 6-8.

Table 6-8 Tumblers

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period
108.03	7.0	13.6	9.5	0.4	Glass tumbler	1	12-sided panel pattern	Press mold	late 1820s
707.07	6.7	9.4	8.4	0.6	Glass tumbler	2	8-sided ovoid and arch panel pattern Mends	Press mold	late 1820s
707.09	0.0	0.0	9.7	0.4	Glass tumbler	2	6-sided arch panel pattern Mends	Press mold	late 1820s
707.10	5.7	8.9	8.0	0.3	Glass tumbler	3	8-sided arch panel pattern Mends	Press mold	late 1820s
707.10	6.6	0.0	0.0	0.3	Glass tumbler	2	8-sided fluted pattern Mends	Press mold Cup bottom base	ca. 1850-present
707.10	6.4	0.0	0.0	0.5	Glass tumbler	2	10-sided panel pattern Concave base	Press mold	late 1820s
707.11	6.5	8.4	8.2	0.3	Glass tumbler	1	8-sided arch panel decoration	Press mold	late 1820s
707.11	6.7	9.2	8.7	0.3	Glass tumbler	6	8-sided fluted pattern Mends	Press mold Cup bottom mold	ca. 1850-present
707.12	7.7	0.0	0.0	0.5	Glass tumbler	1	6-sided panel pattern	Press mold Cup bottom mold	ca. 1850-present
707.12	6.4	0.0	0.0	0.3	Glass tumbler	1	10-sided panel pattern	Press mold Cup bottom mold	ca. 1850-present
707.12	6.4	0.0	0.0	0.5	Glass tumbler	1	10-sided panel pattern	Press mold Cup bottom mold	ca. 1850-present
707.12	6.5	0.0	0.0	0.5	Glass tumbler	1	8-sided panel pattern	Press mold Cup bottom mold	ca. 1850-present
707.12	6.0	0.0	0.0	0.5	Glass tumbler	1	8-sided panel pattern Concave base	Press mold	late 1820s
707.12	6.5	0.0	0.0	0.3	Glass tumbler	7	8-sided panel pattern Mends	Press mold Cup bottom mold	ca. 1850-present
707.12	4.5	0.0	0.0	0.2	Glass tumbler	3	12-rib pattern Sunburst on base	Molded	
707.12	6.4	0.0	0.0	0.2	Glass tumbler	2	17- and 16-sided panel pattern Concave base	Press molded	late 1820s

Table 6-8 Tumblers

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period
707.12	6.3	8.4	0.0	0.3	Glass tumbler	2	10-sided panel pattern Mends	Press moldedlate 1820s	
707.12	4.5	6.3	0.0	0.2	Desert glass	2	6-sided panel pattern Conical base Stemmed	Press molded	late 1820s
					*** Total ***	40			

Pressed Glass:
Pressed or press molded glass indicate a certain category of ware very popular from mid-1820s to the early 1900s. Jenkins (1982:126) states that the reason for this popularity was because many people could not afford the highly priced cut glass pieces and bought pressed ones instead. Pressed glass had much of the brilliance and glow of the cut ones.

Initially the manufacturing technique dictated the shape of the pieces. Early patents, taken out after 1825, state that hot glass was forced into a mold by means of a plunger. After the glass obtained the shape of the mold the plunger was pulled out without opening the mold. A large number of the earlier pressed pieces were open-mouthed items such as plates, cups and bowls. Later in the mid-nineteenth century finer pieces like ink wells were made by this method. Later nineteenth century pieces were more elaborate because molds were developed which allowed the plunger to be removed without destroying closed-mouthed vessels.

The most characteristic feature of pressed glass is that the exterior and interior shape do not match. The inside shape is determined by the plunger while the outside is dictated by the mold. Designs are carved on this mold which receive the molten glass and shapes it according to various different patterns. Some pieces were even polished and 'touched-up' (Jones and Sullivan 1985:34) to make the designs more similar to cut ones. The more delicate the pattern and design, the more brilliance and glow. Sometimes, because of the contact with the mold and plunger, many of the flat surfaces were dull. These blank spaces in the pattern were filled with stipples which enhanced the reflection of light. This manufacturing technique resulted in the term 'lacy pattern' or 'lacy glass' which covered many glass items. Many unusual names can be noted in the advertisement in papers and magazines. "Thousand eyes", "shell and jewels", "daisy and button", "strawberry diamond", and "peacock feather" are a few of the names. They were found on many items such as cup plates, salts, inkwells, compotes, celery vases, lamps and trays.

A number of pressed glass items occur in the deposits from 104 Johnson Street and 308 Bridge Street. However, they are from common patterns and cannot provide exact dating evidence. Few pieces are whole. Their presence indicates the popularity and affordability of this type of ware in the households that existed there.

Table 6-9 lists stylistic, manufacturing and metrical attributes of pressed glass from 104 Johnson Street.

Table 6-9 Pressed Glass

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period
108.03	5.2	0.0	0.0	0.4	Cup plate	2	Mends Stippled floral and geometric Serrated edge	Press molded	1835-1850
108.03	5.2	0.0	9.0	0.4	Cup plate	1	Stippled floral and geometric Serrated edge	Press molded	1835-1850
108.03	5.2	0.0	9.0	0.4	Cup plate	3	Rims Stippled floral and geometric Serrated edge	Press molded	1835-1850
707.06	5.5	3.0	11.0	0.6	Bowl	2	Mends Star pattern Diamond pattern Serrated edge	Press molded	1830+
707.08	5.7	0.0	8.6	0.4	Cup plate	3	Mends Stippled heart and 8 point geometric pattern Sandwich Glass Co. Boston	Press molded	1830+
707.09	6.0	3.5	11.1	0.4	Bowl	4	Mends 12-sided star Diamond pattern	Press molded	1830+
707.09	6.0	0.0	0.0	0.4	Bowl	2	Diamond pattern		
707.09	0.0	0.0	0.0	0.4	Bowl	3	Mends with 707.11 Ovals bordered by rectangles of diamonds	Press molded	1830+
707.10	5.9	3.0	11.1	0.3	Bowl	2	Mends 12-sided star Diamond pattern	Press-molded	1830+
707.11	5.6	3.0	9.7	0.4	Bowl	4	Mends with 707.09 Diamond pattern-ovals bordered by rectangles of diamonds	Press molded	1830+
707.11	5.6	3.0	9.7	0.4	Bowl	2	Mends Diamond pattern ovals bordered by rectangles of diamonds	Press molded	1830+

Table 6-9 Pressed Glass

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period
707.11	5.6	3.0	9.7	0.4	Bowl	2	Mends Diamond pattern Ovals bordered by rectangles of diamonds	Press molded	1830+
					*** Total ***	30			

Stemwares:
Another type of tableware found in many households is the group of objects known as stemwares. Stemwares consist of a foot, stem and bowl and could be made in one, two or three parts. Their functions were many and they could appear on the table as drinking vessels, dessert glasses, serving dishes or even lamps (Jones and Sullivan 1985:141). Thus the discovery of a stem part does not automatically imply a drinking vessel. Proportions and thickness of ware, measurements of the foot rim for stability should all be taken into consideration before exact function is attributed to the discovered piece.

The most sturdy section of stemwares is the stem section for this is the piece that is discovered in most excavations. Some scholars have been able to compare and categorize these stem sections and based on technique of manufacture and design provide some chronological evidence (Hume 1969).

Examples of stemwares exist in the collection from 104 Johnson Street. Some have evidence of the bowl. There is only one example in this collection that has elaborate hand-painted gilding.

Attributes of nine stemware vessels from 104 Johnson Street are listed in Table 6-10. Stylistic information and manufacturing technologies are provided.

Table 6-10 Stemware

Context	Base	Height	Rim	Thickness	Function	Count	Description	Technology	Period
108.03	6.0	0.0	0.0	0.0	Stemware	1	Flat foot Basal knop Bladed knop in mid-section	Mold-blown?	early 19th century
707.06	6.6	0.0	0.0	0.4	Stemware	2	Mends Flat base 10-sided true balaster stem Etched	Semi-automatic	early 19th century
707.09	8.6	0.0	0.0	0.5	Stemmed dish	1	Flat base w/pontil Annular knop	Mold-blown	19th century
707.09	3.2	6.0	5.7	0.3	Drinking glass	1	Bowl Panelled round funnel Bladed knop	Mold-blown?	early 19th century
707.09	3.1	0.0	0.0	0.2	Drinking glass	1	Bowl Cut panelled round funnel	Mold-blown	early 19th century
707.10	4.3	5.2	4.3	0.2	Drinking glass	9	Ovoid bowl Mends Hand-painted gilding	Blown	late 18th-early 19th century
707.10	6.0	0.0	0.0	0.2	Drinking glass	5	Mends Cut panelled round funnel bowl Bladed knop	Blown	early 19th century
707.10	2.8	0.0	0.0	0.3	Stemware Toy?	1	6-sided press molded Horizontal bands Plain conical foot	Pressed 2-piece mold	1820-1900
707.12	6.1	0.0	0.0	0.3	Drinking glass	3	Mends Conical folded foot Pontil	Blown	late 18th-early 19th century
					*** Total ***	24			

Closures:
An integral part of a glass container is a closure. Usually a separate item, it is used to close the mouth of a container to protect the substance stored in it. *Closures were created for decanters,* bottles, jars, bowls and even tumblers and stemwares. The main intention was to make sure the substance could not evaporate, spill or become contaminated with dust and air.

Closures were made as early as 1500 B.C. (Jones and Sullivan 1985:151). Because it was an item usually individually made to fit the container, it is possible to provide an approximate date for some of them based on workmanship and stylistic criteria. The patented mold of 1841 allowed ten stoppers, a type of closure, to be made at the same time. However, each stopper had to be individually finished to fit the bottle for which it was created.

The most popular, until the present, of these closures are glass stoppers and lids, both of which have been found at 104 Johnson Street and 308 Bridge Street in some quantity. Stoppers consist of a shank which is a part inserted into the neck of the container and finial which is the part used as a handle to remove the stopper. The stopper and the finial are sometimes separated by a neck. The finial part may have decorative motifs or even embossed letterings. Finials could be flat, round, oval or rectangular usually narrowing to form a neck. Shanks were ground to fit the bore of the neck of the container and implies desire for airtightness and was most likely used for drug and medicine bottles. Many styles of stoppers were used, such as club sauce, Eno's, flat oblong head, and ball each made up of a different shape of finial, usually attached to a ground shank (Jones and Sullivan 1985:157) (see Plates 55).

Lids were used for jars, pots and boxes. They may be confused with small dishes used in the pharmaceutical profession. Lids may be round or rectangular, domed or flat in vertical profile. Finials may complete the lid.

Table 6-11 lists information on the varieties of closures recovered at 104 Johnson Street and 308 Bridge Street. Disc and ball stoppers, lids and flat oblong head stoppers are types included in the table.

Table 6-11 Closures

Context	Finial	Height	Shank	Thickness	Function	Count	Description	Technology	Period
19.01	0.6x1.6	0.0	0.0	0.0	Disc stopper	1	Vertical Flat Circular finial	Blown	19th century
401.00	2	1.2	0.0	0.0	Ball stopper	1	Aqua	2-piece mold	19th century
401.00	4.6	0.0	0.0	0.0	Milk glass lid or small dish	1	Whole Circular	Molded	19th-20th centuries
407.03	0.6x1.9	0.9	1.4	0.0	Flat oblong head stopper	1	Whole Ground shank	Molded	late 19th-early 20th centuries
701.00	0.4x1.5	3.8	1.1	0.0	Disc stopper	1	Whole Ground shank Vertical Flat Circular finial	Mold-blown	19th-20th centuries
702.00	2.5	2.9	1.2	0.0	Club saucer stopper	2	Mends Whole	Semi-automatic	late 19th-early 20th centuries
707.03	2.3	8.0	0.0	0.0	Ball stopper	1	Elongated finial	Blown	19th century
707.03	2.9	3.0	1.1	0.0	Sprinkler?	1	Hollow shank with short hollow attachment on horizontal projection	Molded	19th-20th centuries
707.04	5.3	2.0	0.0	0.0	Lid or small dish	1	Whole Circular	Semi-automatic	late 19th-early 20th centuries
707.04	2.4	4.9	1.3	0.0	6-sided stopper	1	Whole Ground shank	Molded	late 19th-early 20th centuries
707.07	5.4	1.3	0.0	0.4	Frosted lid	1	Whole Circular	Mold-blown	late 19th-early 20th centuries
707.09	1.6	2.3	10.0	0.3	Lid	1	Aqua Folded-in lip Circular ball type finial	Blown	19th century
707.10	0.5x1.6	3.7	1.0	0.0	Flat oblong head stopper	1	Whole Ground shank	Molded	late 19th-early 20th centuries
707.11	0.5x1.8	4.0	1.4	0.0	Flat oblong head stopper	1	Whole Ground shank	Molded	late 19th-early 20th centuries

Table 6-11 Closures

Context	Finial	Height	Shank	Thickness	Function	Count	Description	Technology	Period
707.12	0.7x2.7	5.8	1.7	0.0	Disc stopper	1	Whole Ground shank Vertical Flat Circular finial w/neck of blown drugstore type bottle	Blown	19th century
					*** Total ***	16			

Chapter 7: Tobacco Pipes From 104 Johnson and 308 Bridge Streets

by

Frank Dunsmore

Introduction

Clay pipes are a useful dating tool because they were widely used and discarded within a few months to a year of their manufacture (Faulkner 1980:1). Size, shape and decoration on a bowl or stem are variables which can be used for dating purposes along with bore stem size. Unfortunately, bore stem dating is not useful for nineteenth century sites due to the appearance of similar mass production techniques among clay pipe makers (Walker 1983:3). Historical archaeologists therefore rely upon identification of maker's marks as a means of dating nineteenth century artifacts (see Table 7-2 and Pipe Comments section).

Methodology

The pipes from Johnson Street, Metrotech were processed as small finds and set aside for further analysis. Care was taken when cleaning bowls and obviously utilized or decorated pipestems. When the processing was finished for a particular unit, attempts were made to mend pipes within that unit. If the pipestems mended, they were placed in a separate bag and catalogued together. The pipestems that did not mend were grouped together into one bag.

After initial processing, analysis was conducted for pipestems. Analysis included identification of bore size, decorations, quality, curvature, teethmarks, erosion or reworking/recycling, polish, utilization, presence of mouthpieces, piece counts and other traits (offset bore, fingerprints, etc.) that could help in mending (see Table 7-1). Bore diameters of the white clay specimens were obtained through the use of drill bits (see general description for results).

Pipe bowls were measured, checked for utilization, polishing, decorations, angle, quality, and any identifying marks or stamps (see Table 7-1).

A cursory attempt was made to crossmend, not only within the units, but between units. This attempt was constrained by time and monetary factors. However, crossmends were obtained, and several complete pipes were the result (see Table 7-3).

General Description

Metrotech ball clay stems range from 4/64 - 7/64 inches.

7/64	2	
6/64	22	
5/64	64	
4/64	31	
	119	Stem specimens present

Table 7-1 shows use and frequency within units.

The Binford method of bore dating (from Walker 1977:9), gives a date of 1742.16, clearly a date not in keeping with historical documentation for the project area. As mentioned above, bore diameter dating is not applicable to nineteenth century tobacco pipe stems. A second factor bearing upon bore size is that bore data is based upon English pipes while the Metrotech collection includes specimens of Dutch, German and French manufacture.

Perhaps not too surprising, is the high quality of pipe artifacts. Out of the 168 tobacco pipe artifacts, roughly 68 percent (114) are of high quality or better. The basis for this conclusion is admittedly somewhat subjective, but 45 percent (77 pieces) of this sample are polished specimens.

One possible explanation for the characteristics of this assemblage is that the pipe industry declined during the later half of the nineteenth century due to the availability of wooden pipes (which were less stable in the ground), to more people, as well as the widespread introduction of the cigar and cigarettes (Walker 1977:55-66). The higher quality and inexpensiveness of clay pipes may have been one of the factors encouraging smokers to continue using clay tobacco pipes.

There is no evidence of reworking or recycling pipe material in this collection.

Alexander (1983:213) identifies some characteristics for discerning Dutch pipe bowls from English pipe bowls. Denticulation and bowl angle are two variables. Seriations and voids were particularly useful with the Metrotech collection. Circular seriations on the bowl interior denote a method of manufacture by the Dutch while vertical striations are diagnostic of English. Slight voids, also a manufacturing fingerprint, were used to assign a bowl fragment as Dutch.

At least two typical diagnostic traits were used to assign a country of origin to the Johnson and Bridge Streets pipe assemblage, otherwise, they were judged as undetermined. Pipes were broken down by unit. If at least two diagnostic traits were observed, the comment from Table 7-1 (inventory) was placed after the country of origin. If a number follows "unable to determine," it denotes the number of specimens that were unidentified in reference to origin.

INVENTORY OF ORIGIN FOR PIPES

Context	Country of Origin	Context	Country of Origin
56.02	Unable to determine (1)	707.04	Unable to determine (1)
108.03	Not present, pulled for photo		Dutch (71)
108.04	Not present, pulled for photo	707.05	Unable to determine (1)
200.00	Unable to determine (1)		Dutch (75)
201.01	Unable to determine (1)	707.06	Dutch (48, 80, 81)
401.00	Unable to determine (1)	707.07	Dutch (82)
	French (14)		English (83)
402.00	Unable to determine (4)	707.09	Unable to determine (2)
	Dutch (18, 20)		Dutch (88)
404.00	Unable to determine (4)	707.10	Unable to determine (2)
	Dutch (27)		Dutch (94)
	English (28)	707.11	Dutch (98)
406.00	Unable to determine (11)	707.12	Unable to determine (3)
	Dutch (33)		
407.01	Unable to determine (1)		
407.02	Unable to determine (1)		
	Dutch (43, 44)		
	English (46)		
407.03	Unable to determine (6)		
	Dutch (43, 44)		
	English (50)		
407.04	Unable to determine (1)		
	English (59, 60)		
407.07	Unable to determine (1)		
505.05	Unable to determine (1)		
707.02	Unable to determine (1)		
707.04	Unable to determine (1)		

One of the more frustrating aspects of analysis was searching for identification of maker's marks. The literature documents counterfeits and plaglarism of styles and marks. An example is "Peter Dorni". Peter Dorni was a prominent pipe manufacturer in northern France in the latter half of the nineteenth century (Walker 1983:29, 32-37). Several specimens, including one complete pipe in the Johnson Street collection, may be attributable to this individual. Dorni was copied by at least five other manufacturers. Closer inspection of the pipes showed that some specimens were indeed dissimilar. As a result it should be noted that the Peter Dorni pipes should be considered "Peter Dorni-type" pipes, much as the "TD" -type pipes should be noted.

Summary

Unfortunately, not many maker's marks were identified during the course of this study. In fact, only general conclusions can be drawn, country of origin and a rough time period.

Table 7-1 Inventory of Pipes

CONTEXT	STEM	BORE	STEM OUTER DIAM	STEM LENGTH	DECO	MEND	USED	T MARK	POLISH	MOUTH PIECE	STEM COMMENT	BOWL	BOWL MOUTH DIAM	BOWL HEIGHT	DECO	MEND	BOWL COMMENT
** 5.02		**															
5.02	Y	6	6.8	30.0	N	N	Y	N	N	N			0.0	0.0			
5.02	Y	5	7.0	28.7	N	N	N	N	N	N			0.0	0.0			
** 6.02		**															
6.02	Y	5	5.9	18.0	N	N	N	N	Y	N			0.0	0.0			
** 12.06		**															
12.06	Y	5	6.2	21.0	N	N	Y	N	N	N	1		0.0	0.0			
** 14.02		**															
14.02	Y	5	7.8	29.8	Y	N	Y	N	N	N	2		0.0	0.0			
** 22.03		**															
22.03	Y	5	7.8	24.1	N	N	Y	N	Y	N			0.0	0.0			
** 23.03		**															
23.03	Y	4	6.6	14.5	N	N	N	N	N	N			0.0	0.0			
** 56.02		**															
56.02	Y	5	8.6	101.9	Y	N	Y	N	Y	N	3	Y	19.7	40.8	N	N	
** 101.00		**															
101.00	Y	5	6.2	78.7	N	Y	N	N	N	N			0.0	0.0			
101.00	Y	5	6.8	22.6	N	N	Y	N	N	N			0.0	0.0			
** 108.03		**															
108.03	Y	5	7.7	85.1	N	Y	Y	N	Y	N	4		0.0	0.0			
108.03	Y	4	7.6	24.4	N	N	N	N	N	N			0.0	0.0			
108.03	Y	5	9.0	58.6	N	N	Y	Y	N	Y	5		0.0	0.0			
108.03		0	0.0	0.0			Y		Y			Y	0.0	37.4	Y	Y	6
** 108.04		**															
108.04	Y	5	7.3	48.1	Y	N	N	N	N	N	7		0.0	0.0			
108.04	Y	5	7.5	83.1	N	Y	Y	N	Y	N	8		0.0	0.0			
108.04	Y	5	8.1	69.4	N	Y	Y	N	Y	N		Y	18.6	49.2	Y	Y	9
** 200.00		**															
200.00	Y	6	7.4	45.3	N	Y	Y	N	Y	N		Y	0.0	30.0	Y	N	10
** 201.00		**															
201.00		0	0.0	0.0			N		Y			Y	0.0	23.1	N	N	
** 204.00		**															
204.00	Y	5	7.9	29.5	N	N	Y	N	N	N	11		0.0	0.0			
** 206.00		**															
206.00	Y	5	8.1	18.8	N	N	Y	N	Y	N			0.0	0.0			
** 211.01		**															
211.01	Y	7	6.2	21.4	N	N	Y	Y	Y	N			0.0	0.0			
** 301.00		**															
301.00	Y	5	6.9	71.8	N	N	Y	N	N	N			0.0	0.0			
** 401.00		**															
401.00	Y	4	6.6	20.6	N	N	Y	N	N	N			0.0	0.0			
401.00	Y	6	7.7	19.3	N	Y	N	N	Y	N	12		0.0	0.0			
401.00	Y	5	8.2	31.9	Y	N	Y	N	Y	N	13		0.0	0.0			
401.00		0	0.0	0.0			Y		Y			Y	0.0	39.3	N	N	14
401.00		0	0.0	0.0			Y		Y			Y	0.0	13.1	N	N	

Table 7-1 Inventory of Pipes

CONTEXT	STEM	BORE	STEM OUTER DIAM	STEM LENGTH	DECO	MEND	USED	T MARK	POLISH	MOUTH PIECE	STEM COMMENT	BOWL	BOWL MOUTH DIAM	BOWL HEIGHT	BOWL DECO	BOWL MEND	BOWL COMMENT
** 402.00	**																
402.00	Y	4	6.7	18.3	N	N	Y	Y	N	Y			0.0	0.0			
402.00	Y	4	6.6	23.0	N	N	Y	N	Y	N			0.0	0.0			
402.00	Y	5	6.7	35.7	N	N	Y	N	Y	N			0.0	0.0			
402.00	Y	4	6.7	16.5	N	N	Y	N	Y	N			0.0	0.0			
402.00	Y	4	7.2	7.7	N	N	Y	N	Y	N			0.0	0.0			
402.00	Y	5	7.5	46.7	N	N	Y	N	Y	N	15		0.0	0.0			
402.00	Y	6	11.2	17.3	N	N	Y	N	N	N			0.0	0.0			
402.00	Y	5	7.9	24.8	Y	N	Y	N	Y	N	16		0.0	0.0			
402.00		0	0.0	0.0			Y		Y			Y	0.0	17.9	N	N	17
402.00		0	0.0	0.0			N		N			Y	0.0	16.7	N	N	
402.00		0	0.0	0.0			N		Y			Y	0.0	19.2	N	N	18
402.00		0	0.0	0.0			Y		Y			Y	0.0	28.0	Y	N	19
402.00		0	0.0	0.0			Y		Y			Y	0.0	10.0	N	N	20
402.00		0	0.0	0.0			N		Y			Y	0.0	24.7	Y	Y	21
** 404.00	**																
404.00	Y	6	7.3	24.7	N	Y	N	N	Y	Y	22		0.0	0.0			
404.00	Y	4	5.2	31.6	Y	N	Y	N	Y	N	23		0.0	0.0			
404.00		0	0.0	0.0			N		Y			Y	0.0	20.2	Y	N	24
404.00		0	0.0	0.0			Y		Y			Y	0.0	24.9	Y	Y	25
404.00		0	0.0	0.0			Y			Y		Y	0.0	12.2	Y	N	26
404.00		0	0.0	0.0			Y		N			Y	0.0	24.5	Y	N	27
404.00		0	0.0	0.0			N		N			Y	0.0	22.9	Y	Y	28
404.00		0	0.0	0.0			Y		Y			Y	0.0	20.5	Y	N	29
** 406.00	**																
406.00	Y	5	8.8	43.0	N	Y	Y	N	N	N	30		0.0	0.0			
406.00	Y	6	8.0	15.3	N	N	Y	N	Y	N	31		0.0	0.0			
406.00	Y	4	7.0	23.0	N	N	N	N	Y	N			0.0	0.0			
406.00	Y	4	6.6	44.9	N	N	Y	N	Y	N			0.0	0.0			
406.00	Y	5	7.5	52.1	N	N	N	N	N	Y	34		0.0	0.0			
406.00		0	0.0	0.0			N		Y			Y	0.0	16.6	N	N	
406.00		0	0.0	0.0			N		N			Y	0.0	25.3	Y	N	32
406.00		7	0.0	0.0			N		Y			Y	0.0	30.4	N	Y	33
** 407.01	**																
407.01	Y	5	6.1	17.0	N	N	N	N	N	N			0.0	0.0			
407.01	Y	5	9.6	43.6	N	N	Y	N	Y	N			0.0	0.0			
407.01	Y	4	5.1	13.2	N	N	N	N	N	N			0.0	0.0			
407.01	Y	5	6.3	44.5	N	N	Y	N	Y	N			0.0	0.0			
407.01	Y	5	6.6	25.7	N	N	N	N	N	N			0.0	0.0			
407.01	Y	5	6.6	33.1	N	N	N	N	N	N			0.0	0.0			
407.01	Y	5	8.6	9.0	N	N	N	N	Y	N	35		0.0	0.0			
407.01	Y	6	7.2	20.8	Y	Y	Y	N	N	N	36		0.0	0.0			
407.01		0	0.0	0.0			Y		N			Y	0.0	21.4	Y	N	37
407.01		4	0.0	0.0			N		N			Y	0.0	18.0	Y	N	38
** 407.02	**																
407.02	Y	5	6.5	23.6	N	N	N	N	N	N			0.0	0.0			
407.02	Y	5	6.8	27.1	N	N	N	N	N	N			0.0	0.0			
407.02	Y	5	6.3	48.3	N	N	N	N	Y	N			0.0	0.0			
407.02	Y	6	7.5	19.6	N	N	N	N	N	N			0.0	0.0			
407.02	Y	4	7.5	17.2	N	N	Y	N	N	N			0.0	0.0			
407.02	Y	5	4.9	15.0	N	N	Y	Y	Y	Y			0.0	0.0			
407.02	Y	6	7.6	40.2	N	N	Y	N	Y	Y			0.0	0.0			
407.02	Y	5	7.0	62.7	Y	Y	Y	N	Y	N	39		0.0	0.0			
407.02	Y	5	8.8	21.3	Y	N	Y	N	Y	N	40		0.0	0.0			
407.02	Y	6	6.7	28.4	Y	N	Y	N	N	N	41		0.0	0.0			
407.02	Y	6	7.5	45.1	Y	N	Y	N	Y	N	42		0.0	0.0			
407.02		0	0.0	0.0			N		Y			Y	0.0	16.7	N	N	43
407.02		0	0.0	0.0			Y		N			Y	0.0	22.8	Y	N	44
407.02		0	0.0	0.0			N		Y			Y	0.0	13.6	Y	N	45
407.02		0	0.0	0.0			Y		Y			Y	0.0	30.6	Y	Y	46

Table 7-1 Inventory of Pipes

CONTEXT	STEM	BORE	STEM OUTER DIAM	STEM LENGTH	DECO	MEND	USED	T MARK	POLISH	MOUTH PIECE	STEM COMMENT	BOWL	BOWL MOUTH DIAM	BOWL HEIGHT	BOWL DECO	BOWL MEND	BOWL COMMENT
** 407.03	**																
407.03	Y	5	6.4	27.4	N	N	N	N	Y	N			0.0	0.0			
407.03	Y	5	6.5	25.7	Y	N	Y	N	Y	N	47		0.0	0.0			
407.03	Y	6	8.7	21.7	N	N	N	N	N	N			0.0	0.0			
407.03	Y	5	8.0	31.1	N	Y	Y	N	N	N	48		0.0	0.0			
407.03	Y	4	5.8	20.1	N	N	Y	Y	Y	Y			0.0	0.0			
407.03	Y	4	7.2	34.2	Y	N	Y	N	Y	Y	49		0.0	0.0			
407.03		0	0.0	0.0			Y		Y			Y	0.0	24.1	Y	Y	50
407.03		0	0.0	0.0			N		N			Y	0.0	30.1	Y	N	51
407.03		0	0.0	0.0			Y		N			Y	0.0	16.1	Y	N	52
407.03		0	0.0	0.0			Y		N			Y	0.0	25.5	Y	N	53
407.03		0	0.0	0.0			Y		Y			Y	0.0	24.3	N	N	
407.03		0	0.0	0.0			Y		Y			Y	0.0	29.0	Y	N	54
407.03		0	0.0	0.0			Y		N			Y	0.0	16.2	N	N	
407.03		0	0.0	0.0			N		Y			Y	0.0	17.5	Y	N	55
407.03		0	0.0	0.0			N		Y			Y	0.0	22.3	Y	N	56
** 407.04	**																
407.04	Y	4	0.0	15.1	N	N	N	N	N	N			0.0	0.0			
407.04	Y	5	6.8	14.7	N	N	Y	N	N	N			0.0	0.0			
407.04	Y	4	5.0	19.1	N	N	N	N	Y	Y			0.0	0.0			
407.04	Y	5	5.7	35.0	N	Y	N	N	N	Y	57		0.0	0.0			
407.04	Y	6	7.2	35.8	Y	N	N	N	Y	N	58		0.0	0.0			
407.04		0	0.0	0.0			N		N			Y	0.0	29.1	Y	N	59
407.04		0	0.0	0.0			Y		N			Y	0.0	20.6	Y	N	60
407.04	Y	5	8.8	35.0	N	N	Y	N	Y	N		Y	19.4	36.1	Y	N	61
** 407.05	**																
407.05	Y	5	5.6	11.1	N	N	Y	N	N	N			0.0	0.0			
** 407.07	**																
407.07	Y	5	6.5	43.2	N	N	Y	N	N	N			0.0	0.0			
407.07	Y	4	6.5	13.3	N	N	N	N	N	N			0.0	0.0			
407.07	Y	4	5.3	51.1	N	Y	Y	N	Y	Y	62		0.0	0.0			
407.07	Y	4	6.1	152.5	N	Y	Y	N	N	N		Y	16.2	37.1	Y	N	63
407.07	Y	4	7.0	186.2	Y	Y	Y	Y	Y	N		Y	19.0	49.0	Y	N	64
** 503.00	**																
503.00	Y	5	6.3	28.9	N	N	N	N	N	N			0.0	0.0			
** 505.05	**																
505.05		0	0.0	0.0			N		N			Y	0.0	13.3	N	N	
** 701.00	**																
701.00	Y	6	11.0	14.0	N	N	N	N	N	N			0.0	0.0			
** 702.00	**																
702.00	Y	5	10.4	32.6	N	N	Y	N	N	N	65		0.0	0.0			
702.00	Y	7	12.5	66.6	N	N	Y	Y	N	Y	66		0.0	0.0			
** 705.00	**																
705.00	Y	5	9.0	70.3	N	N	N	N	Y	N			0.0	0.0			
705.00	Y	5	10.5	46.4	Y	N	Y	N	N	N	67		0.0	0.0			
** 707.02	**																
707.02	Y	6	6.7	36.0	Y	N	N	N	N	N	68		0.0	0.0			
707.02	Y	5	8.0	31.0	N	N	Y	Y	N	Y	69		0.0	0.0			
707.02		0	0.0	0.0			N		N			Y	0.0	19.0	Y	N	70
** 707.03	**																
707.03	Y	5	7.2	29.0	N	N	Y	N	Y	N			0.0	0.0			

Table 7-1 Inventory of Pipes

CONTEXT	STEM	BORE	STEM OUTER DIAM	STEM LENGTH	DECO	MEND	USED	T MARK	POLISH	MOUTH PIECE	STEM COMMENT	BOWL	BOWL MOUTH DIAM	BOWL HEIGHT	DECO	MEND	BOWL COMMENT
** 707.04	**																
707.04	Y	4	6.3	41.3	N	N	Y	N	N	N			0.0	0.0			
707.04	Y	4	6.9	19.9	N	N	Y	Y	Y	Y			0.0	0.0			
707.04		0	0.0	0.0			N		Y			Y	0.0	30.7	Y	Y	71
707.04		0	0.0	0.0			Y		N			Y	0.0	21.7	Y	N	72
707.04		0	0.0	0.0			Y		Y			Y	0.0	38.7	Y	Y	73
** 707.05	**																
707.05	Y	6	6.5	27.1	N	N	N	N	N	N			0.0	0.0			
707.05	Y	5	10.2	37.4	N	N	N	N	Y	N	74		0.0	0.0			
707.05	N	5	10.8	25.3			Y		Y			Y	18.7	40.7	Y	N	75
707.05		0	0.0	0.0			Y		Y			Y	0.0	27.8	Y	Y	76
** 707.06	**																
707.06	Y	4	6.8	21.4	N	N	N	N	N	N			0.0	0.0			
707.06	Y	4	5.7	20.0	N	N	Y	N	Y	N			0.0	0.0			
707.06	Y	4	8.8	64.0	N	N	Y	N	N	N			0.0	0.0			
707.06	Y	5	7.4	20.2	N	N	N	N	N	N	77		0.0	0.0			
707.06	Y	5	8.5	53.1	Y	N	Y	N	N	N	78		0.0	0.0			
707.06		0	0.0	0.0			N		N			Y	0.0	27.0	Y	N	79
707.06	Y	5	7.6	39.0	N	N	Y	N	N	N		Y	0.0	45.0	Y	N	80
707.06	Y	5	7.3	110.8	Y	Y	N	N	N	N		Y	17.8	42.0	Y	Y	81
** 707.07	**																
707.07	Y	5	5.5	16.1	N	N	N	N	N	N			0.0	0.0			
707.07	Y	6	6.8	59.6	N	N	N	Y	N	N			0.0	0.0			
707.07	Y	5	7.2	101.4	Y	Y	Y	N	Y	N		Y	20.8	41.2	Y	Y	82
707.07		4	0.0	0.0			Y		N			Y	18.7	46.9	N	N	83
707.07	Y	6	10.3	126.0	N	Y	Y	Y	Y	Y		Y	21.7	45.4	N	Y	84
** 707.09	**																
707.09	Y	5	5.6	45.6	N	N	N	N	N	Y			0.0	0.0			
707.09	Y	5	6.6	30.0	N	N	N	N	N	N			0.0	0.0			
707.09	Y	6	7.0	45.2	N	N	Y	Y	N	Y	85		0.0	0.0			
707.09	Y	5	7.0	38.6	Y	N	N	N	N	N		Y	17.3	41.8	Y	N	86
707.09		0	0.0	0.0			Y		Y			Y	18.0	32.2	Y	N	87
707.09		6	0.0	0.0			N		Y			Y	17.6	43.6	Y	N	88
** 707.10	**																
707.10	Y	5	7.2	34.4	N	N	Y	Y	Y	N			0.0	0.0			
707.10	Y	4	6.1	84.2	N	Y	Y	Y	Y	N	89		0.0	0.0			
707.10	Y	5	6.8	56.4	Y	Y	N	N	N	N	90		0.0	0.0			
707.10	Y	5	7.9	27.4	Y	Y	Y	N	N	N	91		0.0	0.0			
707.10	Y	6	6.4	47.5	Y	N	Y	N	N	N		Y	17.2	42.0	Y	N	92
707.10	Y	5	6.6	50.3	Y	N	Y	N	N	N		Y	17.6	40.4	Y	N	93
707.10		0	0.0	0.0			N		N			Y	0.0	33.0	Y	N	94
707.10		5	0.0	0.0			N		N			Y	17.8	33.9	Y	N	95
** 707.11	**																
707.11	Y	4	7.6	22.8	N	N	N	N	N	N	96		0.0	0.0			
707.11	Y	5	8.0	147.1	Y	Y	N	N	N	N	97		0.0	0.0			
707.11	Y	5	8.8	38.0	Y	Y	Y	N	Y	N		Y	19.1	42.0	Y	N	98
** 707.12	**																
707.12	Y	4	6.2	15.7	N	N	N	N	N	N			0.0	0.0			
707.12	Y	6	6.5	108.0	N	Y	Y	Y	N	Y	99		0.0	0.0			
707.12	Y	4	6.0	165.9	N	Y	N	Y	Y	Y	100		0.0	0.0			
707.12		6	0.0	0.0			Y		Y			Y	0.0	45.8	Y	Y	101
707.12		5	0.0	0.0			Y		Y			Y	0.0	20.9	Y	Y	102
707.12	Y	4	7.1	91.8	Y	Y	Y	N	Y	N		Y	18.9	40.0	Y	Y	103

KEY TO COMMENTS AND ASSUMPTIONS
TABLE 7-1 INVENTORY

Pipe material is ball clay unless otherwise noted.

Pipe material is broken down by context unit.
Y = present
N = not present

All measurements are in millimeters unless otherwise stated. The exception to this assumption is bore diameter. Bore diameters are given in 64th of an inch, as per current practices.
3/64
4/64 = 1/16
5/64
6/64 = 3/32
7/64
8/64 = 1/8
Some measurements of bore diameter are between sizes (e.g., between 4/64-5/64). In this event, the bore diameter listed is the smaller size.

Stem/Outer/Diam and Stem/Length. I have been listed length (and outer diameter) as a means of identifying particular pipestems as well as providing more information about the pipes. Outer diameter is a rough average.

Deco - Decorated. Stamp marks are not considered decoration.

Mend - If it is noted that a specimen mends, and there is no comment number, it mends within the unit. The length given is the mended length. If a pipebowl and stem mend, the length given is the total length of mended bowl and stem.

Used - Utilization is determined by visible burn marks or use.

T/Mark - Teeth marks are present on pipestem.

Polish - Polish is an indication of higher quality of pipe material.

Mouth piece - Mouthpiece is present.

Stem Comment & Bowl Comment - more detailed explanation provided. Mending, clarification of decoration, material erosion, reworking/recycling of pipe material is noted here. Also in this section is Assumption. This is a hypothesis as to what may be occurring. As such, it provides more background information, but caution is urged in interpreting what may have occurred.

Bowl Mouth Diam - Bowl mouth diameter.

Height - Height is level bowl mouth to bowl bottom or bottom of heel/spur, if present.

Utilization and polish of bowls are listed in the appropriate stem column.

PIPE COMMENTS TO TABLE 7-1

CONTEXT	FOOTNOTE	COMMENT
12.06	1	Heavily eroded.
14.02	2	Beginning of diamond decoration on bowl wall.
56.02	3	Stylized stem with lettering in nameplates "...ADSTONE"/"GERMANY" possibly "GLADSTONE"? (c.f. Walker 1977 IIA:18). Assumption: In 1891 the McKinley Tariff Act was passed. As a result the country of origin was marked onto the object manufactured (Walter 1983:3). Although this may have been done prior to 1891, the English spelling of Germany does denote manufacture for the English-speaking market (Walker 1983:35-36).
108.03	4	Mends with 108.04.
108.03	5	Mouthpiece has heavy curvature.
108.03	6	Mends with 108.04 "ABORIGINE" (c.f. 407.07). See Plate 56.
108.04	7	Double fern/leaf motif, probable "Peter Dorni".
108.04	8	Mends with 108.03.
108.04	9	Spur marked "T" or "M". "ABORIGINE" (c.f. 407.07). See Plate 56. Assumption: "...the firm whose name appears most often on German pipes found in North America is that of Müllenbach and Thewald of Höhr-nou Höhr-Grenehausen-in the Westerwald. This business was established in 1830 and still exists, though it has not manufactured pipes since 1930. Various markings are known to have been used by this firm [including imitations of Peter Dorni] ... while other pipe fragments marked M&T followed by a mold number or M&T G[ermany] are also known..." (Walker 1983:35). This firm is known to have made Peter Dorni stems and are presumed to be fairly common in New York and New Jersey (Walker 1983:35). As noted earlier, there are some "Peter Dorni"- type pipes, these may be the "culprits". Also, the initials "M&T" do show up in 108.04 although no mold numbers or letters show up. However, the manufacturing of at least one of these pipes (407.02) suggests an English manufacturing technique.

CONTEXT	FOOTNOTE	COMMENT
200.00	10	Fluted pipe bowl with fern/leaf motif on sides of mold seams.
204.00	11	Stampmark "W.S..."/"BR..."
		W.# Southorn & Co. Brosley. "... this company was in business from 1850 to 1900... This stamp corresponds to the first mark attributed to the company by Atkinson (1975:85)."
		Partial stampmark similar to one seen in S.A. Rotter & P.J. Davey (1980:199, Numbers 7 and 8).
401.00	12	Mends with 404.00.
401.00	13	Shank of fluted bowl.
401.00	14	Polished, rouletted cartouche "CREME"/"GAMBIER".
		"...identical to cartouche shown in Fig 68 [(Rotter & Davey) 1980:199, 204].
		"...the firm "Gambier" was established by 1780 and did not close until 1926. Precise dating is difficult but this bowl probably belongs to the second half of the 19th century." (Rutter and Davey 1980:204).
402.00	15	Eroded.
402.00	16	Fluted decoration, orange discoloration?
402.00	17	Polished on interior and exterior surfaces; evidence of utilization and cleaning after use.
402.00	18	Rim.
402.00	19	Rim, fluted; possible slag or glaze on interior unable to determine country of origin.
402.00	20	Rim.
402.00	21	Rim sherds; stars in circle, decoration incomplete.
404.00	22	Mends with 401.
404.00	23	Rouletting in a "screw thread" fashion.
404.00	24	Alternating leaf/fern motif along mold seam.
404.00	25	"ABORIGINE" (c.f. 407.07) motif. Rim. Mends with 407.02 and 407.03.
404.00	26	Rim. *Fern/leaf motif.*

CONTEXT	FOOTNOTE	COMMENT
404.00	27	Fluted.
404.00	28	Fluted. Somewhat eroded motif, probably Type 1, 1825-1875 (Alexander 1983:212-213).
404.00	29	Body sherd, leaf/fern motif.
406.00	30	Mends with 407.03, worn/eroded.
406.00	31	Stampmark "...ER:/"...RIS" or "...RIC".
406.00	32	Alternating feather/leaf motif on mold seams. Possible fluted rim.
406.00	33	Egg shaped. Mends with small rim sherds within unit.
406.00	34	Heavy curvate mouthpiece.
407.01	35	Possible "...O..."
407.01	36	Mends with 407.02. Dot and initials, "L*F" or "C*F" in name plate/cartouche.
407.01	37	"SHIELD EAGLE" with outstretched wings.
407.01	38	Yellow and orange glazed bowl with faces on both sides. Possible purple overglaze paint/decoration in mouth. See Plate 57.
407.02	39	Probable "Peter Dorni"-type pipestem, double leaf band with rouletting.
407.02	40	Probable "Peter Dorni"-type pipestem, double leaf band with rouletting. Dot on one side.
407.02	41	Mends with 407.01. "L*F" or "C*F" with dot and band motif.
407.02	42	"L*F" or "C*F" with band and dot motif, possible fluting and dot near shank.
407.02	43	Broken on fringe of possible decoration.
407.02	44	Rim. Old English lettering of "W" or "U".
407.02	45	Possible flower/asterisk motif, possibly part of a larger circle?
407.02	46	"ABORIGINE" (c.f. 407.07), mends with 404.00 and 407.03.
407.03	47	Very light rouletted bands.
407.03	48	High wear/erosion, mends with 406.00.
407.03	49	Flared and defined lip.

CONTEXT	FOOTNOTE	COMMENT
407.03	50	"ABORIGINE" mends with 404.00 and 407.02 (c.f. 407.07).
407.03	51	Leaf motif on mold seam, possible fluted design as well?, not enough present to tell, broken on fringe.
407.03	52	Fluted bowl motif, Type I, 1825-1875 (Alexander 1983:212-213).
407.03	53	"ARTILLERY" cannon motif. Quality work, thick walled with possible tobacco residue.
407.03	54	Rouletted rim.
407.03	55	Feather motif on mold seams.
407.03	56	Star/asterisk motif.
407.04	57	Mends with 407.02.
407.04	58	Dot motif with "L*F" in nameplate/cartouche. Dot and line nearby indicates bowl shank.
407.04	59	Rim, "SHIELD EAGLE" with outstretched wings.
407.04	60	Rim, "SHIELD EAGLE" with outstretched wings. Utilization with possible cleaning.
407.04	61	Ridge on bowl.
407.07	62	Probable mend with "ABORIGINE" pipe in unit (processual lines match).
407.07	63	Slight stem curvature. Fire discoloration? Unstamped heel, leaf motif on both sides of front mold seam; rear observed. "SHIELD EAGLE" with outstretched wings on both sides. See Plate 58.
407.07	64	"ABORIGINE" pipe. "US" and "H" stamped on spur. Rear (facing smoker)-unidentified crest, two headed eagle, outstretched wings. Walls have aborigine motif (African or American), in "native dress", spears running parallel to mold seams on bowl front. Geometric grd. Also seen in 108.03, 108.04, 404.00 407.02, 407.03.
702.00	65	Possible Gouda?/pipemaker mark on spur.
702.00	66	Synthetic (vulcanite?) pipe mouthpiece, no curvature. Threaded section missing. Assumption: "The vulcanite mouthpiece as found on modern brier pipes was not invented until 1878, which offers useful dating evidence for very late

CONTEXT	FOOTNOTE	COMMENT
		archaeological deposits where brier pipes have been recovered..." (Walker 1983:39).
		This may indicate the presence of decayed or broken wooden pipes (that did not survive in soil conditions...).
705.00	67	Incomplete decorated leaf motif on outer mold seam. Base of pipe bowl.
707.02	68	Light rouletted bands (4) around stem.
707.02	69	Plastic? cigarillo tip.
707.02	70	Fluted decoration.
707.04	71	Mends with 707.06, fluted decoration. Type 1 1825-1875 (Alexander 1983:212-213).
707.04	72	Fluted decoration.
707.04	73	Mends with 707.05 "SHIELD BOWL". Beaded lines, partial shield with diamond and dot motif inside, fairly elaborate. See Plate 59.
707.05	74	"HAIL COLUMBIA" stampmarked on both sides.
707.05	75	Routletted rim, cartouche on rear wall. Possible "70" or "TD" or WINDMILL (c.f. 707.09).
707.05	76	Mends with 707.04, "SHIELD BOWL". Diagonally cut creat with 5 stripes an 25 stars. Beaded rim with beaded longitudinal lines on both sides of crest, possible skeletal hand? See Plate 59.
707.06	77	Embossed "C*P" on stem.
707.06	78	Base of pipe bowl shank, beginning of fluting.
707.06	79	Fluted decoration. Type 1 1825-1875 (Alexander 1983:212-213).
707.06	80	Fluted decoration, fern motif on rear mold seam, both sides. Undecorated spur, similar to Type X, 1860-1900 (Alexander 1983:216).
707.06	81	Mends with 707.04. Multiple parallel band where stem connects with fluted bowl. Type 1 1825-1875 (Alexander 1983:212-214).
707.07	82	"Peter Dorni"-type pipe, parallel band motif on stem rouletting alternate bands. Double leaf band at ends. Double sided nameplate "PETER"/"DORNI". Routletted rim, cartouche "84"? facing smoker (upside down), crown above numbers (cf. Davey 1983:210).

CONTEXT	FOOTNOTE	COMMENT
707.07	83	Thick walled front, "T D" stampmarked on rear (facing smoker). Spur on one side has vertical embossed line on left. C-Type VIII, 1850-1875 (c.f. Davey 1983:191-202). Assumption: Another victim of imitation is Thomas Dormer. A London pipemaker in mid- to late 1700s, he was an exceedingly popular pipemaker. In fact his "TD" markings, or variants thereof, were manufactured until 1967 when McDougall's closed its doors (Walker 1983:37). In fact, "TD" type pipes have recently become available once more from German and Japanese manufacturers (Walker 1983:39). Alexander (1983:202-204) has a small listing. The pipe present is similar to one he dates at 1850-1875, C-Type Number VIII.
707.07	84	Damaged Briarwood pipe with amber mouthpiece, possible silver connecting band (between mouthpiece and wood). Residue (tobacco?) on bowl interior and pipestem (c.f. Davey 1983:100-102--different form, type unknown). See Plate 60. Assumption: Fig 45 (Richie 1983:154) "Complete white metal spark cap from a briar pipe". This cap listed as being nickel plated brass (Richie 1983:102) is nearly identical to the specimen found in excavation Context 705.00 and 707.02. It is presumed to have fit the briar pipe found in 707.07.
707.09	85	Red clay mouthpiece, burnished?
707.09	86	From heavy fraction of flotation. Fluted bowl decoration with unmarked spur and quadruple parallel band, Type I 1825-2875 (Alexander 1983:212-213).
707.09	87	Fluted bowl with dot/bead/asterisk around mouth. Fern motif on mold seam, mends with 707.12.
707.09	88	Incomplete rouletting around mouth, stamped heel, possible windmill (c.f. 707.05).
707.10	89	Mends with 707.12.
707:10	90	Mends with 707.12. Double band with bead/dot motif between them. Probable fluted bowl.
707.10	91	Mends with 707.11 "Peter Dorni"-type pipe. "PET..."/"...RNI". Alternating between bands with double leaf/flower motif.
707.10	92	Fluted bowl, stem with double band. Unmarked spur. Type I, 1825-1875 (Alexander 1983:212-213).

CONTEXT	FOOTNOTE	COMMENT
707.10	93	Fluted bowl, stem has double bands. Residue on bowl interior. Eroded spur. Type I 1825-1875 (Alexander 1983:212-213).
707.10	94	Fluted bowl. Type 1 1825-1875 (Alexander 1983:212-214).
707.10	95	Stylized feather/plume heel. Possible tobacco leaf decoration on all four sides; mold seam decorations larger sized. Mends with 707.12. See Plate 61.
707.11	96	Eroded edges.
707.11	97	Mends with 707.10 and 707.11. "Peter Dorni"-type pipe.
707.11	98	Mends with above stem and 707.10. Rouletted rim. Cartouche on rear of bowl.
707.12	99	Mends with 707.10 and 707.12 (bowl).
707.12	100	Mends with 707.10. Beginning flutes.
707.12	101	Mends with 707.10 and 707.12. Fluted bowl with unmarked spur. Type I 1825-1875 (Alexander 1983:212-213).
707.12	102	Mends with 707.09. Leaf/fern motif on mold seam shank. Heavy fluting with beaded dot rim.
707.12	103	Fluted bowl with feather/plume motif on front and rear of mold seams. Curved plume spur. Mends with 707.10.

TABLE 7-2: INITIALS

The following is a list of initials and possible identification marks encountered during the course of this study. The ones that have been tentatively identified are listed in the comments section of Table 7-1.

Context	Initials
108.04	"T" or "M"
204.00	"W.S..."/"BR..."
406.00	"...ER"/"...RIS" or "...RIC"
407.01	"...O..."
407.01	"L.F" or "C.F" (also seen in 407.02 and 407.04)
407.07	"US" and "H"
707.06	"C.P"
707.07	"TD"

TABLE 7-3: CROSSMENDS BETWEEN UNITS

A cursory attempt was made to crossmend, not only within the units, but between units. This attempt was constrained by time and monetary factors. However, the following crossmends were obtained.

108.03 and 108.04
401.00 and 404.00
404.00, 407.02 and 407.03
406.00 and 407.03
407.01 and 407.02
407.02 and 407.04
707.04 and 707.05
707.04 and 707.06
707.09 and 707.12
707.10 and 707.11
707.10 and 707.12 (several specimens mending)

Spark ring in 705.00 mends with spark ring cap in 707.02, all of which probably mend with briar pipe in 707.07 (see Plate F).

CHAPTER 8
Summarization of Artifacts Recovered from 1989 Shovel Tests and Excavation Units

by

Paula Crowley

This chapter presents a summarization of counts of artifacts recovered from excavation units and shovel tests during the 1989 field season at MetroTech. Table 8-1 presents shovel tests by lot and the excavation units with their artifacts broken down by group classification.

Historical archaeologists process artifacts into groups and classes in order to extrapolate information about disposal and activity patterns of past occupants of a site. Such patterns may be related to ethnicity of the occupants or their socioeconomic status. South (1977) defined the New Brunswick and Frontier patterns among eighteenth century sites along the Mid-Atlantic East Coast. Comparison of quantification of groups led to distinguishing military from domestic from trading post sites.

Included within the Kitchen group are such classes of artifacts as: ceramics, bottle or container glass, stemware, flatware, tumblers, tableware, and kitchenware. Classes included with the architectural group are: flat glass, nails, spikes, door and window hardware, construction material and other assorted structural manifestations of buildings (such as roofing tiles). The furniture group includes: furniture hardware (escutcheons, handles, castors), lighting devices, and decorative furnishings. In the clothing group are such classes of artifacts as remnants of apparel, clothing ornamentation, objects for making or repairing clothing, and fasteners. The personal group encompasses assorted classes of objects that people used around their person, such as, keys, coins, writing implements, objects for grooming or hygiene, and ornamentation (jewelry). The activities group is a miscellaneous collection of classes by which people accomplished various tasks and chores. Classes include construction tools, toys, fishing gear, farm tools, items for storage, items associated with stables and barns, housekeeping, miscellaneous hardware, public services, and specialized activities. A residual "other" class is used for those items, such as coal, which are associated with various tasks. In the case of the "other" class, it cannot be determined which task, such as cooking, heating, or forging, was responsible for the presence of coal.

The presence of one or two groups of artifacts, to the near exclusion of others, indicates activities past occupants may have conducted at a site. For a gross example, the presence of farm tools and artifacts related to stables or barns and the near absence of any other type of artifact, leads to the hypothesis that the structure may have been a barn on a farm.

TABLE 8-1
SUMMARY OF SHOVEL TEST AND EXCAVATION UNIT ARTIFACTS BY GROUP

	304 Bridge Shovel Tests	108 Johnson Shovel Tests	308 Bridge Shovel Tests	104 Johnson Shovel Tests	304 Bridge E.U. 3	108 Johnson E.U.2	317 Bridge E.U. 11	317 Bridge E.U. 13
Group 1: Kitchen	182	340	241	943	170	241	107	220
Group 2: Fauna/Flora	44	48	68	656	68	203	2	13
Group 3: Architecture	237	437	327	1737	77	629	73	239
Group 4: Furniture	35	105	93	102	34	196	2	16
Group 5: Arms	0	0	0	2	0	0	0	0
Group 6: Clothing	6	4	4	7	2	14	2	4
Group 7: Personal	5	3	3	22	3	15	4	28
Group 8: Tobacco pipes	0	4	0	4	1	6	3	0
Group 9: Activities	96	349	225	1084	80	268	48	86
Total	605	1290	961	4557	435	1572	241	605

	59 Lawrence E.U. 8	59 Lawrence E.U. 9	308 Bridge E.U. 4	308 Bridge E.U. 5	104 Johnson E.U. 1	104 Johnson E.U. 7	319 Bridge E.U. 10
Group 1: Kitchen	1954	225	4030	316	495	10068	4
Group 2: Fauna/Flora	4519	11	5334	65	2369	8945	0
Group 3: Architecture	2243	0	9728	798	755	6298	0
Group 4: Furniture	515	12	733	115	71	1200	0
Group 5: Arms	2	0	0	0	0	14	0
Group 6: Clothing	481	0	157	18	27	304	0
Group 7: Personal	124	2	83	9	30	653	0
Group 8: Tobacco pipes	127	0	85	1	11	72	0
Group 9: Activities	511	4	5871	425	530	3151	0
Total	10476	254	26021	1747	4288	30705	4

304 Bridge Street

The artifact assemblage from 304 Bridge Street consisted of 605 items from twelve shovel tests and 435 from one excavation unit (see Tables 8-2 and 8-3). Laboratory processing consisted of a gross sorting of artifacts. Processing entailed no artifact analysis at this location.

A descriptive assessment of shovel tests artifacts (see Figure 8-1) indicates that the bulk fell into the Group 1, Kitchen category (30 percent) and Group 3, Architectural (39 percent). The shovel test situation contrasts with Excavation Unit 3 where Group 1 constituted the majority of artifacts at 39 percent (see Figure 8-2).

TABLE 8-2: SHOVEL TESTS 29-36, 51-53, 60 304 BRIDGE STREET

	#29	#30	#31	#32	#33	#34	#35	#36	#51	#52	#53	#60	Total
Ceramics	6	18	8	6	2	5	1	10	20	--	2	--	78
Other dishware	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottle/Container glass	19	10	13	26	1	4	--	1	27	--	--	3	104
Other container	--	--	--	--	--	--	--	--	--	--	--	--	--
Lid/Cap/Stopper	--	--	--	--	--	--	--	--	--	--	--	--	--
Stemware	--	--	--	--	--	--	--	--	--	--	--	--	--
Flatware	--	--	--	--	--	--	--	--	--	--	--	--	--
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	--	--	--	--	--	--	--	--	--	--	--	--	--
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	--	14	3	5	--	1	--	4	17	--	--	--	44
Flat glass	11	10	8	23	2	6	3	1	26	--	--	--	90
Nails/Spikes	6	5	9	7	1	4	2	3	57	--	--	--	94
Door/Window hardware	--	--	1	--	--	--	--	--	--	--	--	--	1
Construction material	5	5	1	4	5	6	--	6	14	--	4	--	50
Other structural	--	--	--	2	--	--	--	--	--	--	--	--	2
Furniture hardware	--	--	--	--	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	1	--	--	--	--	--	--	--	--	1
Decorative	7	8	2	7	--	4	--	1	5	--	--	--	34
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	--	--	--	--	--	1	--	--	--	1
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	--	--	--	1	--	--	--	--	--	--	--
Fasteners	--	--	--	--	--	--	--	--	4	--	--	--	5
Keys	--	--	--	--	--	--	--	--	--	1	--	--	1
Coins	1	--	--	--	--	--	--	--	--	--	--	--	1
Writing	--	--	--	--	--	--	--	--	--	--	--	--	--
Grooming/hygiene	--	--	--	--	--	--	--	3	--	--	--	--	3
Ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--	--	--
Tobacco pipes	--	--	--	--	--	--	--	--	--	--	--	--	--
Construction tools	1	--	--	--	--	--	--	--	--	--	--	--	1
Toys	1	--	--	--	--	--	--	--	--	--	--	--	1
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	1	3	1	11	--	--	--	2	12	--	--	--	30
Specialized activities	1	--	1	--	--	1	--	--	1	--	--	--	4
Housekeeping	--	--	--	--	--	--	--	--	--	--	--	--	--
Public services	--	2	1	--	--	--	--	--	--	--	--	--	3
Other	1	9	18	16	3	3	--	5	2	--	--	--	57
TOTAL	60	84	66	108	11	35	6	36	186	1	6	3	605

TABLE 8-3: EXCAVATION UNIT 3 304 BRIDGE STREET

	300.00	301.00	302.00	Total
Ceramics	24	19	45	88
Other dishware	--	--	1	1
Bottle/Container glass	31	20	20	71
Other container	--	--	5	5
Lid/Cap/Stopper	1	--	--	1
Stemware	--	--	--	--
Flatware	--	--	--	--
Tumbler	--	1	3	4
Tableware	--	--	--	--
Kitchenware	--	--	--	--
Floral/Faunal	8	39	21	68
Flat glass	18	11	16	45
Nails/Spikes	8	3	2	13
Door/window hardware	--	--	1	1
Construction material	7	2	9	18
Other structural	--	--	--	--
Furniture hardware	1	--	--	1
Lighting	--	--	--	--
Decorative	12	9	12	33
Arms	--	--	--	--
Apparel	--	--	--	--
Clothing ornamentation	--	--	--	--
Making/Repair	--	--	--	--
Fasteners	--	--	2	2
Keys	--	--	--	--
Coins	--	--	--	--
Writing	--	--	3	3
Grooming/hygiene	--	--	--	--
Ornamentation	--	--	--	--
Other	--	--	--	--
Tobacco pipes	--	1	--	1
Construction tools	--	--	--	--
Toys	--	--	--	--
Fishing gear	--	--	--	--
Farm tools	--	--	--	--
Storage	--	--	--	--
Stable/barn	--	--	--	--
Miscellaneous hardware	31	7	--	38
Specialized activities	3	4	2	9
Housekeeping	--	--	--	--
Public services	1	--	20	21
Other	4	2	6	12
TOTAL	149	118	168	435

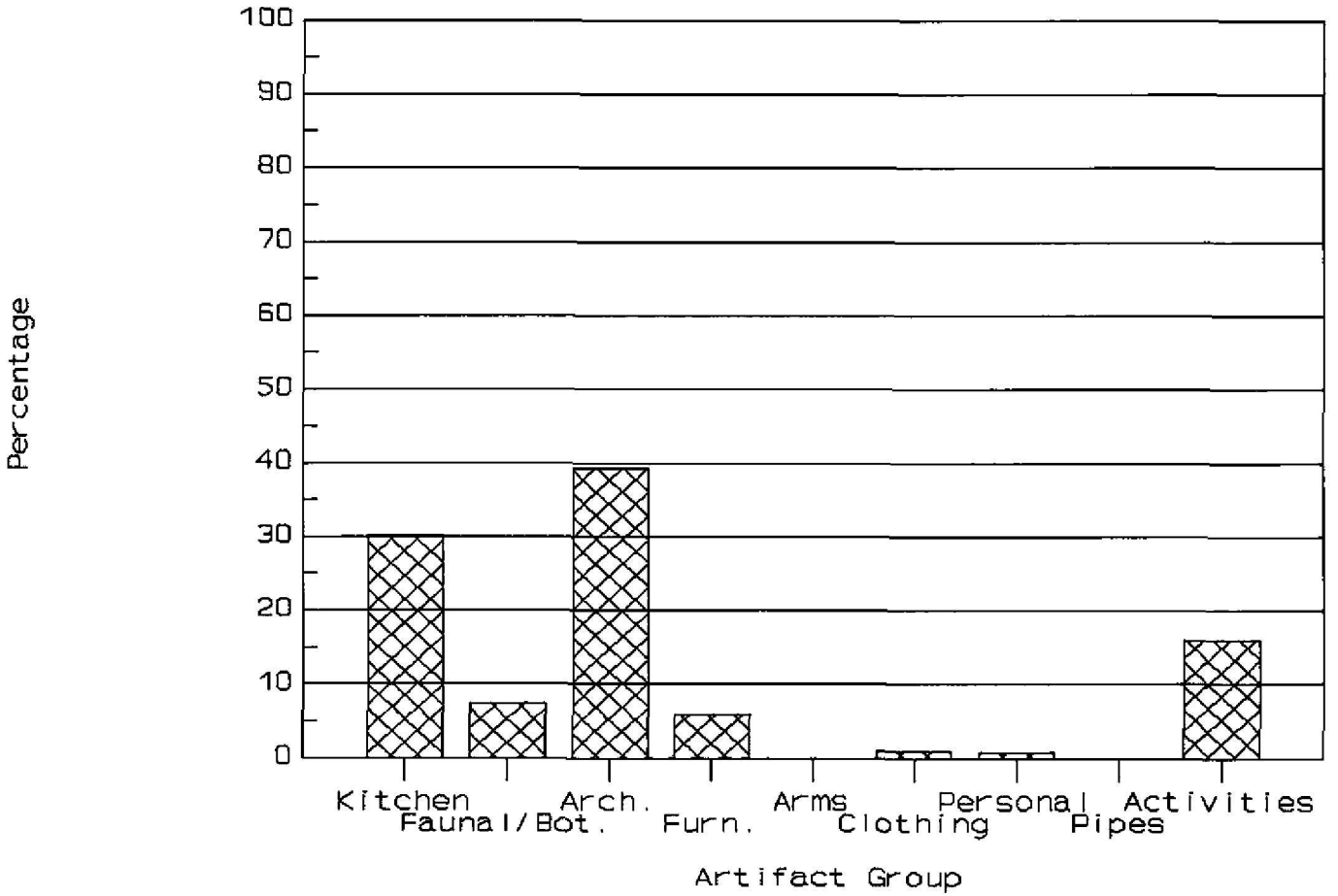


Figure 8-1: Shovel Tests 104 Johnson Street

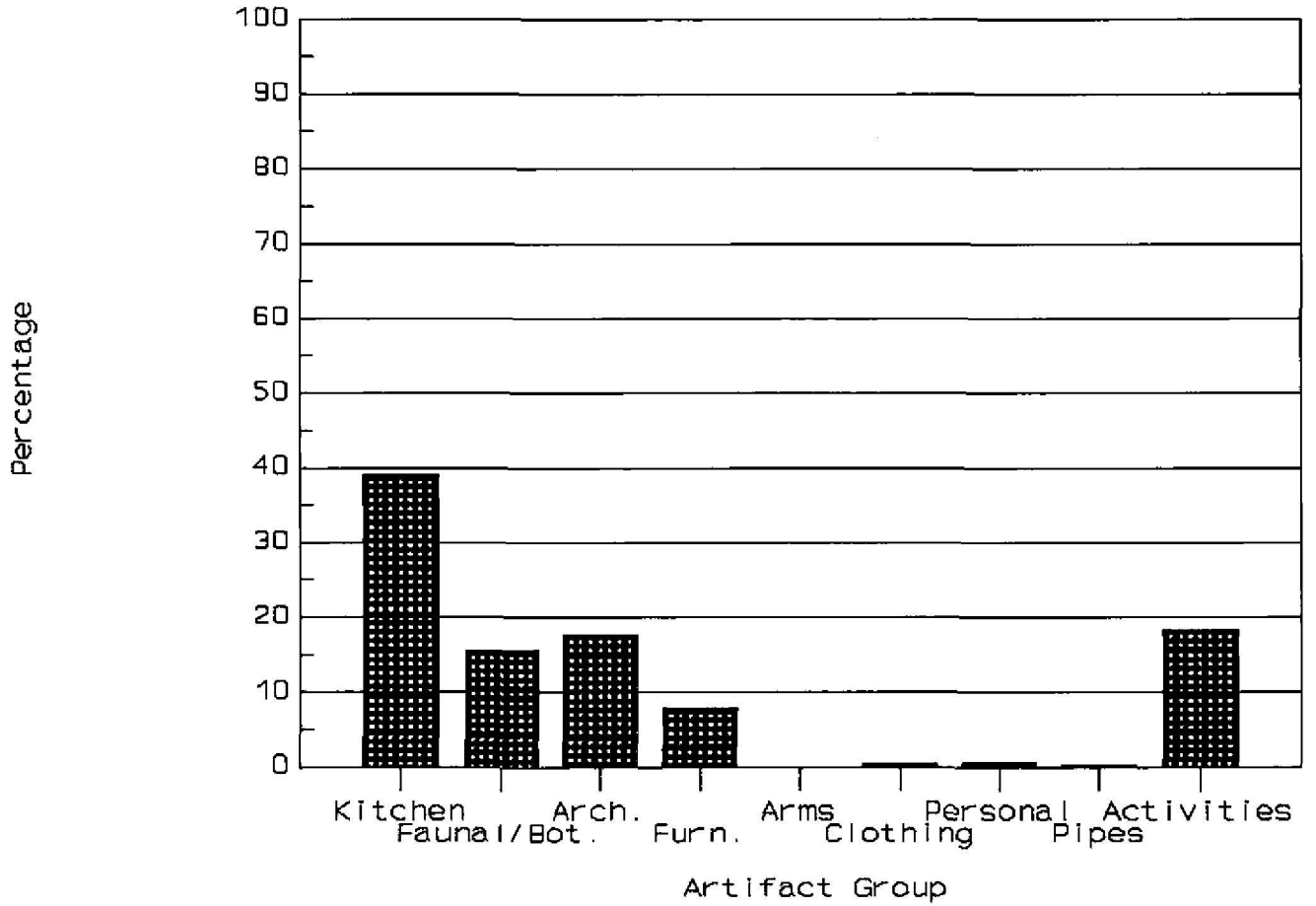


Figure 8-2: Excavation Unit 3 304 Bridge Street

108 Johnson Street

Excavation Unit 2 at 108 Johnson Street yielded 1572 artifacts (see Table 8-4). Thirteen shovel tests completed at the site resulted in the recovery of 1290 items (see Table 8-5). Laboratory processing of artifacts consisted of a gross sorting of artifacts into groups and classes. Minimal identification of artifacts occurred. No further description or analysis was completed for materials from this location.

The Architectural group constituted the largest category (33.8 percent) of artifacts recovered by shovel testing (see Figure 8-3). The Kitchen group, at 26 percent, and the Activities/Miscellaneous/Other, at 27 percent, made up the bulk of artifacts recovered from shovel testing.

Forty percent of the artifacts recovered from Excavation Unit 2 belonged to the Architectural group (see Figure 8-4). The remaining artifacts are distributed among the Kitchen, Faunal/floral, Furniture and Activities groups.

TABLE 8-4: EXCAVATION UNIT 2 108 JOHNSON STREET

	200.00	201.00	202.00	203.00	204.00	206.00	207.00	208.00	209.00	210.00	211.01	211.02	Total
Ceramics	29	34	9	2	26	17	1	--	2	1	7	8	136
Other dishware	--	--	--	--	--	--	--	1	--	--	--	--	1
Bottle/Container glass	32	22	8	6	--	8	1	--	--	2	13	3	95
Other container	--	2	--	6	--	--	--	--	--	--	--	--	8
Lid/Cap/Stopper	--	1	--	--	--	--	--	--	--	--	--	--	1
Stemware	--	--	--	--	--	--	--	--	--	--	--	--	--
Flatware	--	1	--	2	--	--	--	--	--	--	--	--	3
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	--	--	--	--	--	--	--	--	--	--	--	--	--
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	25	37	7	29	39	23	18	--	1	1	18	5	203
Flat glass	52	38	27	9	22	75	3	8	2	9	15	22	282
Nails/Spikes	27	39	7	10	25	22	1	4	8	19	16	17	195
Door/window hardware	--	1	--	--	1	--	--	--	--	--	--	--	2
Construction material	15	11	6	33	48	20	3	5	1	5	--	4	151
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	--	--	--	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	--	--	--	--	--	--	--	--	--	--
Decorative	64	20	15	9	14	18	2	12	1	14	9	18	196
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	1	--	--	--	--	--	--	--	--	1
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	--	--	--	--	--	--	--	--	--	1	1
Fasteners	1	2	--	2	--	3	--	--	--	--	--	4	12
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	--	--	--	--	--	--	--	--	--	--	--	--	--
Writing	--	--	--	--	--	--	--	--	--	--	--	--	--
Grooming/hygiene	--	1	--	--	--	1	--	--	--	1	--	9	12
Ornamentation	--	--	--	1	--	--	--	--	--	--	--	1	2
Other	2	--	--	--	--	--	--	--	--	--	--	--	2
Tobacco pipes	1	2	--	--	1	1	--	--	--	--	1	--	6
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	1	--	--	--	--	--	--	--	--	--	1	--	4
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	12	15	3	21	3	2	--	1	1	9	29	1	97
Specialized activities	--	--	--	--	--	--	--	--	--	--	--	--	--
Housekeeping	--	--	--	1	--	--	--	--	--	--	--	--	1
Public services	2	4	--	--	--	1	--	--	--	--	--	1	8
Other	24	21	6	18	30	23	--	7	6	7	2	9	153
TOTAL	287	253	88	150	209	214	29	38	22	68	111	103	1572

TABLE 8-5: SHOVEL TESTS 1-10, 27, 28, 61 108 JOHNSON STREET

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#27	#28	#61	Total
Ceramics	10	13	19	72	13	4	4	1	4	1	2	1	25	169
Other dishware	--	--	--	--	1	--	--	--	--	--	--	--	--	1
Bottle/Container Glass	4	5	6	114	19	8	2	--	--	1	2	3	5	169
Other container	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lid/Cap/Stopper	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stemware	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flatware	--	--	--	--	--	1	--	--	--	--	--	--	--	1
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	7	8	--	22	3	1	5	--	--	--	--	2	--	48
Flat glass	17	22	9	129	42	3	7	--	--	1	4	1	--	235
Nails/Spikes	2	4	3	23	27	--	1	--	--	3	3	--	--	66
Door/Window hardware	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Construction material	11	6	10	37	45	3	4	4	--	9	3	4	--	136
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Lighting	2	--	--	1	--	--	--	--	--	1	--	--	--	4
Decorative	5	13	10	43	24	2	1	1	--	--	1	--	--	100
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	2	--	--	--	--	--	--	--	--	--	2
Clothing ornamentation	--	--	1	--	--	--	--	--	--	--	--	--	--	1
Making/Repair	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fasteners	--	--	--	--	--	--	--	1	--	--	--	--	--	1
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Writing	--	--	--	--	--	--	--	--	--	1	--	--	--	1
Grooming/hygiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ornamentation	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Other	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tobacco pipes	--	--	1	--	2	1	--	--	--	--	--	--	--	4
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	--	--	1	6	--	--	--	--	--	--	--	--	--	7
Fishing gear	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	1	1	--	48	--	--	--	2	--	--	--	--	--	52
Specialized activities	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Housekeeping	--	--	--	1	1	--	--	--	--	--	--	3	--	5
Public services	--	--	--	3	--	--	--	--	--	--	--	--	--	3
Other	30	27	21	99	64	21	5	5	--	7	1	--	--	280
TOTAL	89	99	81	605	241	44	29	14	4	24	16	14	30	1290

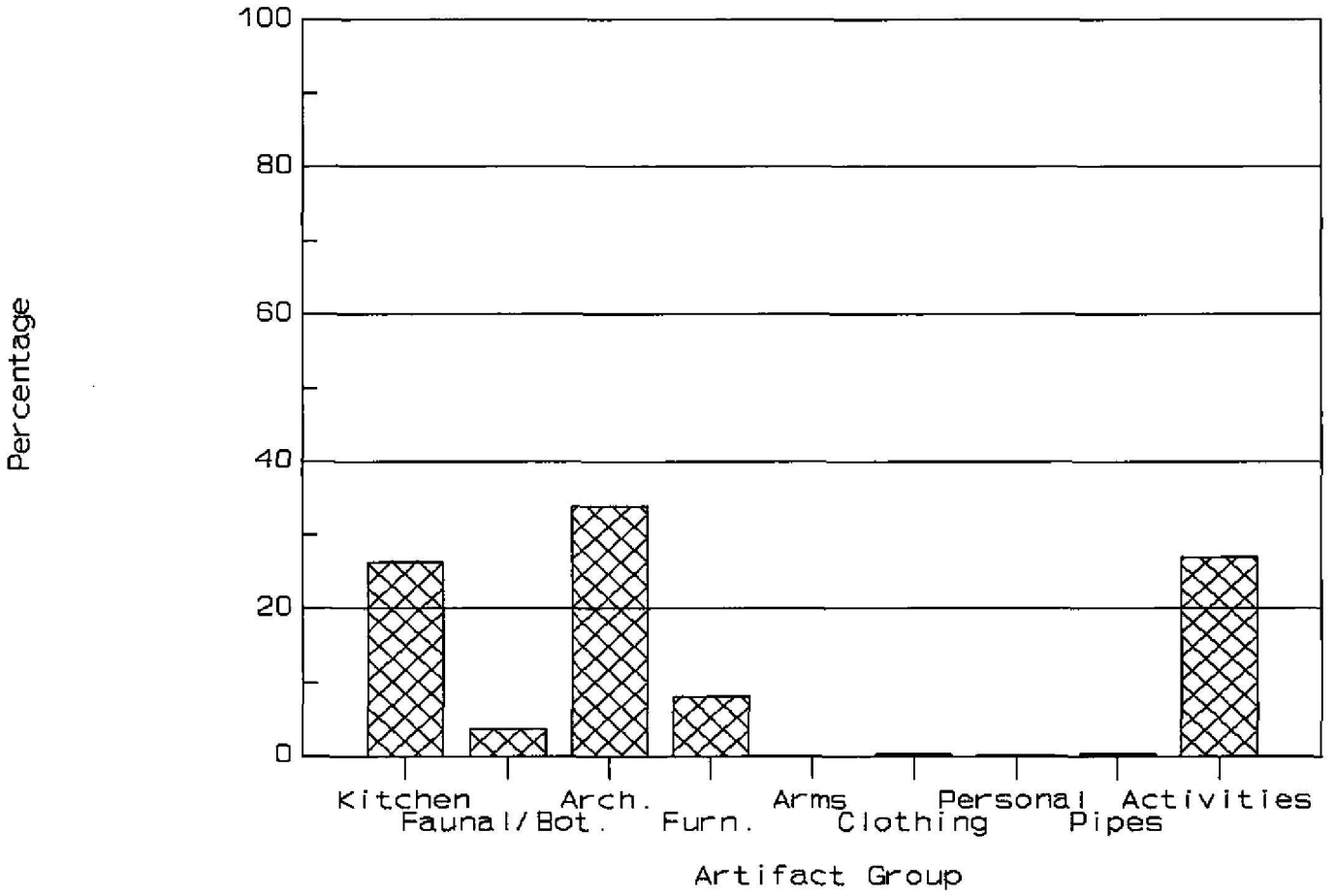


Figure 8-3: Shovel Tests 108 Johnson Street

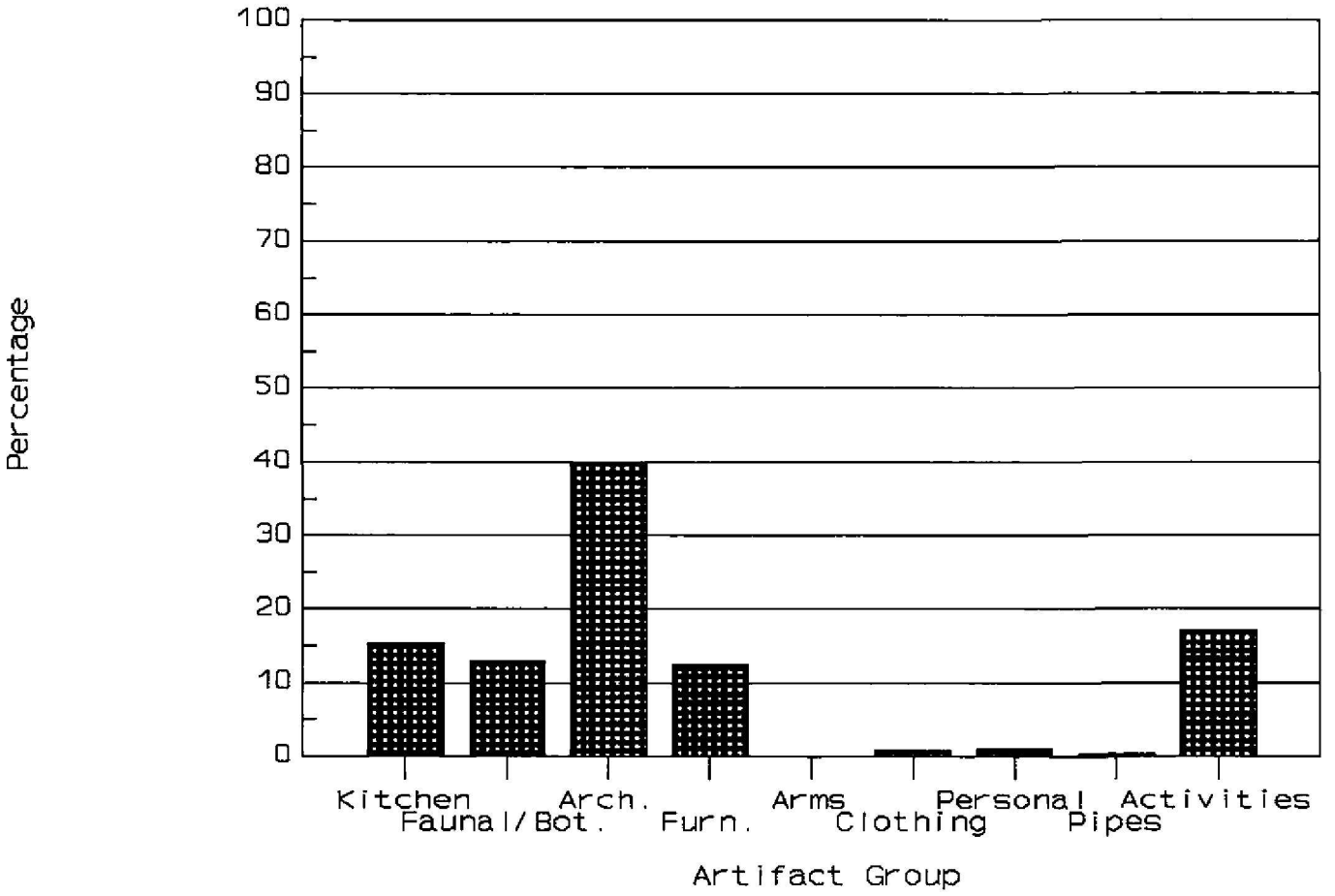


Figure 8-4: Excavation Unit 2 108 Johnson Street

308 Bridge Street

A total of 28,729 artifacts were recovered from fourteen shovel tests and two excavation units at 308 Bridge Street. Testing yielded 961 items (see Table 8-6), Excavation Unit 4, 26,021 (see Table 8-7), and Excavation Unit 5, 1747 (see Table 8-8). Except for tobacco pipes and a few pieces of the glass recovered from Excavation Unit 4, only a primary, gross sorting of artifacts occurred during laboratory processing. No further description or analysis of artifacts was conducted upon the 308 Bridge Street artifacts beyond preliminary identification.

The Architectural group constitutes 34 percent of the shovel test artifacts (see Figure 8-5). The Kitchen group and Activities group compose the next largest categories at 25 and 23 percent respectively.

In Excavation Unit 5, the Architectural group predominated the assemblage at 45 percent (see Figure 8-6). The next major category of artifacts was the Activities/miscellaneous group at 24 percent, followed by the Kitchen group at eighteen percent.

Excavation Unit 4 held the second largest group of artifacts recovered from a feature at Metrotech (see Figure 8-7). The order of major artifact group recovered was: Architectural at 37 percent, Activities at 22 percent, Faunal/floral at 20 percent and Kitchen at 15 percent.

TABLE 8-6: SHOVEL TESTS 37-50 308 BRIDGE STREET

	#37	#38	#39	#40	#41	#42	#43	#44	#45	#46	#47	#48	#49	#50	Total
Ceramics	10	23	31	5	3	9	--	4	17	18	4	3	7	14	120
Other dishware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottle/Container glass	5	8	3	1	6	19	3	21	7	11	19	4	3	2	112
Other container	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lid/Cap/Stopper	--	--	--	--	--	--	--	--	--	1	2	--	--	--	3
Stemware	--	--	--	--	--	1	--	--	--	2	--	--	--	--	2
Flatware	--	--	--	--	--	2	--	--	--	--	--	--	--	--	1
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Tableware	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	1	1	--	--	2	1	--	5	14	39	4	--	--	1	68
Flat glass	6	7	9	29	1	27	2	21	18	7	10	1	--	12	150
Nails/Spikes	5	--	4	4	1	3	--	21	20	9	10	1	1	1	80
Door/Window hardware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Construction material	3	18	2	4	4	--	2	19	20	11	2	5	4	3	97
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Decorative	--	6	4	10	6	17	--	23	7	3	11	--	--	6	93
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fasteners	--	--	--	--	--	--	--	2	1	1	--	--	--	--	4
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Writing	--	--	--	--	--	1	--	1	--	--	--	--	--	--	2
Grooming/hygiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tobacco pipes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	1	1	--	--	--	--	--	1	--	--	--	--	--	--	3
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	2	1	1	1	--	4	--	16	21	53	1	1	1	5	107
Specialized activities	--	--	--	--	--	--	--	--	--	--	2	--	--	--	2
Housekeeping	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Public services	--	--	--	--	--	--	--	--	1	2	--	--	--	--	3
Other	3	6	2	11	2	5	--	28	19	8	1	2	2	21	110
TOTAL	36	71	28	65	26	89	7	162	145	166	66	17	18	65	961

TABLE 8-7: EXCAVATION UNIT 4 308 BRIDGE STREET

	400.00	401.00	402.00	403.00	404.00	406.00	407.00	407.01	407.02	407.03	407.04	407.05	407.06	407.07	407.08	407.09	407.10	407.30	Total
Ceramics	10	245	486	4	128	46	--	80	166	210	244	84	5	56	11	19	1	--	1794
Other dishware	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	1
Bottle/Container glass	10	775	163	1	128	104	--	139	92	232	165	20	1	252	43	83	--	--	2208
Other container	--	--	--	--	1	--	--	2	--	--	--	--	--	--	--	--	--	--	3
Lid/Cap/Stopper	--	4	--	--	1	--	--	--	1	1	1	1	--	--	--	--	--	--	9
Stemware	--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	4
Flatware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tumbler	--	--	--	--	--	--	--	--	2	3	1	--	--	--	--	--	--	--	6
Tableware	--	4	--	--	--	--	--	--	1	--	--	1	--	--	--	--	--	--	5
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	1	24	44	--	49	14	--	102	282	929	2597	278	1	213	200	600	--	--	5334
Flat glass	23	607	1401	6	245	66	--	199	229	341	270	39	4	339	56	50	--	--	3875
Nails/Spikes	--	249	258	--	80	26	--	110	137	195	250	37	--	24	10	23	4	4	1407
Door/window hardware	--	--	2	--	--	--	--	--	2	--	--	1	--	--	--	--	--	--	5
Construction material	31	827	949	1	523	164	2	333	1161	207	84	2	6	50	42	59	--	--	4441
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	--	--	--	--	--	--	26	50	--	--	--	4	--	--	--	80
Decorative	17	24	20	--	42	8	--	48	77	94	69	19	--	30	8	7	--	--	653
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	--	--	7	--	80	--	--	8	--	--	--	--	--	--	--	95
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	4	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	5
Fasteners	--	5	2	--	3	2	--	1	5	5	27	8	1	--	1	--	--	--	60
Keys	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Coins	--	1	--	--	--	--	--	2	1	1	2	--	--	--	--	--	--	--	7
Writing	--	10	4	--	2	--	--	2	4	6	11	12	--	--	--	--	--	--	51
Grooming/hygiene	--	1	6	--	1	--	--	2	--	2	1	1	--	--	--	--	--	--	8
Ornamentation	--	--	--	--	--	--	--	1	--	5	--	1	--	--	--	--	--	--	7
Other	--	--	--	--	--	--	--	--	2	2	3	--	--	--	2	--	--	--	9
Tobacco pipes	--	1	15	--	7	7	--	10	15	10	8	1	--	11	--	--	--	--	85
Construction tools	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Toys	--	9	--	--	3	1	--	1	2	2	6	1	--	--	--	--	--	--	25
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	1	74	782	--	17	49	--	546	1348	348	197	34	--	5	--	--	--	--	3401
Specialized activities	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Housekeeping	--	3	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	4
Public services	--	--	4	--	3	1	--	17	2	26	--	--	--	--	--	--	--	--	53
Other	12	364	395	--	517	174	--	283	345	154	55	8	--	52	14	8	--	--	2381
TOTAL	105	3419	4532	11	1751	669	2	1958	3874	2804	4050	547	18	1032	391	849	5	4	26,021

TABLE 8-8: EXCAVATION UNIT 5 308 BRIDGE STREET

	500.00	501.00	502.00	503.00	504.00	505.01	505.02	505.04	505.05	505.06	505.07	505.08	505.09	505.10	505.11	505.12	505.13	505.14	505.15	506.00	Total
Ceramics	69	--	21	27	4	2	2	10	22	12	--	22	--	--	1	2	1	--	--	--	195
Other dishware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottle/Container glass	72	1	33	4	--	--	--	1	4	--	--	--	--	--	--	--	--	--	--	--	115
Other container	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Lid/Cap/Stopper	3	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5
Stemware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flatware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	6	--	5	29	1	1	5	6	7	--	--	4	--	--	1	--	--	--	--	--	65
Flat glass	175	--	80	22	4	--	--	2	2	2	--	2	--	--	--	1	--	--	--	1	291
Nails/Spikes	28	--	6	4	--	--	9	--	--	--	--	--	--	--	--	--	--	--	--	--	47
Door/window hardware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Construction material	93	--	65	32	2	4	103	14	14	29	--	38	8	1	--	2	--	3	12	5	460
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Decorative	61	--	40	8	--	1	2	1	1	1	--	--	--	--	--	--	--	--	--	--	115
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Clothing ornamentation	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Making/Repair	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fasteners	7	--	3	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--	--	--	14
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Writing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grooming/hygiene	1	--	--	1	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	4
Ornamentation	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Other	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Tobacco pipes	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Toys	--	--	1	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	12	--	1	2	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	17
Specialized activities	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Housekeeping	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Public services	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Other	138	--	101	55	2	--	6	12	26	10	7	5	--	--	4	1	--	2	8	25	402
TOTAL	673	1	359	191	13	8	130	51	51	54	7	71	8	1	6	6	1	5	20	31	1747

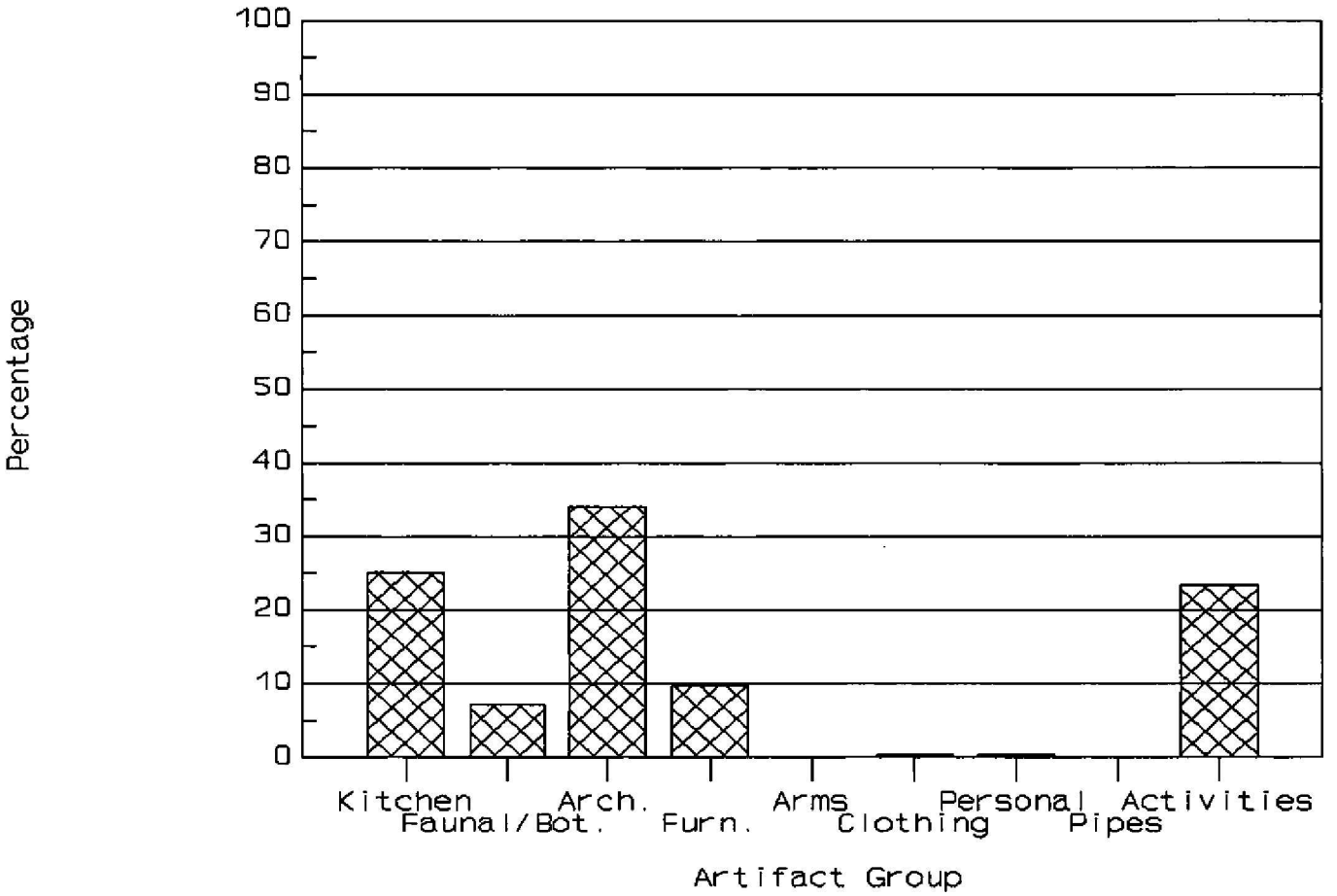


Figure 8-5: Shovel Tests 308 Bridge Street

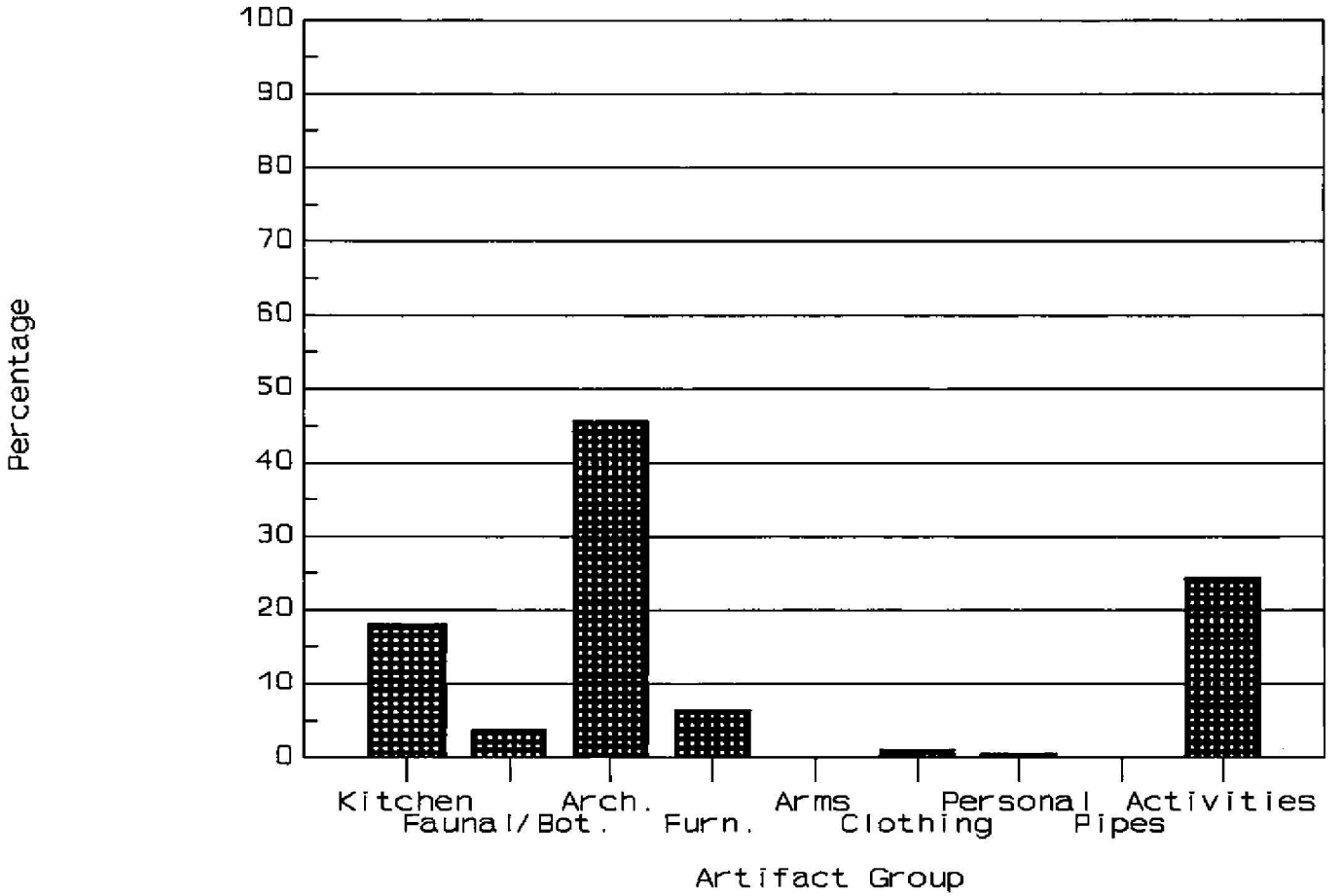


Figure 8-6: Excavation Unit 5 308 Bridge Street

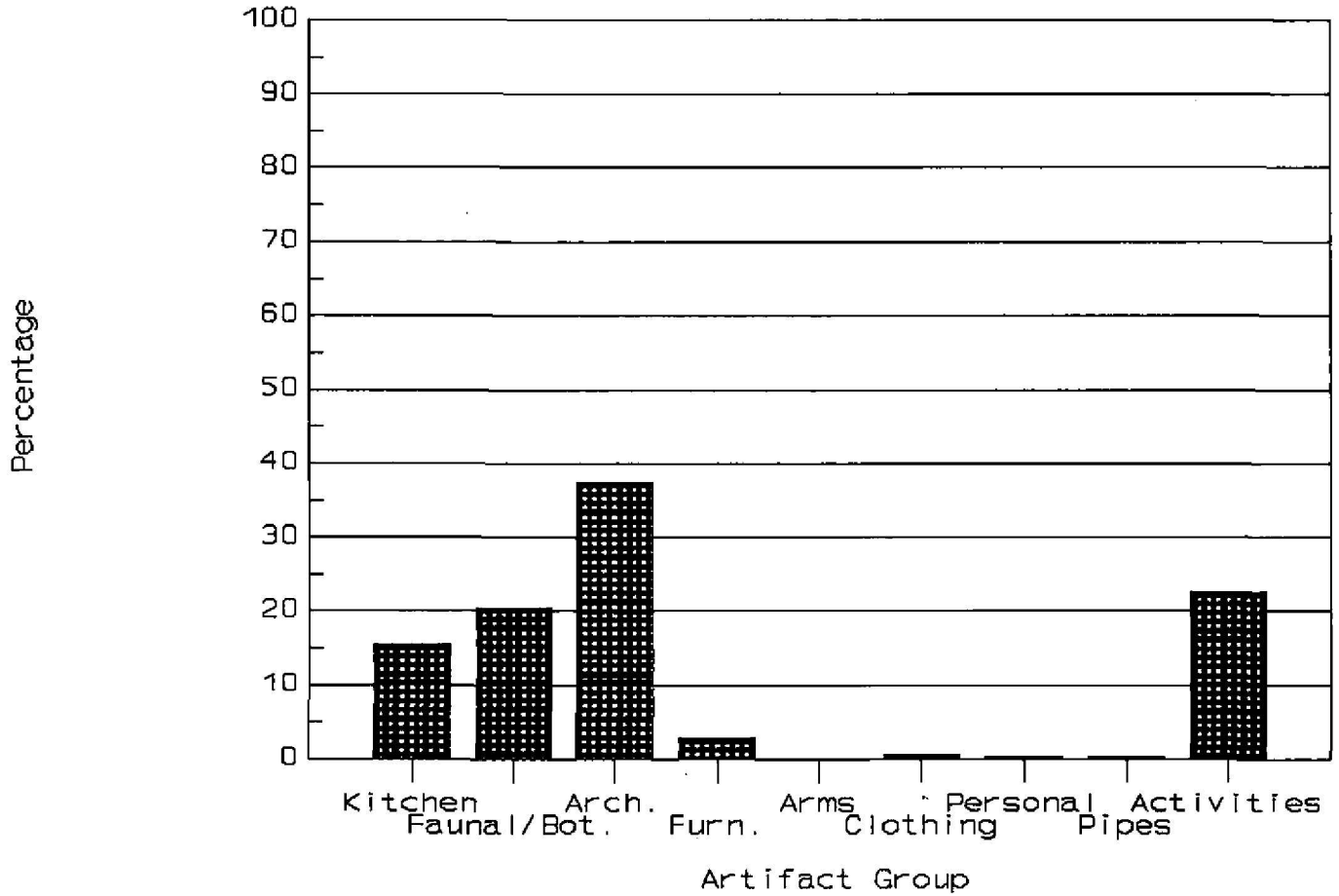


Figure 8-7: Excavation Unit 4 308 Bridge Street

104 Johnson Street

Sixteen shovel tests and two excavation units at 104 Johnson Street yielded 39, 550 artifacts. The number of items of material culture recovered from testing was 4557 (see Table 8-9) while Excavation Unit 1 yielded 4288 (see Table 8-10), and Excavation Unit 7, 30,705 (see Table 8-11). A preliminary sorting and identification was the extent of laboratory processing of artifacts from the shovel tests. No further description or analysis occurred. Certain groups of artifacts from the two excavation unit received further attention. For example, further descriptive identification was conducted with tobacco pipes, ceramics, and bottle glass. In the case of pipes and bottle glass, summaries were written.

In the case of the shovel tests, a descriptive assessment shows that the Kitchen group constituted the largest faction of the assemblage at 39 percent (see Figure 8-8). Other large groups of materials recovered were Activities, Architectural, and Faunal/floral at eighteen, seventeen and fifteen percent respectively.

The Faunal/floral category composed the largest group of items from Excavation Unit 1 at 55 percent (see Figure 8-9). The Architectural group was a distant second in size at seventeen percent of the feature's collection.

Excavation of Unit 7 resulted in the largest assemblage recovered from a unit at MetroTech (see Figure 8-10). The largest artifact categories were Kitchen (32 percent), Faunal/floral (29 percent), and Architectural (20 percent).

TABLE 8-9: SHOVEL TESTS 11-26 104 JOHNSON STREET

	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	Total
Ceramics	15	34	16	32	12	12	31	15	16	7	79	34	16	10	25	14	368
Other Dishware	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Bottle/Container Glass	46	4	14	29	113	74	17	13	24	1	87	26	45	29	31	9	562
Other container	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lid/Cap/Stopper	--	--	--	1	--	1	--	--	1	--	--	--	--	--	1	--	4
Stemware	--	--	--	--	--	--	--	--	--	--	1	--	--	--	2	--	3
Flatware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	--	--	--	4	--	--	--	--	--	--	--	--	--	--	--	--	4
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	25	16	29	305	4	45	16	45	7	4	47	46	41	15	6	5	656
Flat glass	31	3	13	37	51	25	37	9	48	27	161	37	18	7	91	29	624
Nails/Spikes	49	81	17	67	67	103	50	30	12	7	32	19	5	--	15	10	564
Door/Window hardware	--	1	--	--	--	--	--	1	--	--	--	--	4	--	--	--	6
Construction material	24	59	13	67	6	8	67	29	16	21	29	84	8	84	14	14	543
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Furniture hardware	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Lighting	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1
Decorative	3	10	9	26	7	3	17	2	4	1	8	2	1	1	6	--	100
Arms	--	--	1	--	--	--	--	--	--	--	1	--	--	--	--	--	2
Apparel	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	2
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Fasteners	--	1	--	--	1	--	--	--	--	--	--	1	--	--	1	--	4
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	--	1	--	--	1	--	--	--	--	1	--	--	--	--	--	--	3
Writing	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Grooming/hygiene	--	1	1	2	--	6	3	--	--	--	--	--	--	--	--	--	13
Ornamentation	--	3	--	--	--	--	1	--	--	--	--	--	--	--	--	--	4
Other	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Tobacco pipes	--	1	--	1	--	--	--	--	--	--	--	1	1	--	--	--	4
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	--	--	--	--	1	--	--	1	--	--	--	1	--	--	--	--	4
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	2
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	13	42	16	44	7	7	2	8	6	--	29	4	7	--	2	2	189
Specialized activities	--	--	1	2	--	--	2	--	--	--	--	--	--	--	--	--	5
Housekeeping	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Public Services	--	--	--	17	--	1	--	--	1	--	1	--	1	--	--	--	21
Other	53	36	82	126	9	17	226	46	44	13	67	67	15	14	33	15	863
TOTAL	261	295	212	761	279	302	471	199	181	82	544	322	162	160	227	99	4557

TABLE 8-10: EXCAVATION UNIT 1 104 JOHNSON STREET

	100.00	101.00	103.00	104.00	105.00	106.00	108.01	108.02	108.03	108.04	108.05	108.06	Total
Ceramics	70	45	--	--	--	3	--	3	78	23	1	--	223
Other Dishware	--	--	--	--	--	--	--	--	11	8	--	--	19
Bottle/Container glass	93	15	--	--	2	14	--	--	55	35	--	--	214
Other container	--	--	--	--	--	--	--	--	1	17	--	--	18
Lid/Cap/Stopper	--	--	--	--	--	--	--	--	--	2	--	--	6
Stemware	--	--	--	--	--	--	--	--	1	--	--	--	1
Flatware	--	--	--	--	--	--	--	--	2	5	--	--	7
Tumbler	--	--	--	--	--	--	--	--	1	2	--	--	3
Tableware	--	--	--	--	--	--	--	--	2	--	--	2	4
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	11	18	--	--	--	--	--	3	815	1378	31	113	2369
Flat glass	131	35	--	--	--	1	--	4	73	3	--	--	247
Nails/Spikes	18	25	--	--	4	1	--	--	219	139	--	7	413
Door/Window hardware	--	--	--	--	--	--	--	--	--	1	--	--	1
Construction material	20	21	2	--	2	2	11	--	31	4	--	--	93
Other structural	--	--	--	--	--	--	--	--	1	--	--	--	1
Furniture hardware	--	--	--	--	--	--	--	--	1	1	--	--	2
Lighting	--	--	--	--	--	--	--	--	--	--	--	--	--
Decorative	30	3	--	--	--	--	--	3	18	15	--	--	69
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	--	--	--	--	--	4	8	--	--	12
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/Repair	--	--	--	--	--	--	--	--	--	--	--	--	--
Fasteners	4	--	--	--	--	--	--	--	7	4	--	--	15
Keys	1	--	--	--	--	--	--	--	--	--	--	--	1
Coins	--	--	--	--	--	--	--	--	1	--	--	--	1
Writing	--	--	--	--	--	1	--	--	8	7	--	--	16
Grooming/hygiene	--	--	--	--	--	--	--	--	6	3	--	--	9
Ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	1	--	--	--	--	--	--	--	--	1	--	--	2
Tobacco pipes	--	3	--	--	--	--	--	--	5	3	--	--	11
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	2	--	--	--	--	--	--	--	1	3	--	--	6
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	1	--	--	--	--	--	--	--	--	--	--	--	1
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	11	4	--	--	--	--	--	--	163	120	--	9	307
Specialized activities	--	--	--	--	--	--	--	--	1	1	--	--	2
Housekeeping	--	--	--	--	--	--	--	--	--	--	--	--	--
Public services	1	12	--	--	--	--	--	--	--	--	--	--	13
Other	42	24	--	3	--	7	--	--	33	91	--	2	202
TOTAL	440	205	2	3	8	29	11	13	1538	1874	32	133	4288

TABLE 8-11: EXCAVATION UNIT 7 104 JOHNSON STREET

	700.00	701.00	702.00	703.00	704.00	705.00	706.00	707.00	707.01	707.02	707.03	707.04	707.05	707.06	707.07	707.08	707.09	707.10	707.11	707.12	707.13	707.14	Total
Ceramics	6	42	80	4	--	16	--	--	--	23	150	114	51	141	77	44	359	337	350	1787	3	1	3585
Other Dishware	--	--	--	--	--	--	--	--	--	--	--	1	--	2	3	3	--	6	5	24	--	--	44
Bottle/Container glass	10	130	201	15	5	48	--	--	--	176	321	164	135	142	101	66	552	625	509	2568	6	--	5774
Other container	--	--	5	--	--	--	--	--	--	2	19	--	6	6	--	--	--	--	10	10	--	--	58
Lid/Cap/Stopper	--	2	6	--	--	--	--	--	--	1	9	1	2	1	1	--	--	4	3	3	--	--	33
Stemware	--	--	--	--	--	--	--	--	--	--	42	10	1	44	--	--	6	18	1	7	--	--	89
Flatware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	1	--	2	6	--	--	14
Tumbler	--	1	1	--	--	--	--	--	--	--	--	--	--	--	10	--	42	12	57	201	--	--	324
Tableware	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	1	1	2	--	--	--	6
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	--	37	184	31	--	51	4	--	--	181	813	433	363	1871	342	134	953	1496	1014	1035	3	--	8945
Flat glass	--	173	203	39	--	215	--	--	--	102	270	183	76	137	85	10	322	284	167	699	4	3	2972
Nails/Spikes	--	70	304	170	--	--	8	--	--	213	477	175	202	475	507	11	142	151	113	72	11	--	3101
Door/window hardware	--	1	1	1	--	--	--	--	--	--	--	1	1	--	2	--	2	--	--	--	--	--	9
Construction material	1	4	5	4	--	4	--	--	--	10	30	53	29	37	5	4	--	8	10	4	1	--	209
Other structural	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	2
Furniture hardware	--	--	2	1	--	--	--	--	--	--	1	1	10	20	8	5	51	36	62	279	--	--	476
Lighting	--	4	6	--	--	--	--	--	--	--	--	3	4	4	--	--	1	4	--	7	--	--	33
Decorative	--	38	73	9	1	18	--	--	--	--	170	149	73	28	12	1	40	58	27	181	1	--	879
Arms	--	--	--	--	--	--	--	--	--	1	--	1	1	--	--	--	--	--	11	--	--	--	14
Apparel	--	--	14	--	--	2	--	--	--	9	2	4	--	5	8	--	10	13	--	--	--	--	67
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	--	3	--	--	3	--	--	10
Making/Repair	--	1	--	--	--	--	--	--	--	1	1	--	--	--	--	--	--	--	--	4	--	--	7
Fasteners	--	3	4	--	--	6	--	--	--	7	7	4	8	9	10	1	28	52	28	57	--	--	224
Keys	--	--	--	--	--	--	--	--	--	--	1	1	--	--	1	--	--	1	--	--	--	--	4
Coins	--	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	4	1	2	2	--	--	11
Writing	--	--	3	6	--	3	--	--	--	6	5	4	1	9	6	3	17	22	16	40	--	--	141
Grooming/hygiene	--	6	6	3	--	--	--	--	--	2	13	11	1	9	11	6	60	60	51	102	--	--	341
Ornamentation	--	2	--	--	--	--	--	--	--	2	2	1	1	--	2	--	6	6	1	4	--	--	27
Other	--	--	--	1	--	1	--	--	--	1	1	--	--	2	--	2	12	18	33	18	--	--	89
Tobacco pipes	--	1	2	--	--	5	--	--	--	3	1	5	5	9	16	7	18	39	14	16	--	--	141
Construction tools	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	--	2
Toys	--	1	--	--	--	1	--	--	--	1	5	6	3	3	4	--	6	9	3	3	--	--	45
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	1	--	--	--	--	--	--	1	2	--	1	12	2	1	7	3	2	153	--	--	185
Stable/barn	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	4	20	140	23	--	22	1	--	--	18	409	89	89	698	190	1	127	189	173	206	1	--	2401
Specialized activities	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1	1	--	--	--	--	3
Housekeeping	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Public services	2	3	12	--	--	2	--	--	--	--	7	3	1	--	2	--	15	2	--	--	--	--	49
Other	1	--	14	2	--	3	--	--	1	11	21	46	25	34	73	28	22	38	46	26	--	--	391
TOTAL	24	539	1267	309	6	397	13	1	1	771	2782	1466	1060	3662	1483	327	2810	3494	2712	7517	30	4	30,705

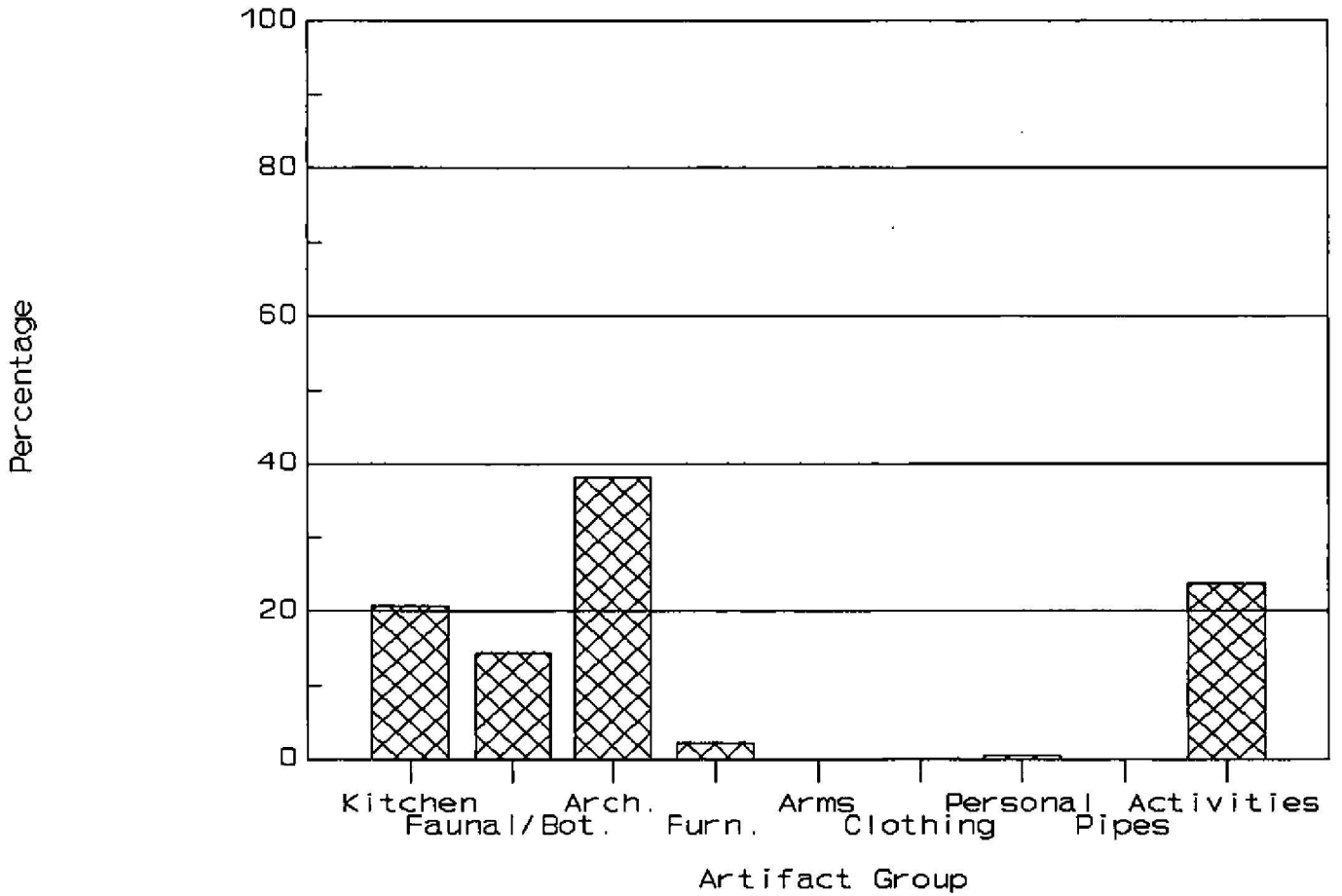


Figure 8-8: Shovel Tests 104 Johnson Street

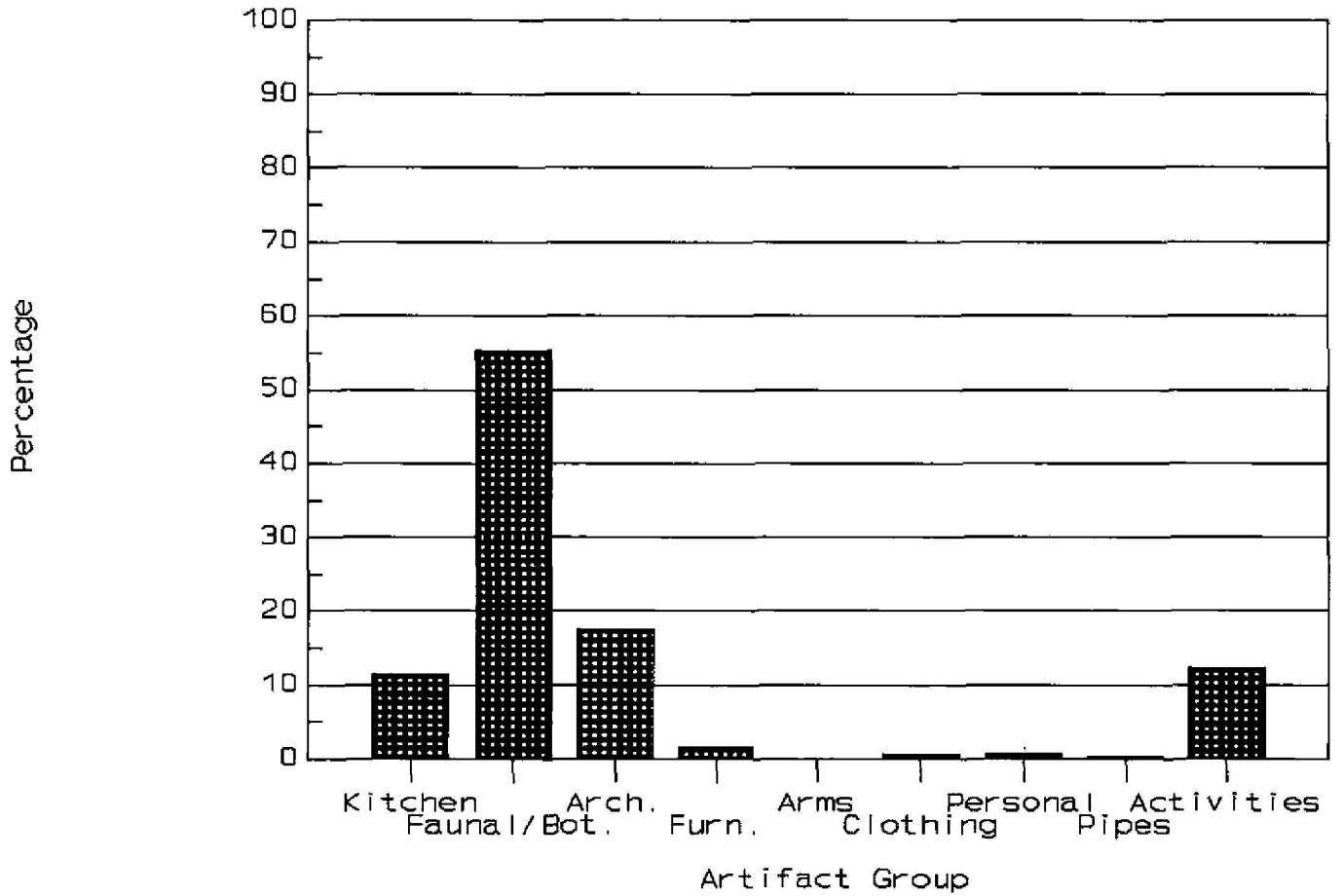


Figure 8-9: Excavation Unit 1 104 Johnson Street

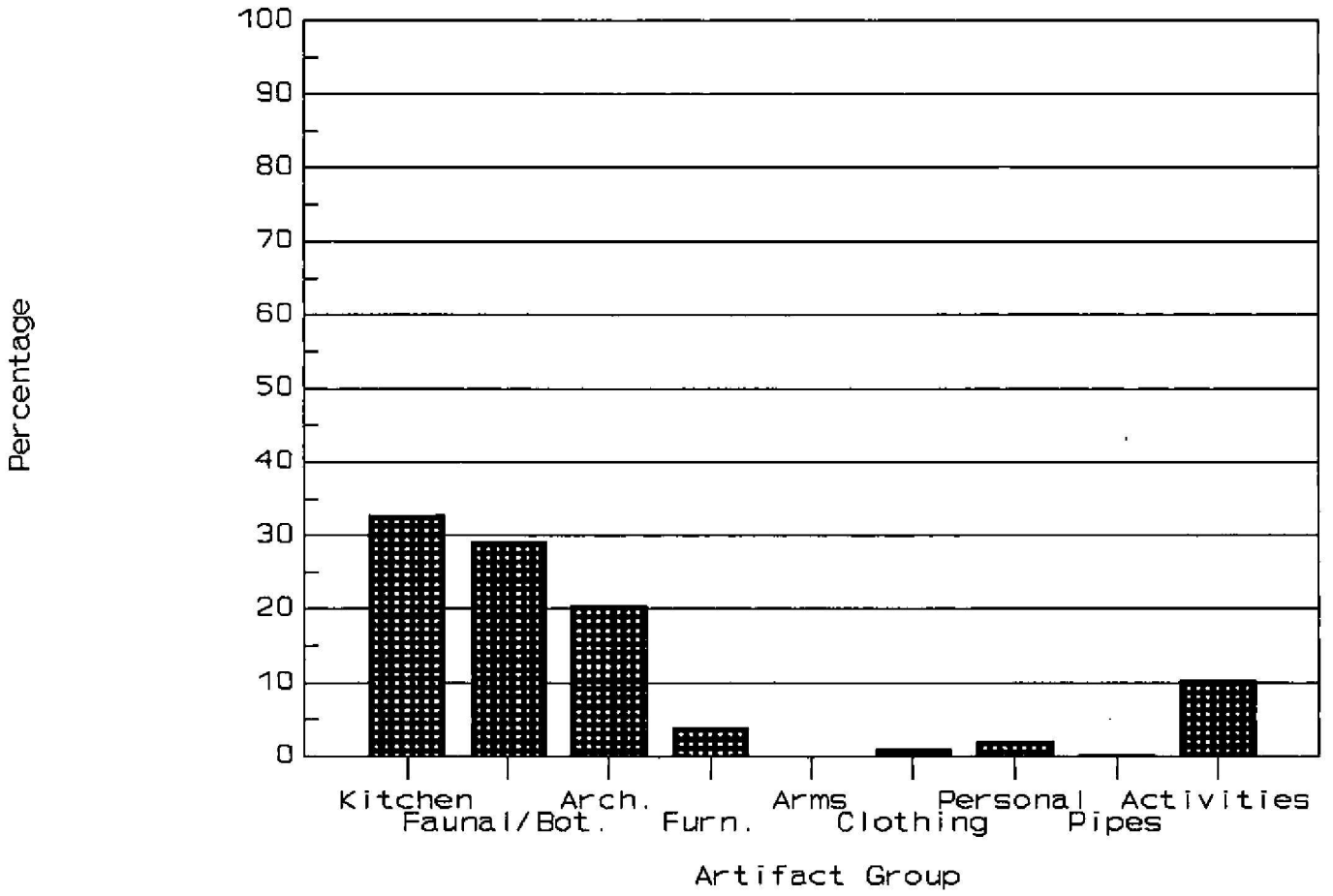


Figure 8-10: Excavation Unit 7 104 Johnson Street

In brief, the majority of artifacts recovered during the 1989 field season experienced a minimal amount of identification in the laboratory. Faunal remains were analyzed and are discussed in Chapter 10. A few selected classes of artifacts received further attention in the form of description, with little or no analysis. Artifact groups such as architecture or furniture can yield information about the lifestyles and behavioral patterns of mid- to late-nineteenth century households. The MetroTech collection is rich in information due to the recovery of large numbers of artifacts. For examples, although the furniture group in Excavation Unit 4, 308 Bridge Street, constitutes only 2.8 percent of the unit's assemblage, that percentage is composed of 733 items. Such a staggering amount of material could reveal significant information, through proper analysis, about consumer behavior in selecting styles of purchases and longevity of styles. Since the MetroTech collection is composed of a number of households possibly having differing socioeconomic levels and differing ethnic or religious backgrounds, comparison of artifacts from lot to lot would be an important contribution to knowledge about household consumer behavior of the late nineteenth century. The MetroTech collections certainly stand to contribute information in terms of contributions and questions raised in Spencer-Wood's 1987 edited volume on consumer behavior and historical archaeology.

CHAPTER 9: COINS

by

William I. Roberts IV

Introduction

A total of 33 coins and tokens were recovered from the excavations at Metrotech, Brooklyn; all but one came from Block 143 excavations, eight from the shovel tests and 24 from the excavation units. The remaining coin came from an excavation unit on Block 2047. Coins are one of the most important categories of dating evidence in historical archaeology because they can often be assigned to one particular year of manufacture and were probably introduced into circulation during that year. Although the country of origin can be determined for most coins, one must be wary of assuming direct contact between the owner of the coins and that country, as indirect trade is always possible. The coins were first examined visually and preliminary notes were made about their general appearance and possible identification. The coins were then physically cleaned and stabilized. Following this, each coin was examined in greater detail, using magnifying lenses and a fiber optics system of illumination. Final identifications were made by careful comparison with published photographs of other similar specimens. Any coins which could not be identified in this manner were then taken to the American Numismatic Society where they were examined by Dr. Alan M. Stahl, Curator of Medieval and Early Modern Coins. These coins or tokens were identified through comparison with examples in the American Numismatic Society collections and published references in their library. Finally, descriptions of the coins were written up, and dates assigned, using either an observable date on the coin or the date range during which the particular type was manufactured. Selected coins were then photographed. They are presented below individually, ordered by their stratigraphic associations, with those recovered during testing followed by those from excavation units.

Cx. 4.01 Coin #1
Material: Cu Alloy Diameter: 1.9 cm
Obverse: Bust of Lincoln facing right with inscription "In God We Trust" above "Liberty" to the left and dated 1952 to the right.
Reverse: Inscription "ONE CENT" with "United States of America" below surrounded by two wheat ears. Above is inscription "E Pluribus Unum".
This a U.S.A. Lincoln head cent with wheat ears reverse. The manufacture range for this variety is 1909-1942 and 1944-1958 (Yeoman 1964:29-32). This specimen dates to 1952, and was minted in Philadelphia.

Cx. 4.01 Coin #2
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1939.
Reverse: As for Coin #1 above.
This is a U.S.A. Lincoln head cent with wheat ears reverse. The manufacture range for this variety is 1909-1942 and 1944-1958 (Yeoman 1964:29-32). This specimen dates to 1939, and was minted in Philadelphia.

Cx. 4.01 Coin #3
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1915.
Reverse: As for Coin #1 above.
This is a U.S.A. Lincoln head cent with wheat ears reverse. The manufacture range for this variety is 1909-1942 and 1944-1958 (Yeoman 1964:29-32). This specimen dates to 1915, and was minted in Philadelphia.

Cx. 15.01 Coin #4
Material: Cu Alloy Clad Cu Diameter: 1.8 cm
Obverse: Bust of Roosevelt facing left with inscription "Liberty" to upper left and "In God We Trust" to lower left, and dates 1970 to right.
Reverse: Torch flanked by foliage with inscription "United States Of America" above, "ONE DIME" below, and "E Pluribus Unum" across.
This is a U.S.A. Roosevelt dime issued in copper-nickel clad copper. This variety was manufactured from 1965 to date (Yeoman 1990:127-129). This specimen dates from 1970 and was minted in Philadelphia.

Cx. 20.01 Coin #5
Material: Cu Alloy Diameter: 2.5 cm
Obverse: Bust of Victoria facing left surrounded by inscription, both nearly obscured by corrosion.
Reverse: Inscription "ONE CENT" over date 1887 surrounded by intertwined leaves.
This is a Canada large cent from the reign of Victoria. The obverse inscription originally read: "Victoria Dei Gratia Regina. Canada". This variety was manufactured from 1858-1901 (Charlton 1961:61-63). This specimen dates to 1887 and was minted in London, U.K. See Plate 62 for a view of the reverse of the coin.

Cx. 29.01 Coin #6
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1947.
Reverse: As for Coin #1 above.
This is a U.S.A. Lincoln head cent with wheat ears reverse. The manufacture range for this variety is 1909-1942 and 1944-1958 (Yeoman 1964:29-32). This specimen dates to 1947, and was minted in Philadelphia.

Cx. 41.01 Coin #7
Material: Cu Alloy Clad Cu Diameter: 1.8 cm
Obverse: As for Coin #4 above, with date of 1976.
Reverse: As for Coin #4 above.
This is a U.S.A. Roosevelt dime issued in copper-nickel clad copper. This variety was manufactured from 1965 to date (Yeoman 1990:127-129). This specimen dates from 1976 and was minted in Philadelphia.

Cx. 52.02 Coin #8
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1973.
Reverse: Lincoln Memorial with inscription "ONE CENT" and "United States of America" surrounding and inscription "E Pluribus Unum" above.
This is a U.S.A. Lincoln head cent with Lincoln Memorial reverse. The manufacture range for this variety is 1959 to date (Yeoman 1990:98-100). This specimen dates to 1973, and was minted in Philadelphia.

Cx. 500 Coin #9
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1964.
Reverse: As for Coin #8 above.
This is a U.S.A. Lincoln head cent with Lincoln Memorial reverse. The manufacture range for this variety is 1959 to date (Yeoman 1990:98-100). This specimen dates to 1964, and was minted in Philadelphia.

Cx. 500 Coin #10
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #1 above, with date of 1941.
Reverse: As for Coin #1 above.
This is a U.S.A. Lincoln head cent with wheat ears reverse. The manufacture range for this variety is 1909-1942 and 1944-1958 (Yeoman 1964:29-32). This specimen dates to 1941, and was minted in Philadelphia.

Cx. 108.03 Coin #11
Material: Cu Alloy Diameter: 1.9 cm
Obverse: Bust of Indian Facing left with inscription "United States of America" surrounding and date 1864 below.
Reverse: Inscription "ONE CENT" surrounded by oak wreath with small shield above.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen dates to 1864, and was minted in Philadelphia.

Cx. 407.01 Coin #12
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 above, with date of 1865.
Reverse: As for Coin #11 above.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen dates to 1865, and was minted in Philadelphia. See Plates 63 and 64 for views of this coin.

Cx. 407.01 Coin #13
Material: Silver Diameter: 2.2 cm
Obverse: Bust of Ferdinand VII facing right, surrounded by inscription "FERDIN. VII. DEI. GRATIA"and the date 1808 below.
Reverse: Crowned shield flanked by columns, surrounded by inscription ".HISPAN. ET IND. REX. ME. 1R. JP."
This is a Spanish 1 Real from the reign Ferdinand VII. This variety is Type 230 which was minted in Lima, Peru during the years 1808-1811 (Calico et al. 1985:489; Stahl:pers. comm. 1990). This specimen dates to 1808. See Plates 65 and 66 for views of this coins.

Cx. 407.02 Coin #14
Material: Cu Alloy Diameter: 1.9 cm
Obverse: Bust of George Washington facing right surrounded by twelve stars with the date 1863 below.
Reverse: Wreath of leaves surrounding the inscription "Wilson's 1 Medal".
This is a Civil War Token identified as variety 635 by Hetrich and Guttag. Civil War Tokens were privately issued coins which were produced from 1861-1864 to alleviate shortages of small coinage. They were outlawed by an Act of Congress during 1864 (Hetrich and Guttag 1924:5, 20). This specimen dates to 1863. See Plates 67 and 68 for views o f this token.

Cx. 407.03 Coin #15
Material: Cu Alloy Diameter: 2.8 cm
Obverse: Bust of Liberty facing left surrounded by thirteen stars with date of 1831 below.
Reverse: Inscription "ONE CENT" surrounded by oak wreath with inscription "united States of America" around the outside of the wreath.
This is a U.S.A. large cent of the Matron head variety. The manufacture range for this variety is 1816-1935 (Yeoman 1990:83-85). This specimen dates to 1831, and was minted in Philadelphia. See Plates 69 and 70.

Cx. 407.04 Coin #16
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 above, but fairly corroded and no date visible.
Reverse: As for Coin #11 above, but fairly corroded.
This is a U.S.A. Indian head cent with oak wreath and shield reverse. The manufacture range for this variety is 1860-1909 (Yeoman 1990:91-93).

Cx. 407.04 Coin #17
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #30 below, but heavily corroded and no date visible. Only part of the inscription UNITED STATES is legible.
Reverse: As for Coin #30 below, but corrosion obscures all but part of wreath.
This is probably a U.S.A. Flying Eagle cent with oak wreath and shield reverse. The manufacture range for this variety is 1856-1858 (Yeoman 1990:90).

Cx. 707.04 Coin #18
Material: White Metal Diameter: 3.4 cm
Obverse: Central cross motif surrounded by a circle of linked triangles. Rim raised and beaded.
Reverse: Raised rim only with no other decoration or inscriptions.
This is a possible jetton or counter cast in white metal, with decoration on one side only. Jettons were discs used as counters in mathematical calculations. This artifact is also similar to seventeenth and eighteenth century lead tokens some of which were also decorated on one side only (Noel Hume 1969:171-174).

Cx. 707.05 Coin #19
Material: Cu Alloy Diameter: 1.9 cm
Obverse:As for Coin #11 above.
Reverse: As for Coin #11 above.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen dates to 1864, and was minted in Philadelphia.

Cx. 707.09 Coin #20
Material: Cu Alloy Diameter: 2.9 cm
Obverse: Corroded, no details visible.
Reverse: Corroded, no details visible.
This coin or token cannot be identified, although it is the approximate size of a U.S.A. large cent.

Cx. 707.09 Coin #21
Material: Cu Alloy Diameter: 3.1 cm
Obverse: Corroded, no details visible.
Reverse: Corroded, no details visible.
This coin or token cannot be identified.

Cx. 707.09 Coin #22
Material: Cu Alloy Diameter: 1.9 cm
Obverse: Bust of Victoria facing left surrounded by inscription "Victoria Queen of Great Britain" with the date 1854 below.
Reverse: Crowned crest of three feathers surrounded by inscription "The Prince of Whales Model Half Sovrn."
This is not an official British coin but a pattern or model coin. The intended value was a half sovereign which was equivalent to ten shillings or half a pound. This variety was issued only in 1854 (Stahl: pers. comm. 1990). See Plates 71 and 72.

Cx. 707.09 Coin #23
Material: Cu Alloy Diameter: 2.1 cm
Obverse: Shield with date 1868 below, now somewhat corroded.
Reverse: The number 5 surrounded by thirteen stars. Surrounding this is the inscription "United States of America. Cents."
This is a U.S.A. Shield Type nickel five cent piece with the reverse with no rays. The manufacture date range for this variety is 1867-1883 (Yeoman 1990:104-105). This specimen dates to 1868. See Plate 73 for a view of the reverse of this coin.

Cx. 707.10 Coin #24
Material: Cu Alloy Diameter: 2.3 cm
Obverse: Crowned coat of arms with central eagle and two flags, "S. Steinfeld" above and "Sole Agent For the U.S." below.
Reverse: "Principal Depot/for the French Cognac/Bitters/70/Nassau St."
This is a variety of Civil War token known as a store card. It was issued by S. Steinfeld, a New York City merchant. It probably dates to 1863 as another variety includes that date. This token is variety 630 BU.2A according to George and Melvin Fuld (Fuld and Fuld 1972:274).
See Plates 74 and 75 for views of this token.

Cx. 707.11 Coin #25
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 above, with date of 1859.
Reverse: As for Coin #11 above.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in copper-nickel. The manufacture range for this variety only is 1859 and all were made at the Philadelphia mint (Yeoman 1990:91-93).

Cx. 707.11 Coin #26
Material: Cu Alloy Diameter: 2.5 cm
Obverse: Corroded, no details visible.
Reverse: Inscription :"Ein Kreuzer" above the date 1816.
This is an Austrian one Kreuzer coin. The obverse originally showed a crowned shield displaying the double-headed eagle surrounded by an inscription reading "K.K. Oesterreichische Scheidemunze". The manufacture range is 1816-1852, although all were dated 1816 (Krause et al. 1990:128).

Scheidemunze refers to small change. See Plate 76 for a view of the reverse of this coin.

Cx. 707.12 Coin #27
Material: Cu Alloy Diameter: 3.1 cm
Obverse: Bust of Victoria facing left with inscription "Victoria D.G. Brit. Reg. F.D." surrounding.
Reverse: Seated figure of Brittania with inscription "One Penny" above and date 1863 below.
This is a British Penny from the reign of Victoria (1837-1901). The obverse inscription translate as "Victoria, by the grace of God, V Queen of the Britons and defender of the faith". This coin is of the young bust variety. The manufacture date range for this variety is 1860-1894 (Friedberg 1962:62). This specimen was minted in London during 1863. See Plate 77 for view of the obverse of this coin.

Cx. 707.12 Coin #28
Material: Cu Alloy Diameter: 3.0 cm
Obverse: Heavily corroded, no details visible.
Reverse: Heavily corroded, no details visible.
This coin or token cannot be identified.

Cx. 806.02 Coin #29
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 with a date of 1869?
Reverse: As for Coin #11.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen probably dates to 1869, and certainly to the period 1864-1869.

Cx. 806.05 Coin #30
Material: Cu Alloy Diameter: 1.9 cm
Obverse: A flying eagle surrounded by an inscription of which only "...RIC...: is legible.
Reverse: A wreath surrounding an inscription, now obscured by corrosion.
This is a U.S.A. Flying Eagle cent. The manufacture date range for this type is 1856-1858 (Yeoman 1990:90). All were minted in Philadelphia.

Cx. 806.08 Coin #31
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 with a date of 1864.
Reverse: As for Coin #11.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen dates to 1864, and was minted in Philadelphia.

Cx. 900 Coin #32
Material: Cu Alloy Diameter: 1.9 cm
Obverse: As for Coin #11 with a date of 1867.
Reverse: As for Coin #11.
This is a U.S.A. Indian head cent with oak wreath and shield reverse struck in bronze. The manufacture range for this variety is 1864-1909 (Yeoman 1990:91-93). This specimen dates to 1867, and was minted in Philadelphia.

Cx. 1301 Coin #33
Material: Cu Alloy Diameter: 2.3 cm
Obverse: Bust of Liberty facing left surrounded by thirteen stars with date 1856 below.
Reverse: The inscription "HALF CENT: surrounded by a wreath in turn surrounded by the inscription "United States of America".
This is a U.S.A. half cent of the Coronet type. The manufacture date range for this type is 1840-1857. All were minted in Philadelphia (Yeoman 1990:74). This specimen dates to 1856.

Summary
Of the total 33 coins or tokens recovered from archaeological testing and excavations on Block 143 and 2047 of the Metrotech project, Brooklyn, New York, it proved possible to identify 29. Twenty-one of the coins and tokens came from the manual excavation of four features, and the remaining twelve from the shovel testing, backhoe trenching and the manual excavation of soil above other features.

Coins numbered one through eight were recovered from shovel tests on Block 143. Numbers one through three were all from the top layer of Shovel Test 4 (Context 4.01) which was located in the southeast corner of the rear yard of 108 Johnson Street. All were U.S.A. Lincoln cents of 1915, 1939 and 1952.

Coins numbered four and five were both recovered from the top layers of shovel tests along the west side of the rear yard of 104 Johnson Street. Coin 4 is from Shovel Test 15 (Context 15.01) and Coin 5 from Shovel Test 20 (Context 20.01). Coin 4 is a U.S.A. Roosevelt dime of 1970. Coin 5 is a Canada large cent issued during the reign of Queen Victoria in 1887.

Coins numbered six and eight were recovered from shovel tests along the south side of the rear yard of 304 Bridge Street. Coin 6 was from the top layer of Shovel Test 29 (Context 29.01) and Coin 8 was recovered from the second layer of Shovel Test 52 (Context 52.02). Coin 6 is a U.S.A. Lincoln cent of 1947, and Coin 8 is a U.S.A. Lincoln cent of 1973.

Coin 7 was recovered from the top layer of Shovel Test 41 located near the center of the rear yard of 308 Bridge Street (Context 41.01). Coin 7 is a U.S.A. Roosevelt dime of 1976.

Coins numbered nine and ten were both recovered from the top layer of Excavation Unit 5 (Context 500) which was near the center of the rear yard of 308 Bridge Street, not far from Shovel Test 41. Coin 9 is a U.S.A. Lincoln cent of 1964 and Coin 10 is a U.S.A. Lincoln cent of 1941.

Coin 32 was recovered from the backhoe trenching along the east boundary of the rear yard of 59 Lawrence Street. Coin 32 is a U.S.A. Indian head cent of 1867.

Coin 33 was recovered from one of the layers deposited above the dry-well found in Excavation Unit 13 located near the center of the rear yard of 317 Bridge Street on Block 2047. Coin 33 is a U.S.A. Coronet type half cent of 1856.

In summary, the various non-feature deposits in the backyards of 104 and 108 Johnson Street, 304 and 308 Bridge Street and Lawrence Street on Block 143, and 317 Bridge Street on Block 2047 produced twelve coins. One is Canadian and eleven are U.S.A. issues. Three are nineteenth century, dating from 1856 through 1887, while nine are twentieth century, ranging from 1915 to 1976. All twelve coins are small denominations worth from one-half to ten cents.

The remaining 21 coins or tokens were recovered from the fill of four features manually excavated in three lots on Block 143. Two were dry-laid stone privies and two brick and mortar cisterns.

Coin 11 was recovered from the second layer of fill within the mortar lined circular brick cistern along the west side of the rear yard of 104 Johnson Street (Context 108.03). Coin 11 is a U.S.A. Indian head cent of 1864. This provides a coin TPQ of 1864 for the top two layers within this cistern.

Coins numbered twelve through seventeen were recovered from the first through fourth layers of fill within the stone lined privy at the center of the rear of 308 Bridge Street. Coins 12 and 13 are from the first layer (Context 407.01). Coin 12 is a U.S.A. Indian head cent of 1865. Coin 13 is the only silver coin recovered during this project. It is a Spanish 1 Real issued during the reign of Ferdinand VII in 1808. Coin 14 from the second layer of fill (Context 407.02) is a Civil War token issued in 1863. Coin 15 from the third layer of fill (Context 407.03) is a U.S.A. Matron head large cent issued in 1831. Coins 16 and 17 were recovered from the fourth layer of fill (Context 407.04). These Coins, 16 and 17, are U.S.A. Indian head and Flying Eagle cents respectively. No dates can be read on Coin 16 and 17. The coin TPQ for the first layer of fill, Context 407.01, is therefore 1865. The TPQ for the next layer, Context 407.02 is 1863. The coin TPQ for the third and fourth layers is 1860.

Coins numbered 18 through 28 were recovered from third, fourth and eighth through eleventh layers of fill within the stone lined privy in the southeastern corner of rear yard of 104 Johnson Street. Coin 18, a jetton or counter that cannot be dated, was recovered from the third layer of fill (Context 707.04). Coin 19, a U.S.A. Indian head cent of 1864, came from the fourth layer of fill (Context 707.05). The eighth layer of fill in this privy contained coins 20 through 23. Coins 20 and 21 are both too corroded to identify and therefore provide no dating evidence. Coin 22 is a model coin or token from the United Kingdom issued during the reign of Queen Victoria in 1854. Coin 23 is a U.S.A. Shield type five-cent piece issued in 1868. This coin is the latest confirmed date from this privy or the other three features that contained coins. It provides a coin TPQ of 1868 for this layer and those above it (Context 707.02-Context 707.09). The ninth

layer of fill produced Coin 24, a U.S.A. Civil War token dating to 1863. Coins numbered 25 and 26 were recovered from the tenth fill layer (Context 707.11). Coin 25 is a U.S.A. Indian head cent of 1859. Coin 26 is an Austrian 1 Kreuzer produced from 1816 through 1852. Coins 27 and 28 were recovered from the eleventh layer of fill (Context 707.12) which was the deepest of the thirteen fill deposits recorded in this privy to contain coins. Coin 28 is too corroded to allow identification. Coin 27 is a United Kingdom one penny issued during the reign of Queen Victoria in 1863, providing this date as a coin TPQ for the ninth, tenth and eleventh layers of fill in this privy (Context 707.10-Context 707.12).

Coins numbered 29 through 31 were recovered from the second, fifth and eighth layers of fill within the mortar lined circular brick cistern near the center of the 59 Lawrence Street lot. Coin 29, a U.S.A. Indian head cent of 1864 to 1869, probably 1869, was recovered from the second layer of fill (Context 806.02). Coin 30, a U.S.A. Flying Eagle cent of 1856 through 1859, was recovered from the fifth fill layer (Context 806.05). The eighth of eleven layers of fill in this cistern (Context 806.08) produced Coin 31, a U.S.A. Indian head cent of 1864. This provides a coin TPQ of 1864 for the top eight layers of this cistern.

Out of the 33 coins recovered, it proved possible to assign a country of origin in 29 cases, with the remaining four items consisting of three corroded copper alloy discs and one white metal jetton or counter. Twenty-six of the remaining 29 items are regularly issued coins and the other three are tokens. Twenty-two of the coins and two of the tokens are from the United States, with all being made of copper alloy. Three additional copper alloy coins and tokens are from the British Empire. One is a Canadian coin, and the other two, a coin and a token are from the United Kingdom, all produced under Queen Victoria. One copper alloy coin is from Austria and the other is a silver coin from Lima, Peru in the Spanish Empire. For analytical purposes, the most important of these finds are the 21 coins and tokens recovered from the four features because these deposits can be associated with occupants of the three lots on Block 143. Coins 11 and 18 through 28 are from the cistern and privy at 104 Johnson Street. These twelve artifacts include the four finds where no country of origin can be assigned, five United States issues including one token. two United Kingdom issues including one token, and the Austrian coin. The Coffin family occupied 104 Johnson Street from 1847 through 1892. The Coffin family's occupations included ship's captain, teacher and seaman. Coin 12 through 17 are from the privy at 308 Bridge Street. These six finds include five United States issues including the second token, and the one silver coin, a Spanish Empire issue. The Carr family were living at 308 Bridge Street from 1867 through 1892. Their occupations included builder and mason. Coins 29 through 31 are from the cistern at 59 Lawrence Street. All three are United States coins. The Kelly family occupied 59 Lawrence Street from 1846 through at least 1878. The Kelly family included at least one wood dealer. Despite the small sample size, 21 items, it is interesting to note that three of the four items not from the United States are from the Coffin family residence. The Coffin family occupations, including ship's captain and seaman, tend to indicate greater possibilities of encountering foreign issues than from those of the Carr or Kelly families.

CHAPTER 10: ZOOARCHAEOLOGICAL ANALYSIS

by

Patience Freeman

Introduction

This report explains and gives details of the analysis of animal bones recovered from features located at the MetroTech Site, near Borough Hall, Brooklyn, New York. Five of the features excavated, two privies, two cisterns and a dry-well, between them yielded a large quantity of bones which had been deposited as garbage, together with other household debris, probably in the mid-nineteenth century.

Context 407 is a privy in the backyard of the Mercein-Carr house at 308 Bridge Street. Context 707, a privy, and Context 108, a cistern, were located behind the Coffin house at 104 Johnson Street. Context 806, a cistern, belonged with the Kelly house at 59 Lawrence Street. All these houses were contained within Block 143.

A number of shovel tests, backhoe trenches and sundry contexts associated with the features also contained fauna and are included in this report.

It is known that main water was available to houses in the MetroTech area between 1859-1865, (see Chapter 2:9), and probably that the households being studied took advantage of this, abandoning their privies at that time. If this is so all the household debris was deposited in the features after 1863, possibly in less than ten years. Certainly the dates on coins recovered suggest deposition could have begun between 1863-1865 (see Chapter 9: Coins).

Methodology

The animal bones were recovered in the field by dry screening through 1/4 inch wire mesh. Bones were washed and dried in the laboratory. Soil samples taken for flotation are discussed elsewhere in this report. Fauna recovered by flotation have been integrated into the larger faunal sample analyzed here.

The faunal assemblage was identified using the comparative faunal collection at the Bioarchaeology Laboratory, Hunter College (C.U.N.Y.) and the author's private collection. Osteological materials used as supplementary references include Schmid (1972), Casteel (1976), Gilbert (1990), Gilbert et al. (1985), Cannon (1987) and Olsen (1968, 1979).

Identification was made to the most precise zoological classification possible. If a fragment could not be assigned at the genus/species level the next higher taxonomic level was used. Although *Ovis* is used below to denote domestic sheep (*Ovis aries*), it must be noted that the domestic goat (*Capra hircus*) is almost identical morphologically and can only be distinguished with the use of a large comparative collection (Boessneck 1970). It is quite unlikely that any goats were kept in backyards in the middle of Brooklyn in the mid to late nineteenth century, and equally unlikely that goats' meat was commonly available at the butcher's shop.

Taphonomy

Preservation of all faunal material is excellent. In general archaeological faunal specimens derive from aerated soils in which bacteria act to destroy organic matter. The fauna from the MetroTech Site however were recovered from privies and cisterns, and in such often waterlogged environments decay is almost completely arrested (Chaplin 1971).

Fragmentation of the bones has occurred only in small part from depositional damage. Cheaper cuts of meat bought for soups and stews resulted in large quantities of vertebral and rib fragments.

Quantification

Where the degree of fragmentation has precluded identification beyond the level of class (i.e., Mammalia, Aves, Pisces), such blanket assignments have been subdivided into large, medium and small terrestrial mammals. Fragments are further separated into cranial, vertebral, rib, long bone and flat bone categories. A number of fragments fall into a category of "general scrap". The term large mammal refers to animals the size of a cow, medium mammal is similar to a pig, sheep, goat, and small mammals are such as cat, dog, and rodent.

The abundance of the taxa has been quantified using ordinal level analysis with the NISP (number of identified specimens) and TNB (total number of bones present) as basic ordinal terms (Grayson 1983). Frequently referred to in faunal literature is the MNI (minimum number of individuals). This further quantitative manipulation is useful when the deposit is primary in nature, and animals were butchered on the spot (Grayson 1983).

The minimum number of individual (MNI) figures refer to a maximum number, because privy deposits seldom produce discrete layers and bones contained within two may derive from only one individual bird or shell fish. The true quantity of birds bought for consumption may not have been as many. On the other hand, the preparation of soups by boiling leaves the bones more liable to breakage and destruction from bacterial action after burial, alternatively some kitchen debris may have been burnt in the stove.

In any nineteenth century urban environment a market economy operated and meat markets killed and butchered animals, selling individual cuts to households. Only these cuts of meat entered the household, and there is no validity in supposing that one leg of lamb equates to a whole animal. An exception in the present analysis concerns domestic birds (chicken, turkey, duck and goose) for these undoubtedly were bought or acquired whole. The same holds true for shell fish.

Analysis of Context 407

This circular stone-lined privy at the Mercein-Carr house, 308 Bridge Street, measured nine feet in depth with a diameter of five feet and had an earthen base. The volume was 141.3 cubic feet. A total number of 3903 bone fragments were excavated from it (see Tables 10.3 -10.6). Mammal bones comprised 58 percent of all bone present, bird 22.2 percent and fish 19.9 percent.

Animal Representation by Class
Context 407

	Count	Percent
Mammalia	2262	58.0
Aves	865	22.2
Pisces	776	19.9
TNB	3903	

Identified bones (23.6 percent; see Table 10.7) yielded a NISP of 919, not including an estimated 23 whole shellfish. Bones which could not be identified to the level of genus or species totaled 2984 or 76.5 percent (see Table 10.8).

Aves here includes the domestic birds, chicken (*Gallus gallus*), and turkey (*Meleagris gallopavo*), goose (*Anser anser*), and also evidence for one adult and two neonate pigeons (*Columba* sp) which are likely to have fallen into the privy from overhanging trees or were swept in with yard debris. Pisces includes cod (*Gadhus morhua*), ling (*Molva molva*), bluefish (*Pomatomus saltatrix*) and Perciformes. Mammalia includes cow (*Bos taurus*), sheep (*Ovis aries*), pig (*Sus scrofa*) and the smaller scavengers, rat (*Rattus rattus*), house mouse (*Mus musculus*), cat (*Felis catus*), and dog (*Canis familiaris*).

Minimum numbers of individuals (MNI) were not estimated for mammalian meat bones, which enter the house as separate butchered items. Chickens were in all likelihood bought whole so a MNI for them is informative. The privy, Context 407, contained a maximum total of 45 chickens, one goose and two turkeys. The presence of bluefish and ling suggest that a family member or friend may have supplied the Carrs with six to eight fresh fish. Cod, probably salted, were bought apparently in sections, or headless, for no cranial bones were found. If the privy was filled during the mid to late 1860s then fish were a part of the diet while the children were still young. There is limited evidence for both clams and oyster with a MNI of eight for clam and fifteen for oyster.

It has not proved possible to determine the full pattern of choices made by the Carr household with regard to food purchases. The family in 1870 (apparently with no boarders or other families sharing the building) consisted of the parents with seven children ranging from twenty-two to four years of age. A large majority of the bones were unidentified. They were fragmented probably not from any taphonomic damage, but because cheaper cuts of meat were bought for soups and stews suitable for children. Only eight beefsteaks and seven ham slices can be presumed eaten, but bones from 25 pots of beef soup or stew are identified. The unidentified ribs (201) and vertebrae (228) from medium size mammals are evidence of many more meals See Table 10.33.

Chickens (45), were most likely boiled with vegetables, although roasting cannot be ruled out. These were not young birds, they were probably tough, and boiling would have improved the texture. Turkey (2) and a single goose were probably roasted.

Beef was more frequently chosen with cuts suitable for soups or stews predominating, no roasts and eight steak cuts. Ribs however were more frequent and may signify short ribs, cross ribs or rib roasts

Pork appears to have been bought only occasionally for hams (slices), but probably also accounts for the large quantity of medium mammal ribs and vertebrae (228). The majority certainly signify cheaper pork cuts suitable for family consumption. In addition, to the mammal bones there were a maximum of eight clams and fifteen oysters.

Analysis of Context 505

Also found at 308 Bridge Street was Context 505, a dry-well. This appears not to have been a depository for household garbage, and only three bones, assigned to medium mammal, were recovered from it.

Analysis of Contexts 707 and 108

The house at 104 Johnson Street was bought by Hazadiah Coffin in 1847, and continued to be occupied by his widow and four grown children after his death in 1855. The stone-lined privy, Context 707, at the end of the backyard measured four and one-half to five feet square and was ten feet deep with an earthen bottom. Volume was 202.5 cubic feet.

Context 108, a cistern, closer to the house was circular, six feet in diameter and seven feet deep with a brick base. Volume was 171.3 cubic feet.

These features contained debris from the same household so it is logical that the totals be combined. Identified fauna totalled 4,284 and unidentified 5,417 for a total of 10,067 (see Tables 10.10, 10.12 - 10.17, and 10.19. - 10.22).

Animal Representation by Class

	Context 707		Context 108	
	Count	Percent	Count	Percent
Mammalia	3692	47.6	1079	46.8
Aves	2853	36.8	969	42.0
Pisces	1214	15.7	260	11.3
TNB	7759		2308	

Faunal discard specimens in the privy, Context 707, and the cistern, Context 108, appear to have been thrown out in similar proportions (see above), the only difference being that more unidentified bird bones went into the cistern (24.7 percent compared to 18.5 percent for the privy), and more fish remains went into the privy (17.4 percent compared to 9.6 percent for the cistern). However, although the two features have roughly similar volumes (see above) for the fauna in the cistern 92.7 percent of those identified and 94.6 percent of those unidentified were contained in only two layers of total depth 2.93 feet.

Two human teeth were recovered from Context 707. One was a deciduous lower right molar with four pin-point size caries on the crown and one large caries buccally. The other, a permanent lower left second molar, had an extremely large coronal cavity extending into the dentine. The roots appeared healthy. The cusps showed little wear and the tooth either fell out in early adulthood as a result of abscess formation or was extracted.

Table 10.9 gives the combined counts (NISP) for Context 707 and 108 (for counts for the features separately see Tables 10.11 and 10.18).

Chicken is present in very large quantities (65.7 percent) with a MNI of 155 from identified bone in kitchen debris. Pig accounts for 10.6 percent, with sheep 8.6 percent and cow 5.8 percent. One deer bone (white-tailed deer) was found. Turkey, goose and duck add up to 9.3 percent (see Table 10.9). Cranial elements and feet are present for the chicken indicating that the birds were either bought whole or raised in the backyard. This last seems likely for there are sixteen male birds with spurs on the hind legs, mended leg fractures were present for two males, one female and two of undetermined sex. At least two individuals had lipping on the phalanges and one had bone spurs on a rib. Geese had neither head nor foot elements. One turkey cranium was found, also phalanges (feet). Ducks had both heads and feet

Fish were represented by a NISP of 216 for cod (Gadidae) and 385 for Bluefish (Pomatomidae), with four from Butterfish (*Poronotus tricanthus*) (see Tables 10.13 and 10.20). All fish seem to have been brought to the house complete, possibly caught locally or bought as whole salted codfish. One land snail of the family Endodontidae was found in Context 707.

Butchery

As noted above chicken was a frequent food item at 104 Johnson Street. Of other meats, beef supplied 52 steak cuts, eleven roasts and was the basis of seventeen soups or stews. Pork is evident in fourteen hams, fifteen cutlets or ham slices and twelve soup or stew cuts. Lamb, or perhaps mutton, supplied two legs and nine leg slices with one shank for soup or stew. In fact the sheep bones were in almost every case from young animals. Apparently one shoulder (whole or partial) of venison was also cooked in the Coffin kitchen. There are a total of 826 ribs and 429 vertebral fragments which cannot be assigned to pig or to sheep and are categorized as medium mammal. Although a high proportion are the residue of pork cuts, some probably were left from lamb chops, rack of lamb, and stews of neck bones (see Table 10.33).

Analysis of Context 806

The house at 59 Lawrence Street was bought in 1846 by Michael Kelly, then 46 years old, an immigrant from Ireland. He, his brother, sister-in-law, and two nieces were still living there in the 1860s and 1870s with two other families of similar origin. It was a multi-family house.

Context 806 was a large brick cistern, circular, with a diameter of 6.75 feet. It reached a maximum depth of nine feet with a volume of 318.5 cubic feet. The brick base had been left intact when it became outmoded by the advent of main water. This meant that water did not readily drain out and conditions were ideal for excellent artifact preservation.

Animal Representation by Class
Context 806

	NISP	Percent
Mammalia	3057	90.1
Aves	286	8.4
Pisces	49	1.6
TNB	3391	

A total number of 3391 bone fragments, both identified and unidentified were recovered from Context 806. Identified bones (28.1 percent) yielded a NISP of 954, not including a MNI of 90 whole shellfish, clams and a trace of oyster. Bones which could not be identified totalled 2437 or 71.9 percent (see Tables 10.23 and 10.24).

Mammalia included pig, cow and sheep, rat and cat (see Table 10.25). Aves included chicken (MNI = 19), turkey (MNI = 5) and duck (MNI = 7) (see Tables 10.27 and 10.28). Pisces was represented only by cod and fish of the cod family. Context 806 is notable for the paucity of bird and fish remains (see Tables 10.24 and 10.26).

Butchery

The cistern, Context 806, produced evidence of numerous cuts of meat from beef, pork and mutton or lamb. As noted above chicken and fish were rarely chosen by this household. See Table 10.33.

Beef supplied fifteen roasts, 84 steak cuts and evidence for 46 pots of soup or stew. Pork cuts included 51 hams, 84 ham slices, 3 ham hocks and 1 fore foot (soup). Nine cranial elements suggest pork joints, although with evidence of both cranial and feet elements it might be that pork was bought in bulk, packed in brine and home-butchered.

Lamb (with mutton) supplied twenty roasts (leg or shoulder and seven shanks for soup or stew.

A maximum of nineteen chickens, five turkeys and seven ducks were eaten by the Kelly household. The chicken is a very small fraction when compared to the Coffin household's pattern of chicken consumption, which was extremely high. No cranial or feet parts were found for either the ducks or geese, possibly because they were bought as already dressed birds. No chicken heads were found, but two foot bones are evidence that the feet were part of at least one bird when it was bought (or donated).

The Kelly and Coffin backyards shared an adjoining wall. This fact may be relevant to the finding in the Kelly cistern of a chicken leg bone with a mended fracture, very similar to others found in the Coffin privy and cistern. It may be that birds could be bought from the Coffin family, who may have raised chickens (and perhaps turkeys) in their backyard. An alternative thought is that one bird escaped over the fence and met its fate in the Kelly kitchen.

The quantity of fish was also remarkably low with perhaps only a couple of cod steaks being bought. It is possible that bones from both fish and birds were routinely burnt and have not formed part of the archaeological record. In support of this theory is the fact that 13.2 percent of the unidentified bones from the Kelly cistern showed signs of burning, most being very small calcined fragments.

Distribution of Shellfish

Both clam and oyster shell were recovered from Contexts 407, 707 and 806 (see Tables 10.29 and 10.30). Information from Beidleman et al. (1986) gives mean weights for an average oyster and an average clam. This data was achieved by measuring and weighing a sample of ten complete shells (both halves of shell).

Oyster:	Average Length = 9.6 cm Average Width = 5.6 cm Average Weight = 78.7 gm
Clam:	Average Length = 7.4 cm Average Width = 8.5 cm Average Weight = 146.8 gm

Estimates of the flesh available for consumption are not given. Tabulated below are the weight of shell found in each level and an estimated MNI of the number of whole clams (*Mercenaria mercenaria*) or oysters (*Crassostrea virginica*) this weight represents. See Tables 10.29 and 10.30.

Shovel Tests and Backhoe Trenches

Included under this heading are shovel tests (31) which contained faunal remains out of a total of 53 shovel tests excavated. Levels within the tests were recorded by changes in soil texture or color. Also included here under are 24 other tests, such as backhoe trenches (Contexts 800 and 902), non-feature contexts and findings from areas disturbed by pothunters, either before the MetroTech Project was initiated or during it.

Fauna recovered have been identified in a similar way to those from the Contexts 407, 505, 707, 108 and 806 (see above), the only difference being that presence/absence of the categories is recorded and not the quantity within each. The total number of bones (TNB) excavated from all tests and backhoe trenches amount to 815 (see Table 10.32, Parts 1-3).

Non-Feature Contexts with Faunal Remains

Contexts	Street Address
1-10, 27-28	108 Johnson Street
11-26	104 Johnson Street
29-36, 51-56	304 Bridge Street
37-50	308 Bridge Street
100s	104 Johnson Street
200s	108 Johnson Street
300s	104 Bridge Street
400s	308 Bridge Street
800, 902	59 Lawrence Street

Summation

Questions which are raised when the faunal analysis of privy and cistern deposits is undertaken generally concern the nature of household consumption. The excellent preservation often found in such deposits greatly facilitates an answer to the following questions.

1. What did the family or families comprising the household eat?
2. How did their diet compare with that of other local households?
3. Was their choice of food compatible with probable income?
4. What other factors may have affected the composition of their daily diet? eg. local prices.

Personal preferences or necessary economy, in accordance with the level of income, will dictate which meats, their quality and quantity, are bought for household consumption. Faunal remains yield a measure of differences and similarities in meat products chosen, preferred and afforded. Choice is also relevant here for many nineteenth century households clearly preferred beef. Mutton and lamb were not generally popular (De Voe 1867:66). In 1863 New Yorkers consumed 209,279 barrels of pork (Smith and Judah 1966:201), and Corson commented that " ... [pork] always has constituted the chief animal food of the meat-eating masses, and probably will so remain" (1888:29), although Geismar notes that New Yorkers and Northeasterners ate less pork than the rest of the country (1989:202).

It is often presumed that in cases where the economic status of a household is well-to-do the mammal, bird, fish bones and shellfish discarded will represent this status, that the occupation of the head of the household "... is consistently found to be one of the contributory factors characterizing class and status" (Cultural Resource Group 1985:23). However, Cummings citing Thomas De Voe, a nineteenth century butcher, noted that more expensive cuts of meat were bought by wage earners than their budget should allow, tenderloin and porterhouse being chosen instead of round or sirloin steak (1940:80).

It is thought likely that the MetroTech privies and cisterns were filled in no more than ten years, beginning in the mid-1860s. The houses continued to be occupied by the same owners, although household composition altered somewhat according to the census figures for 1850, 1860, 1870 and 1880 (see Chapter 2, Tables 2.1, 2.2 and 2.3). Although excavation proceed through different levels and the bones were identified within each level, the faunal analysis is based on the privies or cisterns as single entire entities.

At the MetroTech site three households, the Carrs at 308 Bridge Street, the Coffins at 104 Johnson Street, and the multi-family Kelly house at 59 Lawrence Street were mid-nineteenth century Brooklyn contemporaries, all living within the same city block.

The Carr family were the only occupants after buying their house in 1867, the parents living there with seven children, 19 to 1 year(s) of age. However, if the features were filled with garbage as is suggested during the 1860s, with main water not available until 1865, then the privy at 308 Bridge Street could have contained deposits from the previous owner, Andrew Mercein and his multi-family household of sixteen. It is possible though that some ordinance mandated that privies were cleaned out when a house changed hands. There is a distinct possibility that main water was only installed by the Carrs in or after 1867, in which case the privy debris would have been their discard.

Reuben Carr worked locally as a builder, later taking his eldest son into the business. No lodgers were listed for that address. Faunal discard was very fragmentary, with 68.9 percent of all unidentified bone being mammal. This suggests that less expensive cuts of meat were bought for soups and stews suitable for a young family with limited income (see Table 10.33 for numbers of ribs and vertebrae).

The Carr family with seven children supported by the earnings of a builder, albeit one with his own business, lived within their probable income, purchasing few steaks and no roasts. Ribs and vertebrae,

assigned to the category of medium mammal, suggest pork chops, stews, spareribs and brisket. Some fish and chicken were included in their diet.

The Coffins also appear to have been the only occupants of the house in the 1860s, an elderly mother with three grown daughters and a son, who was a seaman and later a reporter. Consumption of beef was high with roasts, steaks and stews. Cow's feet were also bought, perhaps for calves' foot jelly. One shoulder of venison was cooked, most likely as a roast.

During the 1860s and 1870s the Kellys shared their house at 59 Lawrence Street with two other families for a total of eleven people. All were immigrants from Ireland. At this time in Boston Irish heads of families were reported to earn only 59.7 percent of the income earned by those who were American-born (Modell 1978:211-12), but not all such immigrants were devoid of means for some arrived with contacts sufficient to give then a satisfactory start in a new country. The Kelly household apparently were able to buy good cuts of meat in greater quantities than were bought by the Coffin and Carr families (see Figures 10.3A, 10.3B, 10.3C and Table 10.33).

Ethnic affiliation can also be expressed in the meat purchased (Henry 1987:26), [and see Feature 806 containing debris from the Kelly house]. The affiliation here consisted of families whose senior members were born in Ireland. Faunal evidence strongly suggests that fish and domestic birds were rarely prepared for the table while mutton was popular. This compares to the Coffin household where chicken was eaten in quantities tenfold those of the Kelly house (see Figures 10.1, 10.2, 10.3A-C, and 10.4). The Coffins may have raised chickens in their backyard, for there is evidence of male birds with healed leg fractures. De Voe notes the sale of fowl (chickens older than one year) with hard and well-fixed spurs (1867:136). "The caponed fowl may be left with the head on, that the purchaser may judge whether he be a capon or not, by the withered comb and gills" (De Voe 1867:133), and the tail, wing feathers, head and neck were left on in any case in order to increase the weight.

The Irish at 59 Lawrence Street however clearly did not choose to buy chickens for evidence of only nineteen birds compared with 155 for the Coffins and 50 for the Carrs. Turkeys, likewise, for the Irish household bought only five, with seven ducks and no geese, compared to 31 for the Coffins with eight ducks and nine geese, while the Carrs only had two turkeys and one goose (see Figure 10.2).

It should be noted that much of the remains from birds and fish, both so noticeably scarce at 59 Lawrence Street could have been burnt in the kitchen fireplace leaving little for disposal in the cistern, Feature 806. There is evidence that garbage was burnt in the Kelly household for small fragments of burnt bone in the cistern make up 13.2 percent of all unidentified bone found there.

Domestic Economy

It has been suggested that the features excavated contained deposits from the 1860s. This period included the Civil War of 1861-65, a time when prices for food and goods fluctuated. Cummings noted that during the war families could only afford a half-ration of meat costing 28 percent of their expenditure (1940:77). Citing a budget published in the *New York Tribune*, Cummings further notes that in 1851 a family of five used to buy two pounds of meat a day, an amount reduced to as little as one pound during the war. In the North pork prices rose only slightly whereas the cost of beef, mutton and lamb almost doubled between 1861-63 (Smith and Judah 1966:201). The same authors, giving their source as *Finchers Trades Review* for July 4, 1863, note that coal prices rose by one third and those of wood by a fifth. This last might perhaps help to explain the Kelly household's ability to buy more beef and mutton than either the Coffins or the Carrs, for Michael Kelly, the owner of 59 Lawrence Street, dealt in wood.

Buying and Cooking Meats

Faunal remains provide evidence for numerous purchases of meat in order to feed families. Mammal livestock was no longer kept in urban backyards. No animals were butchered at home. Cuts of meat were bought at a market or meat shop. An exception might be that a haunch or side of meat might be

bought and preserved by salting, smoking, corning or pickling and this would be then cut up at home as needed (Howland 1850:59-60). Chickens and other domestic birds were sold whole, but distinction was made between drawn birds, plucked with head, feet and entrails removed, and dressed birds which were merely plucked (De Voe 1867).

Preparation of meals necessitated methods of dealing with tough meat. "Cattle were not raised specifically for meat until nearly 1900. The nineteenth century housewife could count absolutely on meat as tough as nails" (Oddo 1972:341). Sheep killed at three to five years of age provided tough mutton (DeVoe 1867:66). Cooking frequently consisted of prolonged stewing of cheaper cuts of meat, and this renders the bone brittle and unlikely to survive deposition in an identifiable state (Chaplin 1971). Thus, mustard pots found from the Kelly household may indicate more than fondness, they may indicate an attempt to give flavor to overcooked meats. Better cuts of meat were well larded with fat and could be pan-fried or braised, spit-roasted or oven-baked. Indeed baking was held to be the "... cheapest and most convenient" way to cook an economical meal (Howland 1850:46). Another economical purchase, a "pig's head is a profitable thing to buy. It is despised, because it is cheap; ..." (Child 1841:46), but the snout, the cheeks and the head all provided nourishing meals. The Kellys were the only household with evidence for such a purchase (see Figure 10.3B).

The neighborhood was changing as the century marched on and a greater degree of industrialization allowed small businesses to settle in formerly residential streets. It appears that the Carr family, artisans of the lower middle class, chose the cheaper cuts of meat as evidenced by the quantities of ribs and vertebrae recovered and seldom enjoyed steak or roasts (see Table 10.33). The Coffins are notable for the amount of poultry recovered, but as might be expected for the family of a ship's captain, they could afford both steak and roasts and many meals of bluefish and cod. A tantalizing thought is that the male birds were being reared for cock fighting. The standard of living seems high for such a largely female household and the census may not reflect boarders preferring to lie low during the Civil War years. A neonate turkey find may indicate the raising of turkeys as well as chickens. The Kelly household seemingly ate very well with the purchase of excellent meat. Financial resources were more substantial than one would suppose, possibly because there was profit to be made from firewood sales.

TABLE 10.1
Identified Faunal Specimen Count

Identified	308 Bridge Privy Context 407	104 Johnson Privy Context 707	104 Johnson Cistern Context 108	59 Lawrence Cistern Context 806	308 Bridge Dry Well Context 505
Domestic Mammal	167	672	245	715	
Wild Mammal (deer)		1			
Small Mammal					This feature
Cat	8	26	61	8	contained the
Dog	1				unidentified
Squirrel		6			fauna, See
Rodent	40	261	6	4	Table 10.2
Domestic bird	473	2063	680	215	
Wild bird (pigeon)	6	4			
Fish	224	475	148	12	
Human		2			
Shellfish *	23 MNI	69 MNI		90 MNI	
Snail		1			
Faunal specimen count	919	3510	1140	954	

* = Shellfish count is the total MNI (minimum number of individuals) for both clams and oyster. It is not included in totals.

TABLE 10.2
Unidentified Faunal Specimen Count

Unidentified	308 Bridge Privy Context 407	104 Johnson Privy Context 707	104 Johnson Cistern Context 108	59 Lawrence Cistern Context 806	308 Bridge Dry Well Context 505
Mammal	2046	2724	767	2329	3
Bird	386	786	289	71	
Fish	552	739	112	37	
Faunal Specimen Count	2984	4249	1168	2437	3

TNB for all Tests and Trenches = 815
Total Specimen Count = 18265

TABLE 10.3

Context 407
Numbers and Percentages of Identified and Unidentified Faunal Remains

	Domestic Mammal	Percent	Bird	Percent	Fish	Percent	Small Mammal	Percent
Identified (N = 919)	167	18.2	479	52.1	224	24.4	49	5.3
Unidentified (N = 2984)	2046	68.9	386	12.2	552	18.9		
Total	2213	56.8	865	21.7	776	20.2	49	1.3

Total Number of Bones = 3903

TABLE 10.4

Context 407
Distribution of Identified Specimens by Layer
Percentages for Each Layer

	Sus scrofa Pig		*Bos taurus* Cow		*Ovis aries* Sheep		*Gallus gallus* Chicken		*Meleagris gallopavo* Turkey		*Anser anser* Goose *Anas platyrhynchos* Duck		Fish	
Context	#	%	#	%	#	%	#	%	#	%	#	%	#	%
407.01 (N = 9)	1	11.14	4	4.4			4	44.4						
407.02 (N = 17)	2	11.8	2	11.8	2	11.8	9	52.9			2 (*Anser*)	11.8		
407.03 (N = 176)	27	15.3	20	11.4	7	4.0	75	42.6					47	26.7
407.04 (N = 584)	38	6.5	9	1.5	27	4.6	348	59.6	2	0.3			160	27.4
407.05 (N = 7)	2	2.8	12	16.4	14	19.2	22	30.1	6	8.2			17	23.3

TABLE 10.5

Context 407
Distribution of Small Mammal and Wild Bird Remains

Context	Rat	Mouse	Cat	Dog	Pigeon
407.01					
407.02	2				
407.03	5				1
407.04	11	1	1	1	4
407.05	7			7	1

Key:
Rat = *Rattus rattus*
Mouse = *Mus musculus*
Cat = *Felis catus*
Dog = *Canis familiaris*
Pigeon = *Columba* sp.

TABLE 10.6

Context 407
Distribution of Identified and Unidentified Fish Remains

	Ling	Cod	Bluefish	Bluefish Family	Perchlike	Unidentified Fish	MNI Clam	MNI Oyster
407.01							-1	4
407.02							4	2
407.03		20		25	2	93	-1	7
407.04	8	89	3	60		411	-1	2
407.05		2	7	8		11	-1	0

Key:
Bluefish family = Pomatomidae
Bluefish = *Pomatomous saltatrix*
Cod = *Gadhus morhua*
Cod family = Gadidae
Ling = *Molva molva*
Perch-like = Perciformes

TABLE 10.7

Context 407
Distribution of Identified Fauna by Layer

Context	Domestic Mammal	Bird	Fish	Small Mammal
407.01	5	4		
407.02	6	11		2
407.03	54	80	47	5
407.04	74	355	161	28
407.05	28	29	17	14
NISP = 919	167	479	224	49

TABLE 10.8

Context 407
Distribution of Unidentified Fauna by Layer

Context	Domestic Mammal	Bird	Fish	Small Mammal
407.01	48	1		
407.02	139	1		
407.03	472	62	93	
407.04	1246	311	448	
407.05	162	11	11	
407.06	1			
407.07	1			
TNB = 2984	2046	386	552	0

(Total Number of Identified and Unidentified = 3903)

TABLE 10.9

Contexts 707 and 108

	NISP	%	MNI
Cow	211	5.80	-
Pig	389	10.60	-
Sheep	316	8.60	-
Deer	1	0.03	-
Chicken	2406	65.70	155
Turkey	270	7.40	31
Goose	23	0.60	9
Duck	48	1.30	8

TABLE 10.10

Context 707
Numbers and Relative Percentages of Identified and Unidentified
Faunal Remains

	Domestic Mammal	Percent	Bird	Percent	Fish	Percent	Small Mammal	Percent
Identified Specimens N = 3508	672	19.2	2063	58.8	475	13.5	292	8.5
Unidentified N = 4249	2724	64.1	786	18.5	739	17.4		

Total Number of Bones = 7757

* Domestic mammal here includes one specimen of *Odocoileus virginianus* (White-tailed deer).

**In addition two human teeth were recovered from Context 707.

TABLE 10.11
Context 707
Distribution of Identified Specimens by Layer
Relative Values/Percentages for Each Layer

	Sus scrofa Pig		*Bos taurus* Cow		*Ovis aries* Sheep		*Gallus gallus* Chicken		*Meleagris gallopavo* Turkey		*Anser anser* Goose		*Anas platyrhynchos* Duck		Fish	
Context	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
707.02 (N=14)	1	7.1			5	35.7	7	50.0	1	7.1						
707.03 (N=249)	27	10.8	21	8.6	14	5.6	173	69.5	7	2.8	1	0.4	6	2.4		
707.04 (N=103)	16	15.5	26	25.2	26	25.2	27	26.2	1	0.9			7	6.8		
707.05 (N=59)	2	3.4	4	6.8	21	35.6	30	50.8							2	3.4
707.06 (N=572)	40	7.0	48	8.39	85	14.9	316	55.2	74	12.9	3	0.5	1	0.2	5	0.9
707.07 (N=125)	5	4.0			12	9.6	98	78.4	5	4.0	4	3.2			1	0.8
707.08* (N=30)	2	6.7	2	6.7	5	16.7	18	60.0	1	3.3					2	6.7
707.09 (N=480)	35	7.3	5	1.1	22	4.6	256	53.3	32	6.7	13	2.7			117	24.4
707.10 (N=730)	20	2.7	11	1.5	41	5.6	460	63.0	46	6.3	6	0.8	1	0.2	145	19.9
707.11 (N=409)	35	8.6	34	8.3	23	5.2	182	44.5	17	4.2			2	0.5	116	28.4
707.12 (N=442)	54	12.2	5	1.1	24	5.4	256	57.9	12	2.7	3	0.7	1	0.2	87	19.7
	237		156		278		1823		196		30		18		475	

In addition: 707.04 = 1 White-tailed deer
707.04 = 1 Human tooth
707.06 = 1 Human tooth

TABLE 10.12

Context 707
Distribution of Small Mammal and Wild Bird Remains

Context	Rat	Mouse	Squirrel	Cat	Pigeon
707.02				2	
707.03	2			5	2
707.04					
707.05	2				
707.06	17				2
707.07	21				
707.08					
707.09	28			4	
707.10	55	1	6	9	
707.11	54			1	
707.12	79	2		5	
	258	3	6	26	4

NISP = 296

Key:
Rat = *Rattus rattus*
Mouse = *Mus musculus*
Cat = *Felis catus*
Squirrel = *Sciurus carolinensis*
Pigeon = *Columba* sp.

TABLE 10.13

Context 707
Distribution of Identified and Unidentified Fish Remains

Context	Cod/Cod family	Bluefish	Bluefish Family	Butterfish	Unidentified Fish
707.05	2				1
707.06	5				27
707.07	1				27
707.08		2			
707.09	102	14		1	115
707.10	130	8	4	3	231
707.11	109	4	3		11
707.12	62	14			322
	411	42	7	4	734

Key:

Cod	=	*Gadhus morhua*
Cod family	=	Gadidae
Bluefish	=	*Pomatomous saltatrix*
Bluefish family	=	Pomatomidae
Butterfish	=	*Poronotus triacanthus*

TABLE 10.14

Context 707
Distribution of Identified Specimens by Layer

Context	Domestic Mammal	Bird	Small Mammal	Fish
707.02	6	8	2	
707.03	62	187	7	
707.04	68	35		
707.05	27	30	2	2
707.06	173	394	17	5
707.07	17	107	21	1
707.08*	9	19		2
707.09	63	301	32	117
707.10	72	513	71	145
707.11	92	201	55	116
707.12	83	272	85	87

NISP = 3506

* = Level disturbed by pothunters

In addition:
707.06 = 1 Human
707.11 = 1 Human
707.04 = 1 Cervid

TABLE 10.15

Context 707
Distribution of Unidentified Specimens by Layer

Context	Large Mammal	Medium Mammal	Bird	Fish
707.02	14	13	3	5
707.03	10	341	90	11
707.04	21	228	32	
707.05	95	138	35	1
707.06	152	768	244	27
707.07	24	114	25	27
707.08*				
707.09	45	174	100	115
707.10	38	231	91	231
707.11	49	184	139	11
707.12	38	47	27	322
707.13		3		

TNB = 4260

* = Level disturbed by pothunters

TABLE 10.16

Context 707
Relative Quantities

Identified fauna	707 Percent	108 Percent
Domestic mammal	19.2	21.2
Bird	58.9	59.7
Fish	13.5	13.0

TABLE 10.17

Context 707
Relative Quantities

Unidentified fauna	707 Percent	108 Percent
Domestic mammal	64.1	65.7
Bird	18.5	24.7
Fish	17.4	9.6

TABLE 10.18

Context 108
Distribution of Identified Specimens by Layer
Relative Values/Percentages for Each Layer

	Sus scrofa Pig		*Bos taurus* Cow		*Ovis aries* Sheep		*Gallus gallus* Chicken		*Meleagris gallopavo* Turkey		*Anser anser* Goose		*Anas platyrhynchos* Duck		Fish	
Context	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
108.02																
108.03 (N=388)	83	21.4	13	3.4	5	1.3	211	54.4	28	7.2	10	2.6	5	1.3	33	8.5
108.04 (N=648)	67	10.3	42	6.5	24	3.7	350	54.0	44	6.8	8	1.2			113	17.4
108.05 (N=8)	2	25.4			2	25.0	1	12.5	1	12.5					2	25.0
108.06 (N=29)					7	24.1	21	72.4	1	3.5						

TABLE 10.19

Context 108
Distribution of Small Mammal Remains

Context	Rat	Cat
108.03	5	1
108.04	1	14
108.05		
108.06		46
	6	61

NISP = 296

Key: Rat = *Rattus rattus*
Cat = *Felis catus*

TABLE 10.20

Context 108
Distribution of Identified and Unidentified Fish Remains

Context	Cod/Codfish family	Bluefish	Bluefish Family	Unidentified Fish
108.03	29	4		20
108.04	99	7	7	90
108.05	2			2
	130	11	7	112

NISP = 148
TNB = 112

Key:

Cod = *Gadhus morhua*
Cod family = Gadidae
Bluefish = *Pomatomous saltatrix*
Bluefish family = Pomatomidae

TABLE 10.21

Context 108
Distribution of Identified Specimens by Layer

Context	Domestic Mammal	Bird	Small Mammal	Fish
108.02				
108.03	101	254	6	33
108.04	133	402	15	113
108.05	4	2		2
108.06	7	22	46	
	245	680	67	148

NISP = 1140

TABLE 10.22

Context 108
Distribution of Unidentified Specimens by Layer

Context	Large Mammal	Medium Mammal	Bird	Fish
108.02		2		
108.03	22	227	145	20
108.04	69	406	144	90
108.05	3	18		2
108.06	3	35		
	97	670	289	112

TNB = 1186

TABLE 10.23

Context 806
Numbers and Relative Percentages of Identified and Unidentified Faunal Remains

	Domestic Mammal	Percent	Bird	Percent	Fish	Percent	Small Mammal	Percent
Identified Specimen (N=954)	715	75.0	215	22.5	12	1.3	12	1.3
Unidentified Specimen (N=2437)	2329	95.6	71	2.9	37	1.5		

Total Number of Bones = 3391

TABLE 10.24
Context 806
Distribution of Identified Specimens by Layer
Relative Values/Percentages for Each Layer

	Sus scrofa Pig		*Bos taurus* Cow		*Ovis aries* Sheep		*Gallus gallus* Chicken		*Meleagris gallopavo* Turkey		Anser *anser* Goose		*Anas platyrhynchos* Duck		Fish	
Context	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
806.02 (N=31)	12	38.7	1	3.2	4	12.9	12	38.7			2	6.5				
806.03 (N=20)	11	55.0	3	15.0	3	15.0					1	5.0			2	10.0
806.04 (N=31)	27	87.1			3	9.7									1	3.2
806.05 (N=87)	32	36.8	19	21.8	16	18.4	12	13.8	1	1.2	1	1.2			6	6.9
806.06 (N=126)	10	7.9	35	27.8	40	31.8	28	22.2	12	9.5	1	0.8				
806.07 (N=125)	28	22.4	44	35.2	14	11.2	34	27.2	2	1.6	2	1.6			1	0.8
806.08 (N=289)	123	42.6	40	13.8	44	15.2	74	25.6	7	2.4	1	0.4				
806.09 (N=134)	55	41.1	29	21.6	25	18.7	23	17.2	2	1.5					2	1.5
806.10 (N=52)	18	34.6	17	32.7	17	32.7										
806.11 (N=45)	24	53.3	12	26.7	9	20.0	21	72.4								

TABLE 10.25

Context 806
Distribution of Small Mammal Remains

Context	Rat	Cat
806.03	1	
806.09		1
806.10	1	7
806.11	2	
Total	4	8

Key:
Rat = *Rattus rattus*
Cat = *Felis catus*

TABLE 10.26

Context 806
Distribution of Identified and Unidentified Fish Remains

Context	Cod	Cod Family
806.03	1	1
806.04	1	
806.05		6
806.06		
806.07		1
806.08		
806.09		2
Total	2	10

Key:
Cod = *Gadhus morhua*
Cod family = Gadidae

TABLE 10.27

Context 806
Distribution of Identified Specimens by Layer

Context	Domestic Mammal	Bird	Small Mammal	Fish
806.02	17	14	1	
806.03	17			2
806.04	30			1
806.05	67	14		6
806.06	85	41		
806.07	86	38		1
806.08	207	82		
806.09	109	25	1	2
806.10	52		8	
806.11	45		2	
Total	715	215	12	12

NISP = 954

TABLE 10.28

Context 806
Distribution of Unidentified Specimens by Layer

Context	Large Mammal	Medium Mammal	Bird	Fish
806.01		1		
806.02		93	7	1
806.03	1	40	7	
806.04	1	74	4	4
806.05	24	240	14	21
806.06	13	396	12	
806.07	45	296	8	
806.08	27	488	19	1
806.09	33	327		2
806.10	22	130		7
806.11		78		1
Total	166	2163	71	37

TNB = 2437

TABLE 10.29

Context 407
Distribution of Clam and Oyster Shell

Level	Clam Weight	Clam MNI	Oyster Weight	Oyster MNI
407.01	15.7	1	274.3	4
407.02	481.0	4	99.2	2
407.03	118.6	1	552.1	7
407.04	2.9	1	88.9	2
407.05	21.3	1		
		8		15

TABLE 10.30

Context 707
Distribution of Clam and Oyster Shell

Level	Clam Weight	Clam MNI	Oyster Weight	Oyster MNI
707.02	482.4	4	152.5	2
707.03	652.9	5	41.2	1
707.04	458.1	4	12.4	1
707.05	717.0	5	61.9	1
707.06	1131.2	8	185.8	3
707.07	61.1	1		
707.08	1417.9	10	45.8	1
707.09				
707.10	1316.7	9		
707.11	1518.8	11	35.0	1
707.12	289.2	2		
		59		10

Weights in grams

TABLE 10.31

Context 806
Distribution of Clam and Oyster Shell

Level	Clam Weight	Clam MNI	Oyster Weight	Oyster MNI
806.01	13.9	1		
806.02	26.8	1		
806.03	5.5	1		
806.04	49.0	1	(Traces of oyster	
806.05	38.7	1	shell included with	
806.06	3528.6	24	clam)	
806.07	1705.2	12		
806.08	3300.0	23		
806.09	2600.0	18		
806.10				
806.11	1100.0	8		
		85	(With a maximum of 5 more in the first 5 levels)	

(All Weights in Grams)

Context	800	Clam and oyster present
	801	Oyster present
	802	Oyster present
	803	Clam and oyster present

TABLE 10.32 PART 1

Other Contexts - Presence/Absence

Context	*Bos*	*Sus*	*Ovis*	Large Mammal	Medium Mammal	*Gallus*	*Meleagris*	Gadidae	Pisces	*Felis*	Aves	TNB
1.01					+							1
1.02				+								4
2.03		+				+						6
4.01	+										(*Columba*)	7
4.03					+							7
5.02			+								(*Anas*)	3
6.01					+							1
11.01					+						+	15
11.03		+										3
11.04						+						3
12.04		+	+									15
13.02	+				+							23
13.03					+							2
14.01	+				+							6
14.02	+		+									47
14.04					+	+						14
15.01					+							2
16.01						+						1
16.02					+	+						3
17.01		+				+						5
17.02					+							7
18.01			+									2
18.02					+							4
19.01					+							3
19.02					+							1
19.03					+							1
												139

TABLE 10.32 PART 2

Other Contexts - Presence/Absence

Context	*Bos*	*Sus*	*Ovis*	Large Mammal	Medium Mammal	*Gallus*	*Meleagris*	Gadidae	Pisces	*Felis*	Aves	TNB
21.01	+					+		+				26
21.02					+							1
21.03					+							1
21.04					+							5
22.02					+							1
22.03					+							2
23.03						+						39
24.01			+		+							5
25.01		+										1
28.01					+							1
30.01			+									1
30.02	+		+									8
31.01					+							2
32.01					+							1
32.03	+					+						3
41.02					+							1
44.01					+							2
44.02					+							2
45.03	+		+						+			9
46.03	+											15
46.04	+											22
47.01	+											4
50.01			+									1
51.01					+							7
51.03			+									1
56.02	+											1
												162

TABLE 10.32 PART 3

Other Contexts - Presence/Absence

Context	*Bos*	*Sus*	*Ovis*	Large Mammal	Medium Mammal	*Gallus*	*Meleagris*	Gadidae	Pisces	*Felis*	Aves	TNB
100		+				+						2
100.01			+									5
100.02												4
200	+	+										24
201	+											32
202	+											6
203	+	+	+								+	28
204						+				+		36
206	+		+									21
207			+			+						18
209			+									1
211.01		+									+	17
211.02			+		+							2
300	+		+			+						7
301			+			+						7
302	+	+	+				+					19
401	+	+			+	+						1
402	+									(*Canis*)		25
404			+			+						22
406	+											2
505.04*					+							3
705	+	+				+						21
701					+							22
702	+	+		+		+				(*Rattus*)		125
703												6
800	+				+							5
902	+				+							5
706					+							1
												467

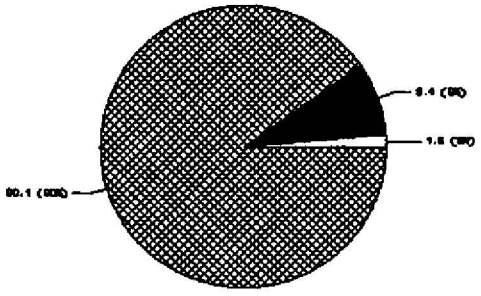
* = Dry-Well - 308 Bridge Street

Total Number of Bones (TNB) = 768

TABLE 10.33

Comparison of Household Consumption

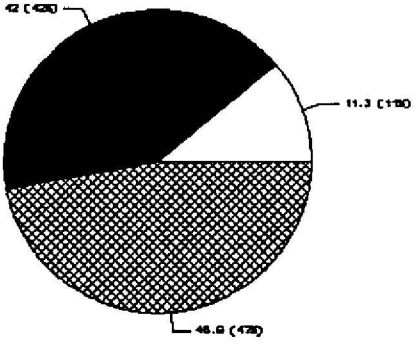
		59 Lawrence Street	104 Johnson Street	308 Bridge Street
Cow				
	Steak	84	52	8
	Roast	15	11	
	Soup/Stew	46	17	25
	Head		3	
	Hoof		3	
	Ribs	202	144	50
	Vertebrae	3	150	35
Deer				
	Roast		1	
Pig				
	Ham	51	14	
	Slice/Cutlet	84	15	17
	Head	9		
	Hock	3		
	Fore Feet	3		
Sheep				
	Roast	20	2	
	Slice	1	9	
	Shank	7	1	
Medium Mammal	Ribs	807	826	210
	Vertebrae	660	429	228
Chickens		19	155	45
Turkeys		5	31	2
Ducks		7	8	
Geese			9	1
Clam		90	59	8
Oyster		Trace	10	15
Fish				
	Cod	12	216	111
	Bluefish		385	103
	Other		4	10
	Unidentified	37	846	552



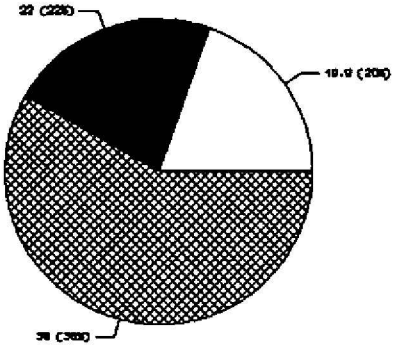
Kelly Household - 59 Lawrence Street

Crosshatching = Mammalia
Filled in area = Aves
Plain area = Pisces

Key



Coffin Household - 104 Johnson Street



Carr Household - 308 Bridge Street

Figure 10.1 Relative Percentage of Major Faunal Classes Represented

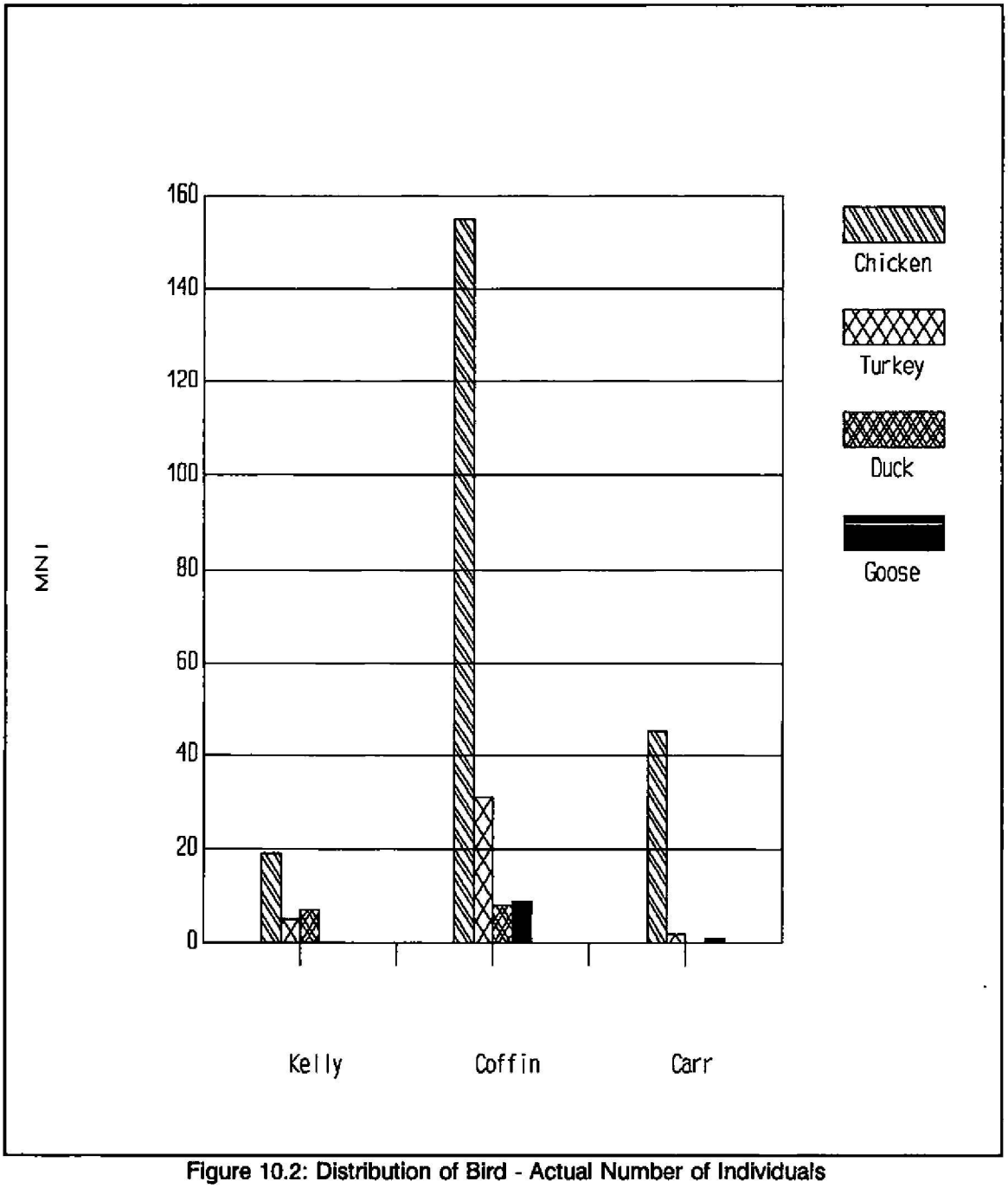


Figure 10.2: Distribution of Bird - Actual Number of Individuals

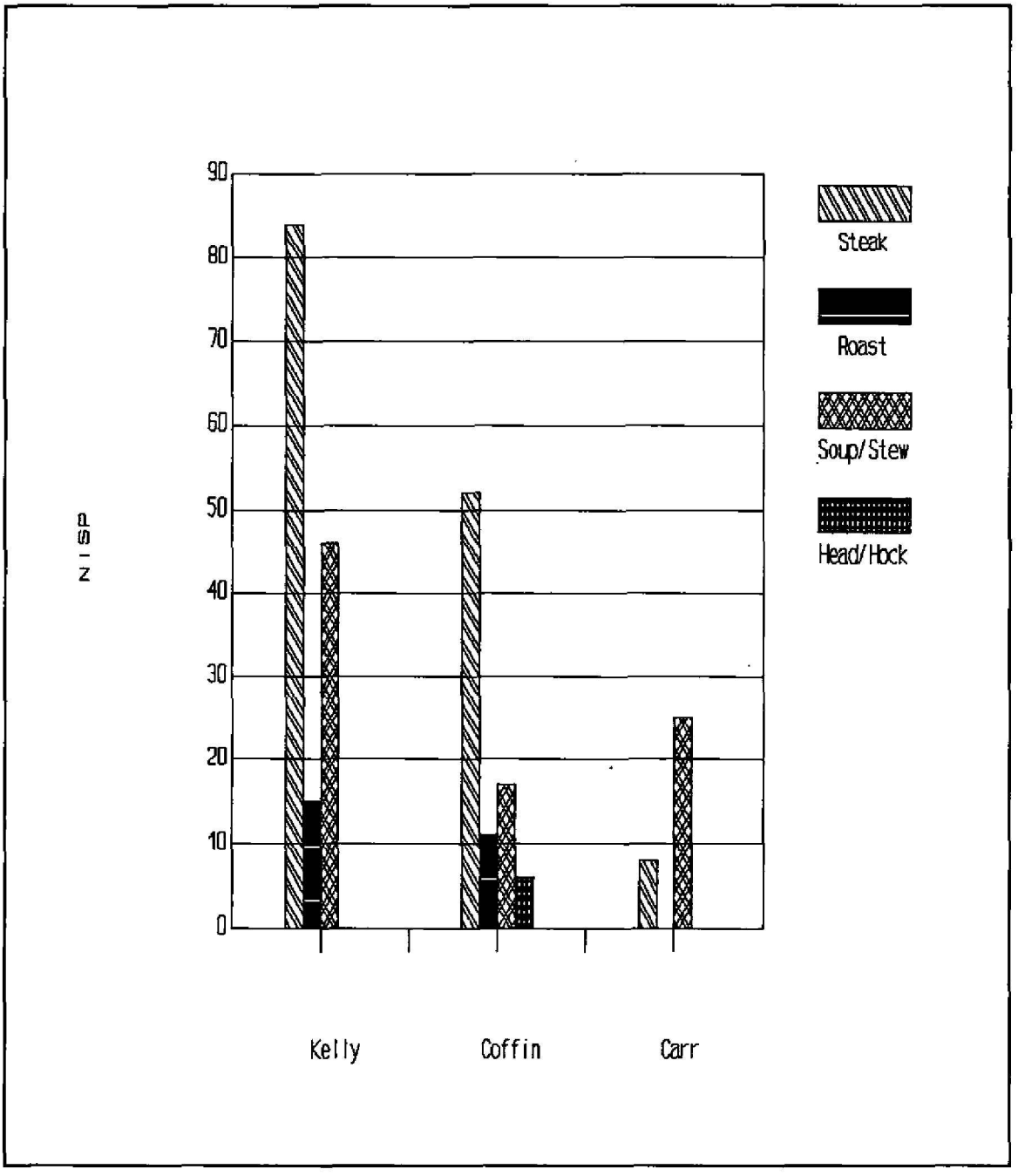


Figure 10.3A: Distribution of Cuts of Beef

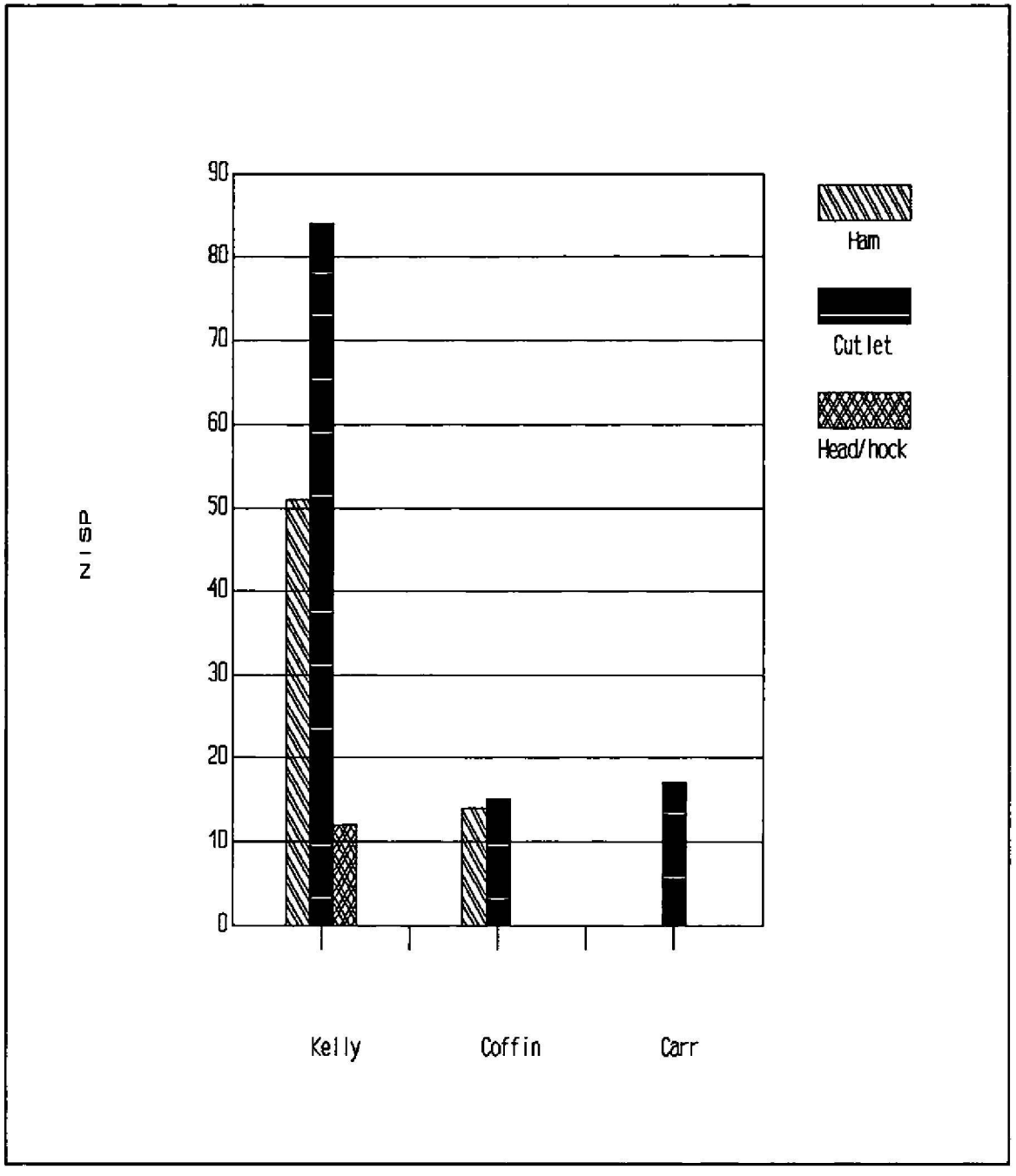


Figure 10.3B: Distribution of Cuts of Pig

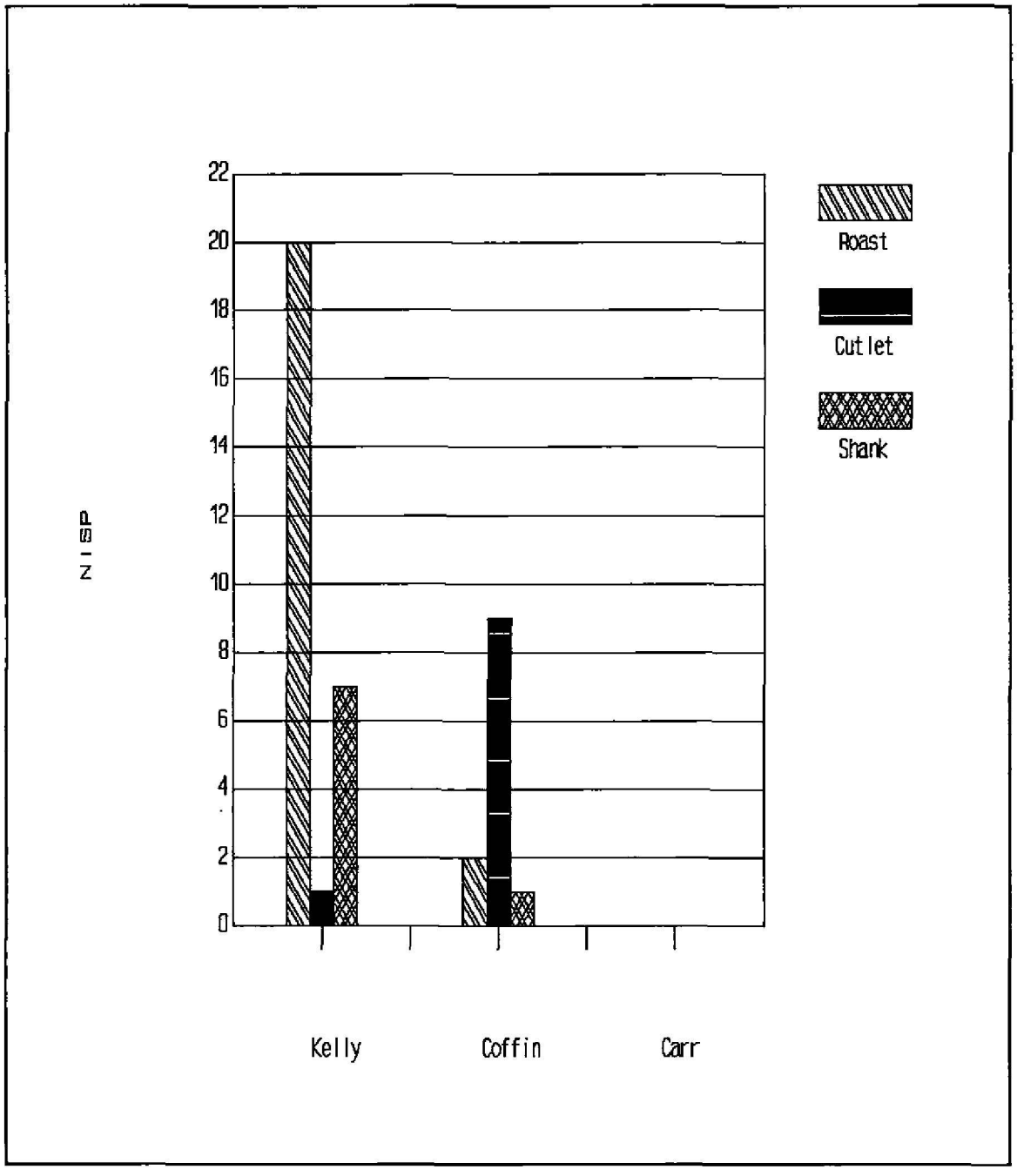


Figure 10.3C: Distribution of Cuts of Sheep

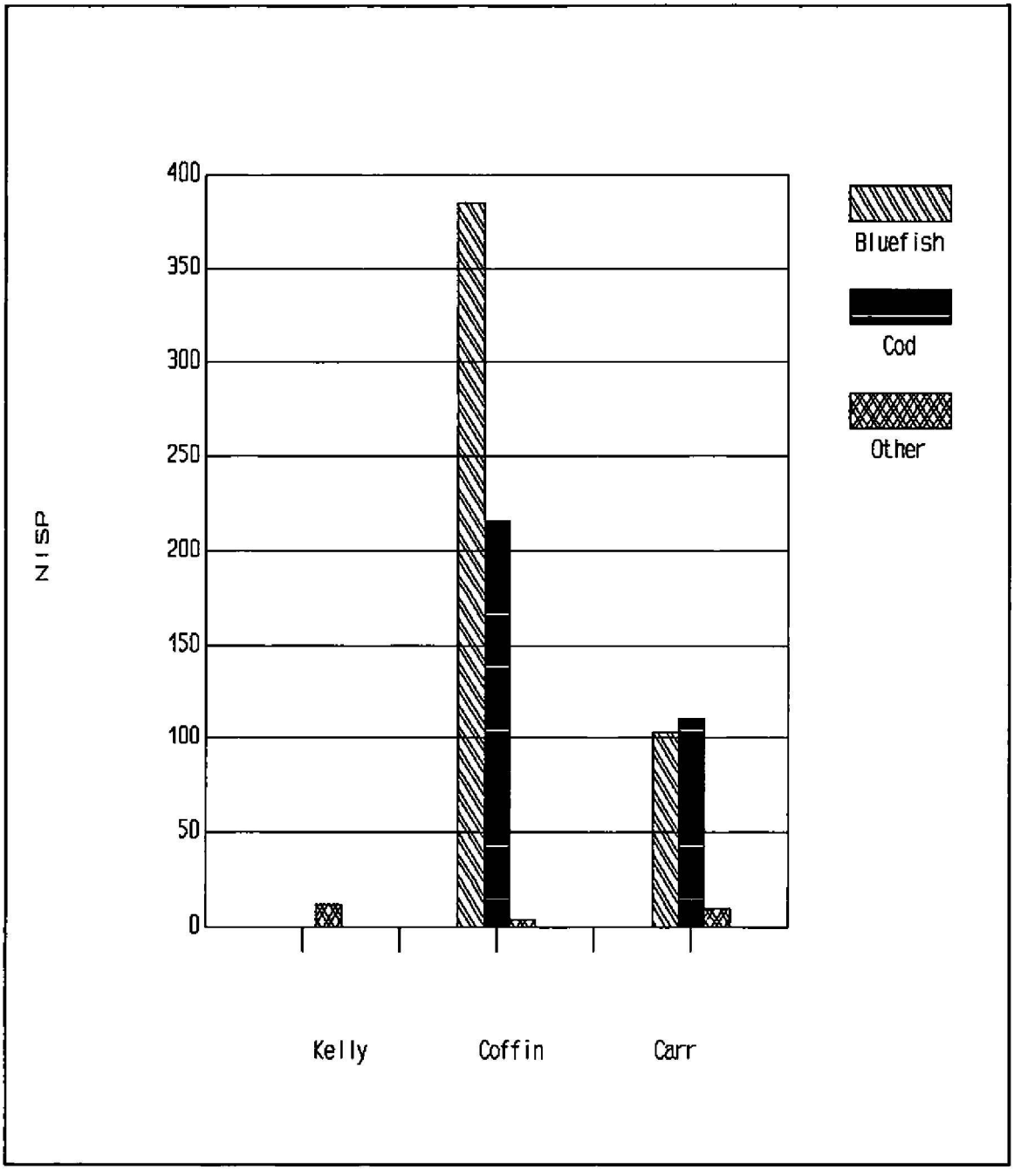


Figure 10.4: Distribution of Identified Fish Remains

CHAPTER 11: FLOTATION ANALYSIS

by
William Sandy

FLOTATION METHODOLOGY

Over the last twenty years, North American archaeologists have utilized a variety of flotation equipment and methodologies in order to expand the range of materials recovered from archaeological sites. For reviews of flotation techniques, the reader should consult Watson (1976), Cavallo (1980), Sandy (1985) or Pearsall (1989). Although some flotation techniques may appear rather complex, the principle behind flotation is quite simple. When soil is placed in water, the plant material it contains tends to float, and can be easily collected for later examination. In addition to collecting floating botanicals, many flotation systems also incorporate fine screens for the recovery of small artifacts and ecofacts.

The flotation equipment and processing methodology used on the MetroTech project was similar to that employed by the author at a variety of sites, including Gualojquito, Honduras; the Weasal Site (28 GL 123), Gloucester County, New Jersey; Alta Toquima Village, Nevada (Sandy 1985); Abbott Farm Area B, Mercer County, New Jersey; as well as on the Washington Street and 60 Wall Street projects in New York City (Sandy n.d.). These projects all utilized a refined version of a flotation system first described by Stuart Struever (1968), which Watson (1976) calls the Apple Creek or immersion technique. The basic equipment in these systems consists of a bucket or tub, the bottom of which has been replaced by a fine mesh (one-sixteenth of an inch or finer), and a very fine mesh dip net or strainer. In operation, the bucket is partially immersed in water, and soil is poured into it. When the bucket is agitated, the soil matrix falls through the screen, while the floral material generally floats or goes into suspension and is collected with the dip net. The recovered floating material, including seeds, is called the light fraction. The material remaining on the bucket screen when the sample has been fully processed can include small beads and other artifacts as well as faunal remains including fish scales, and is called the heavy fraction.

Since Struever's landmark article (1968), the immersion system has been modified and used by archaeologists throughout North America. In fact, there are nearly as many varieties of this system as there are projects on which it has been used. Struever's system uses large modified wash tubs, each with two operators. This system has been extensively utilized in the Midwest. Other variations use smaller modified buckets and require a single operator. Bucket flotation systems have the added advantage that they can be easily adapted for use in a laboratory (Watson 1974:107-108; Sandy n.d.). For the MetroTech project the flotation samples were processed in the lab with a trash can used as a water reservoir. A major problem with some flotation systems is that if the screening used in the dip net and/or bucket is too coarse, recovery rates can be very low (Sandy 1985:13-15; Wagner 1982). However, when very fine screening is used, acceptable rates can be achieved (Wagner 1982:129). The system used on the MetroTech project used a flotation bucket with a screen mesh smaller than one millimeter. In addition, the dip net is of a special type which has openings smaller than 0.5 millimeter.

In recent years the use of flotation has become a common practice on urban historic sites. It has been applied on a number of sites in Wilmington, Delaware, New York City and elsewhere in the Northeast (Soil Systems 1984; Holt 1989). The commercial availability of flotation equipment and its routine use in historic excavations promises to increase our knowledge of historic foodways. In addition the recovery of small artifacts and ecofacts will expand the range of materials recovered from these excavations.

SAMPLING METHODOLOGY

A total of five flotation samples from two features, Context 407 and Context 707 were processed using the flotation equipment and methods previously described. The samples each consisted of four liters of air dried matrix except for one (Context 707.11) which consisted of one liter of matrix. These two features were the only privies excavated at MetroTech in which the fill was undisturbed.

Analytical Methods and Results

Flotation processing results in the separation of a soil sample into two components or "fractions". The "light fraction" consists primarily of botanical material while the "heavy fraction" includes artifacts and faunal remains. The laboratory processing methodology and analysis results of each fraction will be presented separately.

Heavy Fraction

Following flotation processing, heavy fraction material was placed in open cardboard beer "flats" and air dried. This material was then sifted through one-quarter inch mesh hardware cloth. The material larger than one-quarter inch mesh was incorporated into the main artifact inventory (Appendix 1). The smaller material was then examined with the aid of a hand lens and binocular microscope. Diagnostic bones, fish scales, non-buoyant seeds and smaller artifacts were then removed. The aim of this work was to determine if the flotation heavy fraction contained faunal remains or artifacts of a type or types not recovered by the one-quarter inch screens used to sift the excavation matrix. The heavy fraction inventory is present in Table 11.1.

The heavy fraction inventory documents the recovery of a variety of small artifacts and ecofacts. Brass pins, beads, small bones and tiny fish scales were recovered from the features. While a few brass pins were found during excavation the flotation results show that they were numerous in both features. Of particular note was the recovery of 36 glass beads of a variety of types from Features 707. Since only a few beads were found during excavation, flotation substantially increased recovery of these interesting artifacts.

Flotation resulted in the recovery of a variety of small bones, including fish bones. In addition the recovery of fish scales was increased. They included a number of very small specimens. When combined with the faunal material recovered through screening the flotation specimens can result in a more accurate assessment of historic foodways at the site.

Since some seeds are not buoyant it is not surprising that not all floral material was recovered in the flotation light fractions. Many of the heavy fractions contained raspberry and grape seeds. In addition the heavy fraction of Context 707.12 contained violet seeds and an apple seed.

TABLE 11.1
MetroTech Heavy Fraction Inventory

Context		
407.08	2	charcoal fragments
407.04	53	bones
	1	snail
	5	fish scales
	1	wooden button fragment (4 hole)
	14	brass pins and fragments
		grape seeds
		raspberry seeds
707.09	5	brass pins and fragments
		raspberry seed
707.10	52	bones
	57	fish scales
	2	fabric fragments
	44	brass pins and fragments
	1	copper wire fragment with cloth insulation
	1	brass eyelet
	1	Brass garment hook
	1	5 mm columnar black glass bead
	1	3.5 mm black glass bead
	2	3 mm black glass bead
	1	3 mm white glass bead
	1	3 mm tan glass bead
	1	3 mm brown glass bead
	1	3 mm blue glass bead
	1	2.5 mm pink glass bead
	1	2.5 mm black glass bead
	1	2 mm tan glass bead
	1	2 mm blue glass bead
707.10 continued		
	1	2 mm blue with white striped glass bead
	1	2 mm white glass bead
	1	1.7 mm blue glass bead
	1	1.7 mm black glass bead
	1	1.5 mm blue glass bead
	1	1.7 mm aqua glass bead
	1	1.5 mm black glass bead
	1	1.5 mm maroon glass bead
	1	1.5 mm maroon glass bead fragments
	1	1.2 mm light green glass bead
	2	1.2 mm aqua glass beads
	1	1.0 mm pink glass bead
		grape seed
		raspberry seeds
		unidentified seed
		unidentified seed fragment
707.11	5	fish scales and fragments
	7	unidentified small animal excrement
707.12	1	snail shell
	44	bones and fragments
	27	fish scales
	8	brass pins and fragments
	1	4.5 mm hexagonal blue glass bead
	1	3 mm white glass bead
	1	2.5 mm blue glass bead
	2	2.5 mm brown glass beads
	1	1.7 mm tan glass bead
	1	1.0 mm light blue glass bead
	2	1.1 mm brown glass beads
	1	1.0 mm aqua glass bead
		grape seeds
		raspberry seeds
		violet seeds
		apple seed fragment

(Note: All material less than one-quarter inch)

Light Fraction

Each flotation fraction was initially sifted through one-sixteenth of an inch mesh window screening. The resulting larger sized material was then completely examined with the aid of a hand lens and binocular microscope. The finer material was then weighed and a percentage (between 10 and 100%) was examined with the binocular microscope.

Seed identifications were made with the aid of two books, *Seed Identification Manual* (Martin and Barkley 1961) and *Common Weeds of the United States* (United States Department of Agriculture [USDA] 1970), and a comparative collection. The results of the seed identification are presented in Table 11.2. Because of the tremendous quantity of seeds present in the samples, no attempt at quantification of the seeds was attempted. Instead seeds were listed as present (+) or present in large quantities (greater than twenty specimens).

The dominant seed type from MetroTech was indisputably those of the genus *Rubus*. This genus includes numerous varieties of raspberries, blackberries, salmonberries, thimbleberries and many others. Since neither the seeds nor the plants can be differentiated (Angier 1975:262), all these seeds will be called raspberries in this report. To present information on just how plentiful these seeds are an estimate was made for the number of seeds in one sample. Context 707.12 is estimated to have yielded over 10,000 seeds or more than 2,500 seeds per liter of soil. The predominance of raspberries seeds was not unexpected as they are commonly recovered in large quantity from wells and privies. Like the MetroTech project, raspberry seeds were the most numerous type recovered from excavations at 60 Wall Street, Manhattan (Sandy n.d.). Raspberries are woody plants that do well in relatively open, moist places. Berries generally ripen between June and September (Sandy 1985:143). While the recovered seeds could be result of the in-season consumption of fresh berries, it is equally possible that they could be from jams or preserves consumed at any time during the year.

Although they are macroscopic, grape (*Vitis*) seeds are small enough to pass unnoticed through artifact screens. Grape seeds were found in four of the five flotation samples. Grapevines thrive in moist, fertile soils and bear fruit from August to October (Sandy 1985:143).

Violet seeds (*Viola*) were recovered in quantity from all the Feature 707 samples. In addition to their use as an ornamental flower, the flowers of violet are edible. Violet seeds were also recovered from 60 Wall Street.

Purslane (*Portulaca oleracea*) is a small annual herb which is common in cultivated fields and waste places. It goes to seed from June into fall (Sandy 1985:142), and was present in both features. Both leaves and seeds are edible.

A few seeds of milkweed (*Asclepias syrica*) were recovered from Feature 707. The seeds of this perennial herb travel on the wind (USDA 1970:286) and this could account for their presence in the feature. The young seed pods are edible.

The seeds of nightshade (*Solanum*) were recovered from each feature. Raw nightshade seeds are poisonous to livestock, however, humans often eat them raw and use them in preserves and pies (USDA 1970:324).

A few seeds of lambsquarter (*Chenopodium*) were recovered from each feature. This annual herb grows in gardens and waste places and has seeds from June through October. The seeds are an excellent grain substitute or extender (Sandy 1985:135).

Pumpkins seeds (*Curcurbita* sp.) were found in two contexts in Feature 707. The uses of pumpkin as both livestock and human foods is well known. The seeds are a nutrious nut-like snack.

A few seeds of the following plants were also identified: an unidentified grass, mustard (*Brassica*), pokeweed (*Phytolacca*), smartweed (*Polygonum*) and apple (*Malus*). All of these have food uses.

In addition to the floral material, small bones and land snails were also found in the light fraction. Two samples contained *Cenococcum sclerotia*. These black ball-shaped objects range in size from less than a millimeter to more than five millimeters. The *sclerotia* are the resting stage of a fungi which grows in association with the roots of a large variety of deciduous and evergreen trees (McWeeney 1989). These *sclerotia* were recovered from a variety of prehistoric sites in the northeast and from the eighteenth century Raritan Landing Site in Piscataway, New Jersey (Sandy 1985; McWeeney 1989).

TABLE 11.2

MetroTech: Flotation Light Fraction
Context 407

	407.04	407.08	707.09	707.10	707.11	707.12
Asclepias syriaca (Milkweed)	+		+	+		+
Brassica nigra (mustard)	+					
Chenopodium sp. (Lamb's quarter)	+	+	+			+
Curcurbita sp. (pumpkin seed)				+		+
Graminacceae (Grass)			+			
Panicum sp. (Panicum)				++		
Phytolacca americana (Pokeweed)		+				
Polygonum amphibium (Smartweed)	+					
Portulaca oleracea (Purslane)		+	++	+		
Rubus sp. (Raspberry/blackberry)	++	++	++	++	++	++
Malus pumila (Apple)	+					
Solanun sp. (Nightshade)		+	++		+	+
Viola sp. (Violet)				++	++	++
Vitis sp. (Grape)	++			++		++
Bone	+					+
Fish Scales	+					
Snail	+					+
Unidentified seeds	4		2	1	1	2
Cenoccoccum sp. *sclerotia*		++	++			

Key: + = Present
++ = Number is less than 20
2 = Number of species

Miscellaneous Botanical Material

Though not recovered in the flotation samples, a list of botanical material recovered during excavation is included with this report (Table 11.3). It includes charred coffee beans from both features. It is likely that the beans were burned in the roasting process and discarded. Peach pits and pumpkin seeds were also found in a number of contexts. More grape, raspberry and violet seeds were also found, as was a single apple seed.

TABLE 11.3

MetroTech: Inventory of Miscellaneous Botanical Material

Context	
1.02	1 peach pit fragment
15.01	1 peach pit fragment
108.03	3 peach pits and fragments
407.04	7 peach pits and fragments
407.08	28 grams charred coffee beans
407.09	94 grams charred coffee beans
500.00	2 peach pits
707.09	2 peach pits
	2 pumpkin seeds
707.10	2 peanut shell fragments
	4 pumpkin seeds and fragments
	10 peach pits and fragments
707.11	8 pumpkin seeds
	1 peach pit
	2 coffee beans
707.11	From artifact washing
	grape seeds
	raspberry seeds
	violet seeds
707.12	6 coffee beans and fragments
	16 pumpkin seeds and fragments
707.12	From artifact washing
	grape seeds
	raspberry seeds
	violet seeds
	apple seed
	plum seed

SUMMARY

Five soil samples from two MetroTech features were subjected to water flotation using a specialized bucket and dip net flotation system developed by the author. The resulting light and heavy fractions were analyzed.

Flotation resulted in the recovery of numerous small bones and fish scales. This material, when added to the faunal inventory, gives a more accurate assessment of the faunal assemblage. Small artifacts of note included numerous brass pins and small glass beads.

Raspberry seeds were recovered in great quantities from all of the samples, indicating that they were a major part of the diet. It is interesting to note that they were also the most numerous seeds on the 60 Wall Street excavations. Grape seeds indicate another important foodstuff, as do the pumpkin seeds. Also of note were the numerous violet seeds recovered. Other interesting, though less common seeds from plants with food uses were found including: nightshade, lambsquarter, mustard, pokeweed, smartweed, purslane and apple.

A few seeds and seed fragments could not be readily identified. These specimens have been isolated for possible future studies.

It is clear from this project and others that flotation substantially increases the range of floral, faunal and artifactual material recovered from archaeological sites. Therefore it should become a standard procedure at future urban excavations.

Chapter 12: 317/319 Bridge Street and 59 Lawrence Street

by

Paula Crowley

317/319 Bridge Street

The artifact assemblage recovered from 317/319 Bridge Street consisted of 850 items. The initial stages of laboratory processing were the same as for the 1989 field season of MetroTech with the following exceptions. 1) Artifacts were fully identified and described. 2) Metal and architectural artifacts brought back to the lab were weighed and counted but not discarded. 3) Artifacts were inventoried and catalogued.

Excavation of Unit 10, 319 Bridge Street yielded a total of four pieces of ceramics, all tentatively identified as porcelain.

Excavation of Unit 11 yielded at total of 237 artifacts. The privy feature defined in Unit 11 contained 236 artifacts. Table 12-1 illustrates the classification breakdown of artifacts by context, group and class. Unit 13 yielded 605 items. A dry-well feature defined for Unit 13 (Contexts 1311.01-1311.03) contained 262 artifacts (see Table 12-2).

Due to the mixture of twentieth and nineteenth century artifacts, little effort was expended for analysis. Both Units 11 and 13 may have experienced deposition of materials during the 1850s. The circa 1850s date is offered on the basis of evidence for four products which were manufactured during that time period.

Unit 11 yielded two bottles for which products could be ascertained. **"DR. D. JAYNE'S/CARMINATIVE/BALSAM/PHILADA"** (Catalog #1990, Context 1106) was marketed between 1837 and 1948 (Fike 1987:25). The pale green vial possesses a pontil mark on its base and appears to be a product of a two-piece mold method of manufacturing. A second glass artifact, **"LUBIN/PARFUMEUR/PARIS"** (Catalog #1898, Context 1106.01), is a perfume bottle. According to McDougall (1990:71),

> Archival resources indicate that of all perfumes manufactured either in Europe or the Unites States, Lubin's was the most popular perfume sold on the American market during the early 1850s.

The clear vial is too fragmentary to yield information about its method of manufacturing.

Unit 13 can be linked to discard in the 1850s in a similar fashion. **"MURRAY & LANMAN/FLORIDA WATER/DRUGGISTS/NEW YORK"** (Catalog #2016, Context 1300.9) was marketed with this particular configuration of embossment between 1842 and 1858 (Fike 1987:244). David Lanman's partnership with Lindley Murray began in 1842 and ended in 1854. In 1858 Lanman began another partnership with George Kemp. The aqua bottle was manufactured in a two-piece mold with separate base part.

"REV. N.H. DOWN'/VEGETABLE/BALSAMIC/ELIXIR" (Catalog #2201, Context 1311.01) began to be marketed in 1830 (Fike 1987: 114, 63). This nineteenth century alcohol and opium concoction was touted as a cure for various forms of lung congestion. A revised formula was advertised as late as 1948. The aqua bottle is multi-sided with a patent lip.

Figure 12-1 illustrates that 44 percent of the artifacts from Excavation Unit 11 fall into the kitchen group. Architecture is the second largest group at thirty percent and activities/miscellaneous is third largest at nearly twenty percent. Figure 12-2 shows that the architecture group composes 39 percent of the artifacts recovered from Excavation Unit 13 while the size of the kitchen group is 36 percent. Due to the disturbance of the units, little information about activities conducted by nineteenth century inhabitants can be extracted from the data at this location.

TABLE 12-1: EXCAVATION UNITS 10 & 11 319 & 317 BRIDGE STREET

	1000.6	1100.3	1106.0	1106.01	1106.02	1106.03	1106.04	1108.0	TOTAL
Ceramics	4	--	--	49	1	1	2	--	53
Other dishware	--	--	--	--	--	--	--	--	--
Bottle/Container glass	--	--	--	10	4	--	21	2	37
Other container	--	--	--	--	--	--	--	--	--
Lid/Cap/Stopper	--	--	--	4	--	--	--	--	4
Stemware	--	--	--	2	--	--	--	--	2
Flatware	--	--	--	--	--	--	--	--	--
Tumbler	--	--	--	6	3	--	--	--	9
Tableware	--	--	--	2	--	--	--	--	2
Kitchenware	--	--	--	--	--	--	--	--	--
Floral/Faunal	--	--	--	2	--	--	--	--	2
Flat glass	--	1	--	2	11	--	41	--	55
Nails/Spikes	--	--	--	--	--	--	--	--	--
Door/window hardware	--	--	--	--	--	--	--	--	--
Construction material	--	--	--	--	4	3	6	--	13
Other structural	--	--	--	4	--	--	1	--	5
Furniture hardware	--	--	--	--	--	--	--	--	--
Lighting	--	--	--	--	--	--	--	--	--
Decorative	--	--	--	2	--	--	--	--	2
Arms	--	--	--	--	--	--	--	--	--
Apparel	--	--	--	--	--	--	1	--	1
Clothing ornamentation	--	--	--	--	--	--	--	--	--
Making/repair	--	--	--	--	--	--	--	--	--
Fasteners	--	--	--	--	--	--	1	--	1
Keys	--	--	--	--	--	--	--	--	--
Coins	--	--	--	--	--	--	--	--	--
Writing	--	--	1	--	--	--	--	--	1
Grooming/hygiene	--	--	1	2	--	--	--	--	3
Ornamentation	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--
Tobacco pipes	--	--	--	3	--	--	--	--	3
Construction tools	--	--	--	--	--	--	--	--	--
Toys	--	--	--	--	--	--	--	--	--
Fishing gear	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--
Storage	--	--	--	3	--	--	--	--	3
Stable/barn	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	--	--	--	1	--	--	3	--	4
Specialized activities	--	--	--	--	--	--	--	--	--
Housekeeping	--	--	--	--	--	--	--	--	--
Public services	--	--	--	2	--	--	--	--	2
Other	--	--	--	1	12	7	19	--	39
TOTAL	4	1	2	95	35	11	95	2	241

TABLE 12-2: EXCAVATION UNIT 13 317 BRIDGE STREET

	1300.9	1302.0	1306.0	1307.0	1308.0	1309.0	1310.0	1311.01	1311.02	1311.03	1312.0	1313.0	1314.0	1315.0	TOTAL
Ceramics	8	--	20	--	1	8	--	12	4	--	--	18	6	1	78
Other dishware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottle/Container glass	6	--	53	1	--	--	--	61	1	--	1	11	--	--	134
Other container	--	--	2	--	--	--	--	--	--	--	--	--	--	--	2
Lid/Cap/Stopper	1	--	2	--	--	--	--	--	--	--	--	--	--	--	3
Stemware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flatware	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1
Tumbler	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tableware	1	--	1	--	--	--	--	--	--	--	--	--	--	--	2
Kitchenware	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Floral/Faunal	--	--	3	--	1	1	--	2	1	--	--	1	4	--	13
Flat glass	2	--	29	18	1	3	--	79	12	--	2	21	4	--	171
Nails/Spikes	--	--	9	--	--	--	--	1	--	--	--	2	--	--	12
Door/window hardware	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1
Construction material	3	--	3	--	1	6	2	18	2	1	--	6	3	4	49
Other structural	--	--	3	--	--	--	--	1	--	--	--	1	--	--	5
Furniture hardware	--	--	2	--	--	--	--	--	--	--	--	--	--	--	2
Lighting	1	--	2	--	--	--	--	--	--	--	--	--	--	--	3
Decorative	--	--	6	1	--	--	--	3	--	--	--	1	--	--	11
Arms	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apparel	--	--	2	--	--	--	--	1	--	--	--	--	--	--	3
Clothing ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Making/repair	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fasteners	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1
Keys	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coins	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1
Writing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grooming/hygiene	13	--	1	--	--	--	--	12	--	--	--	--	--	--	26
Ornamentation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	1	--	--	--	--	--	--	1
Tobacco pipes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toys	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	--	--	9	4	1	--	--	13	--	2	--	2	3	--	34
Specialized activities	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Housekeeping	--	--	--	--	--	--	--	1	--	--	--	--	--	--	1
Public services	--	--	--	--	--	--	--	1	--	--	--	--	--	--	1
Other	--	--	2	--	--	3	--	29	2	2	--	1	4	6	49
TOTAL	35	1	153	24	5	21	2	235	22	5	3	64	24	11	605

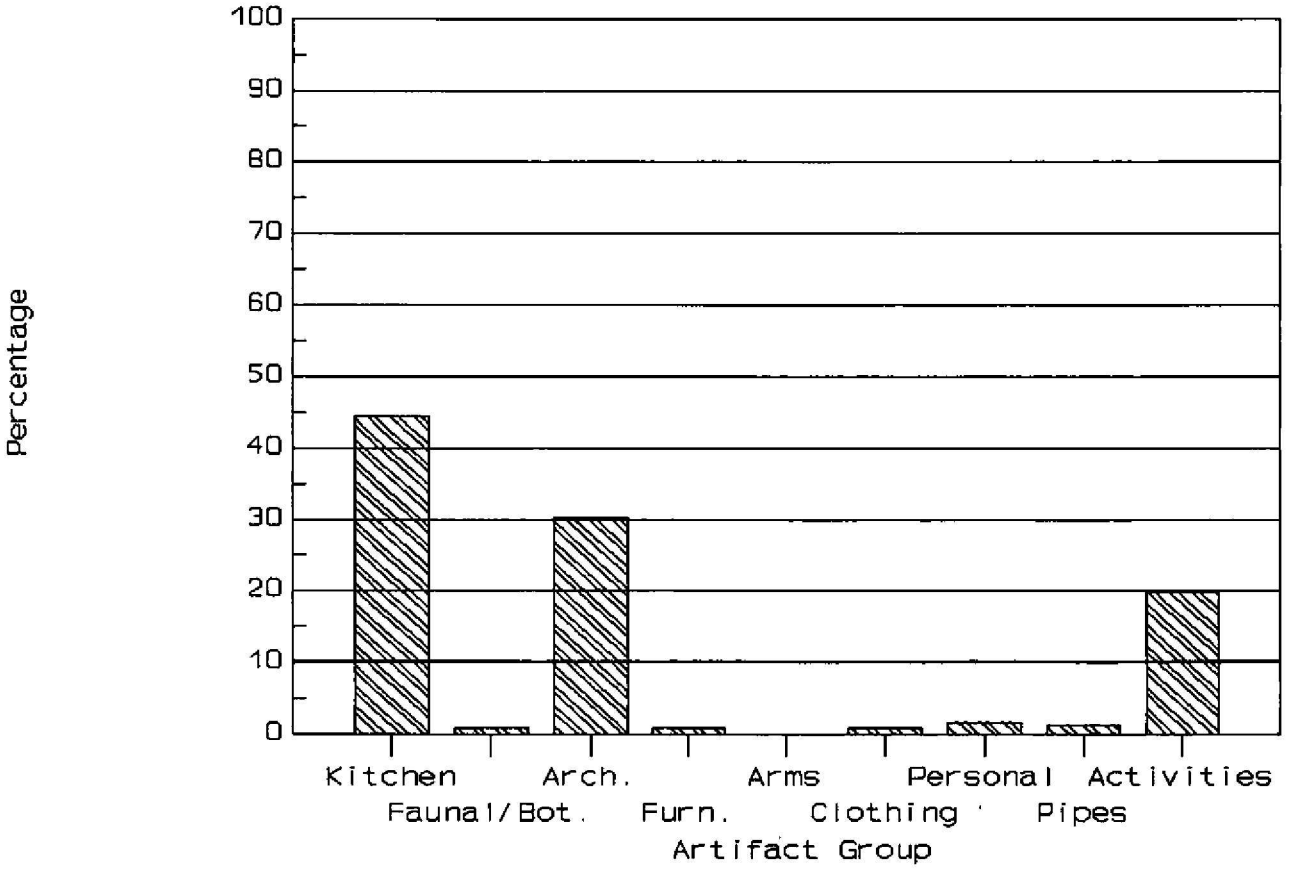


Figure 12-1: Excavation Unit 10, 11 319 & 317 Bridge Street

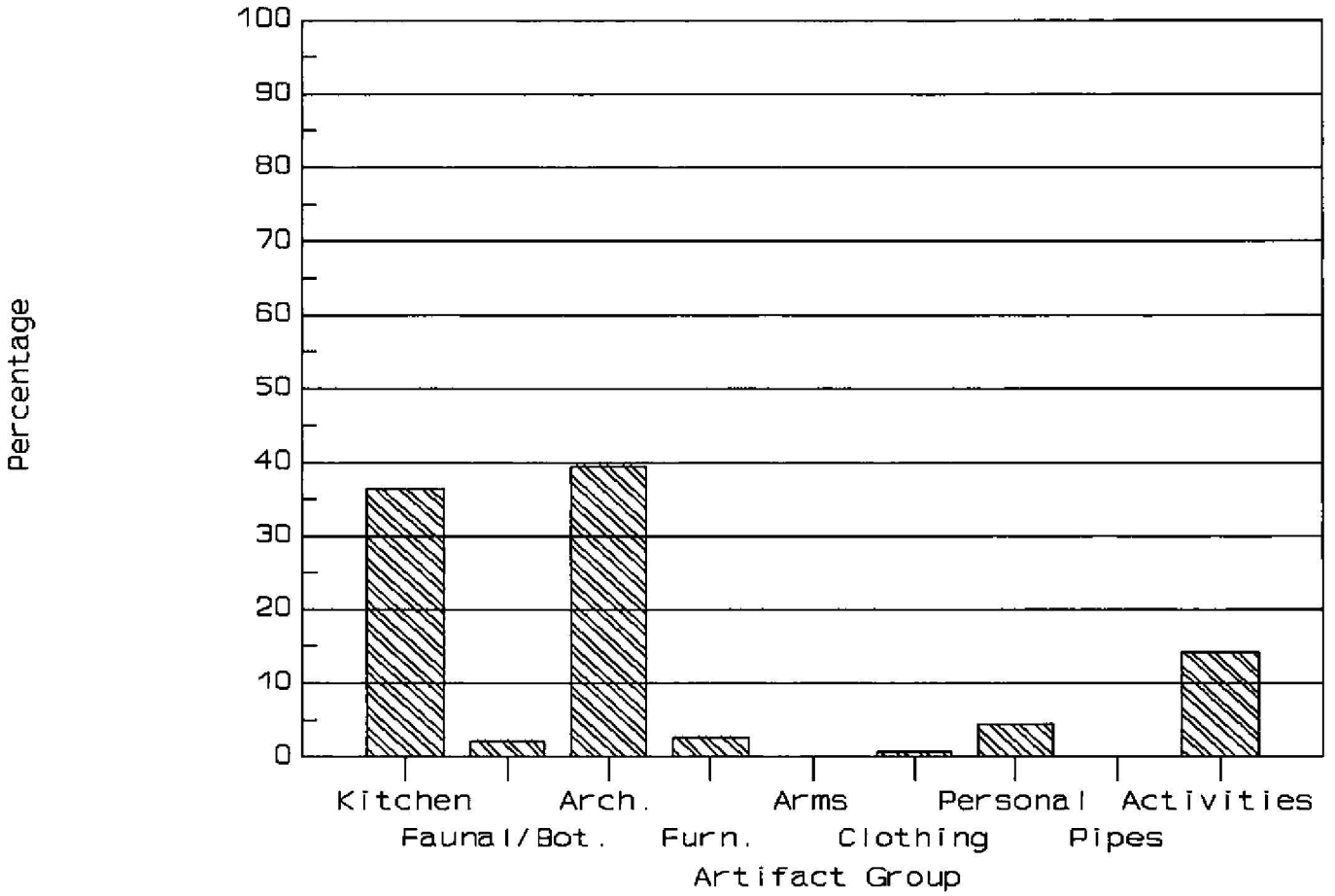


Figure 12-2: Excavation Unit 13 317 Bridge Street

59 Lawrence Street

The artifact assemblage from 59 Lawrence Street consists of a total of 10,730 items. Excavation Unit 8 yielded 10,476 artifacts while Unit 9 possessed 254 (see Table 12-3). The stages and procedures for laboratory processing were the same as for 317/319 Bridge Street.

Unit 9:
Since Unit 9 contains as small number of artifacts, it is discussed first. Unlike the other shovel tests and excavation units, the artifact concentration lies in the kitchen group while the architecture group is not represented at all (see Figure 12-3). The kitchen group comprises 88.5 percent of the assemblage while the faunal and furniture groups are the next largest groups at four percent each. The only other artifact categories represented in Unit 9 are the personal and activities groups. Even the groups outside of the kitchen category are partially composed of ceramics. The furniture group consists of ironstone chamber-pot sherds and red earthenware flowerpot sherds. The activities group contains miscellaneous remains of coal and slag, the result of undetermined activities. The personal group consists of an 1867 one cent coin and a complete, embossed medicine vial.

The ceramic component was identified as to ware, maker's mark and/or design. The assemblage is composed of porcelain, stoneware, yellow earthenware, red earthenware, whiteware, basaltware and ironstone. The single sherd of basaltware dates from 1750-1820 (South 1977:211). The yellow earthenware pie plate has a date range of 1860-1900 (Ketchum 1983:175). Various pieces of ironstone, identified through maker's marks and designs, have date ranges of 1826-1838 (Barber 1981:32), 1834-1848 (Coysh and Henrywood 1982:283), 1830-present (Kovel and Kovel 1986:14), 1879-present (Kovel and Kovel 1986:28), and 1893-1917 (Kovel and Kovel 1986:19). The ceramic assemblage consists of cups, saucers, bowls, a pie plate, plates, pitchers, a deep plate, an oval serving dish and a possible jar. The collection is a hodgepodge of tableware, serving vessels, storage or container vessels, spanning a wide range of time and a variety of wares. Some ceramics were parts of sets, such as Catalog #1707 and #1704, the ironstone souvenir mementos, or the "Canova" design, Catalog #1696, #1689, #1793, and #1782.

The container glass collection consisted of a few pieces of glass. The remains of a wine bottle and a complete beer bottle, "Theormeneys - Brooklyn," Catalog #1776, are evidence for use of alcoholic beverages by residents and/or their guests. A complete medicine vial, "**DR THOMPSON'S/EYE WATER/NEW LONDON/CONNT,**" was initially marketed in 1795. This product was advertised as late as 1941-42 (Fike 1987:245). The green colored vial has a flanged lip and a pontil mark on its base.

An assessment of the Unit 9 assemblage is that house cleaning occurred at the end of the nineteenth or beginning of the twentieth century. Since 221 of the 254 artifacts (87 percent) are ceramics, which for the most part can be defined functionally as part of the kitchen group, a suggested hypothesis would be a cupboard was cleaned or a box in a storage area was disposed. Although the ceramics covered a wide time range, they were mixed together in the unit, implying that Unit 9 was a single dump incident.

Unit 8:
Excavation Unit 8 consisted of 10,476 artifacts. Forty-three percent belong to the faunal/floral category (see Figure 12-4). The next largest concentration of artifacts resides in the architectural group at 21 percent and the kitchen group at eighteen percent. The various artifacts are discussed in terms of functional groups. The discussion focuses on several points: identification, dating and placement (functionally and spatially) within the contexts of a nineteenth century household.

Architecture Group
Nails, spikes, flat glass, mortar, marble and brick constitute evidence for structural remains being disposed at 59 Lawrence Street. Electrical wire, consisting of 446 pieces, along with 54 braces are evidence for electricity existing in the structure. The wire is found from Contexts 806.05 through 806.10. Other evidence for structural renovation/demolition consists of door and window hardware. Hinges, latches, a

TABLE 12-3: EXCAVATION UNITS 8 & 9 59 LAWRENCE STREET

	800.00	801.00	802.00	805.00	806.01	806.02	806.03	806.04	806.05	806.06	806.07	806.08	806.09	806.10	806.11	Total	900.00	901.00	902.00	Total	TOTAL
Ceramics	25	2	2	--	2	19	9	19	46	31	47	188	135	178	62	765	134	14	20	168	933
Other Dishware	--	--	--	--	--	--	--	1	2	--	--	--	--	--	1	4	--	--	--	--	4
Bottle/Container glass	2	--	--	--	5	23	30	48	25	33	74	305	61	73	21	700	--	2	14	16	716
Other container	--	--	--	--	1	33	29	96	103	4	23	40	14	17	--	360	1	--	--	1	361
Lid/Cap/Stopper	--	--	--	--	--	--	--	1	2	--	3	3	--	1	--	10	--	--	--	--	10
Stemware	--	--	--	--	--	--	--	--	--	2	2	4	--	--	--	8	--	--	--	--	8
Flatware	--	--	--	--	--	--	--	--	--	--	--	5	--	3	1	9	--	--	--	--	9
Tumbler	--	--	--	--	--	--	--	--	2	1	3	3	3	4	1	17	--	--	--	--	17
Tableware	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	2	--	--	--	--	2
Kitchenware	--	--	1	--	1	--	--	31	1	4	5	8	2	26	--	79	35	--	5	40	119
Floral/Faunal	13	2	--	--	4	143	80	140	412	649	530	1294	633	458	161	4519	--	2	9	11	4530
Flat glass	1	--	1	--	7	11	6	22	15	8	11	61	11	136	8	298	--	--	--	--	298
Nails/Spikes	1	--	--	--	17	385	134	445	185	40	63	83	19	7	4	1383	--	--	--	--	1383
Door/window hardware	--	--	--	--	--	2	--	--	--	4	5	6	--	11	1	29	--	--	--	--	29
Construction material	--	--	2	1	2	--	1	3	4	--	3	6	--	6	3	31	--	--	--	--	31
Other structural	--	--	--	--	--	--	--	--	213	--	5	29	--	255	--	502	--	--	--	--	502
Furniture hardware	--	--	--	--	--	--	--	5	1	27	7	34	47	24	2	147	10	--	--	10	157
Lighting	--	--	--	--	--	54	12	--	10	20	18	27	15	3	--	159	--	--	--	--	159
Decorative	2	--	1	--	3	47	7	35	23	4	18	47	5	6	11	209	2	--	--	2	211
Arms	--	--	--	--	--	--	--	1	--	--	--	1	--	--	--	2	--	--	--	--	2
Apparel	--	--	--	--	--	--	--	1	31	7	63	58	6	212	24	402	--	--	--	--	402
Clothing Ornamentation	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	1	--	--	--	--	1
Making/Repair	--	--	--	--	--	1	--	--	--	--	1	4	--	--	--	6	--	--	--	--	6
Fasteners	1	--	--	--	--	6	2	13	13	3	2	15	2	14	1	72	--	--	--	--	72
Keys	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	1	--	--	--	--	1
Coins	--	--	--	--	--	1	--	--	1	--	--	1	--	--	--	3	1	--	--	1	4
Writing	--	--	--	--	2	3	--	2	4	--	1	6	3	3	1	25	--	--	--	--	25
Grooming/hygiene	--	--	--	--	--	--	1	2	3	6	6	46	8	2	3	77	1	--	--	1	78
Ornamentation	--	--	--	--	--	--	2	2	1	--	1	1	--	--	--	7	--	--	--	--	7
Other	--	--	--	--	--	--	--	2	--	--	2	2	2	2	1	11	--	--	--	--	11
Tobacco pipes	1	1	--	--	--	3	6	8	19	15	5	36	9	11	13	127	--	--	--	--	127
Construction tools	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	1	--	--	--	--	1
Toys	2	--	--	--	--	--	--	2	5	1	1	4	1	1	--	17	--	--	--	--	17
Fishing gear	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Farm tools	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage	3	--	--	--	1	3	1	--	16	--	28	18	5	5	--	80	--	--	--	--	80
Stable/barn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous hardware	1	--	1	--	--	2	--	9	14	8	25	88	24	37	8	217	--	--	1	1	218
Specialized Activities	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Housekeeping	--	--	--	--	8	15	--	--	1	--	--	2	3	1	--	30	--	--	--	--	30
Public Services	--	--	--	--	--	1	1	--	--	--	1	--	--	23	4	30	--	--	--	--	30
Other	--	--	1	--	--	11	--	1	5	7	32	27	12	28	12	136	1	--	2	3	139
TOTAL	52	5	9	1	53	763	321	889	1157	875	985	2455	1020	1548	343	10,476	185	18	51	254	10,730

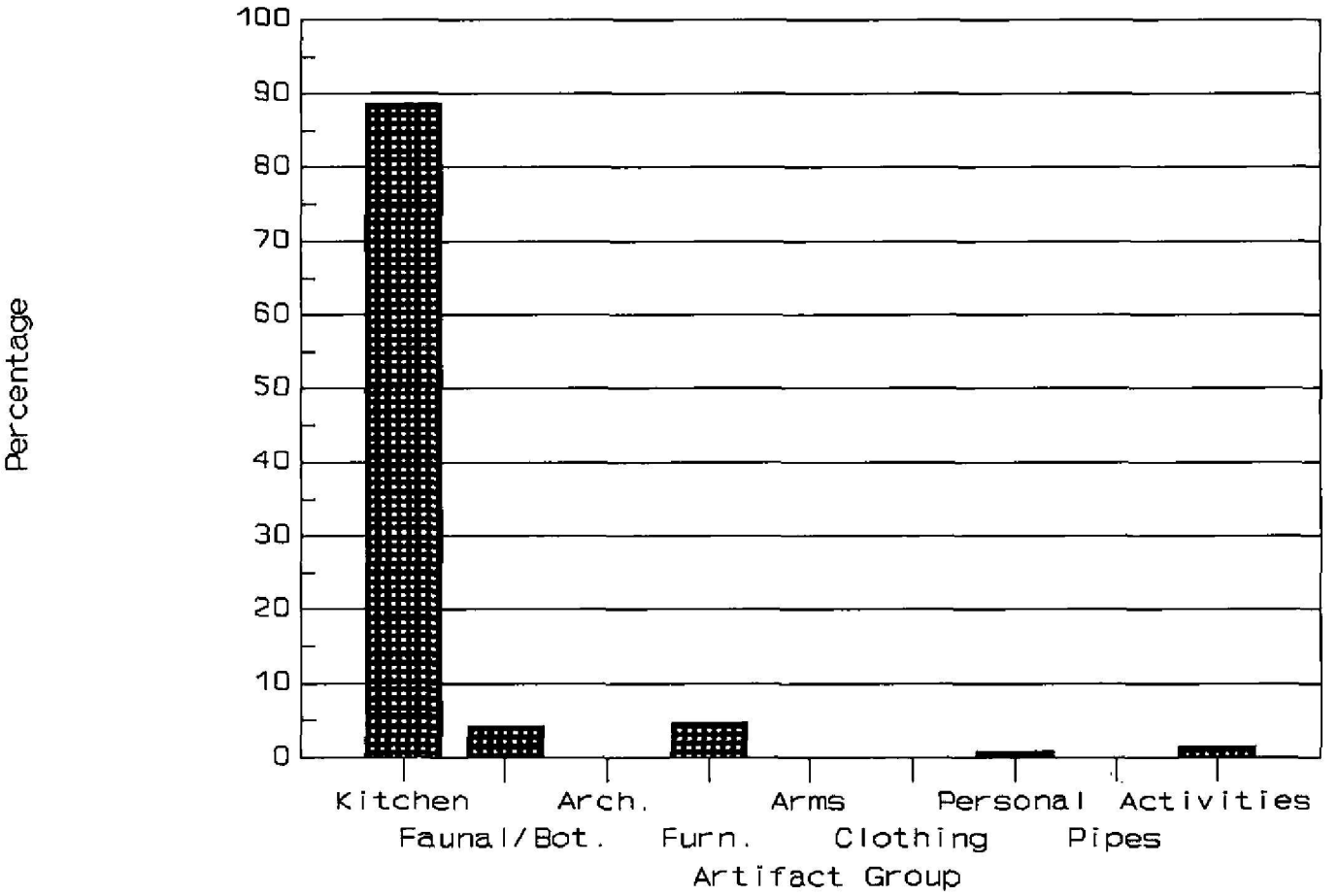


Figure 12-3: Excavation Unit 9 59 Lawrence Street

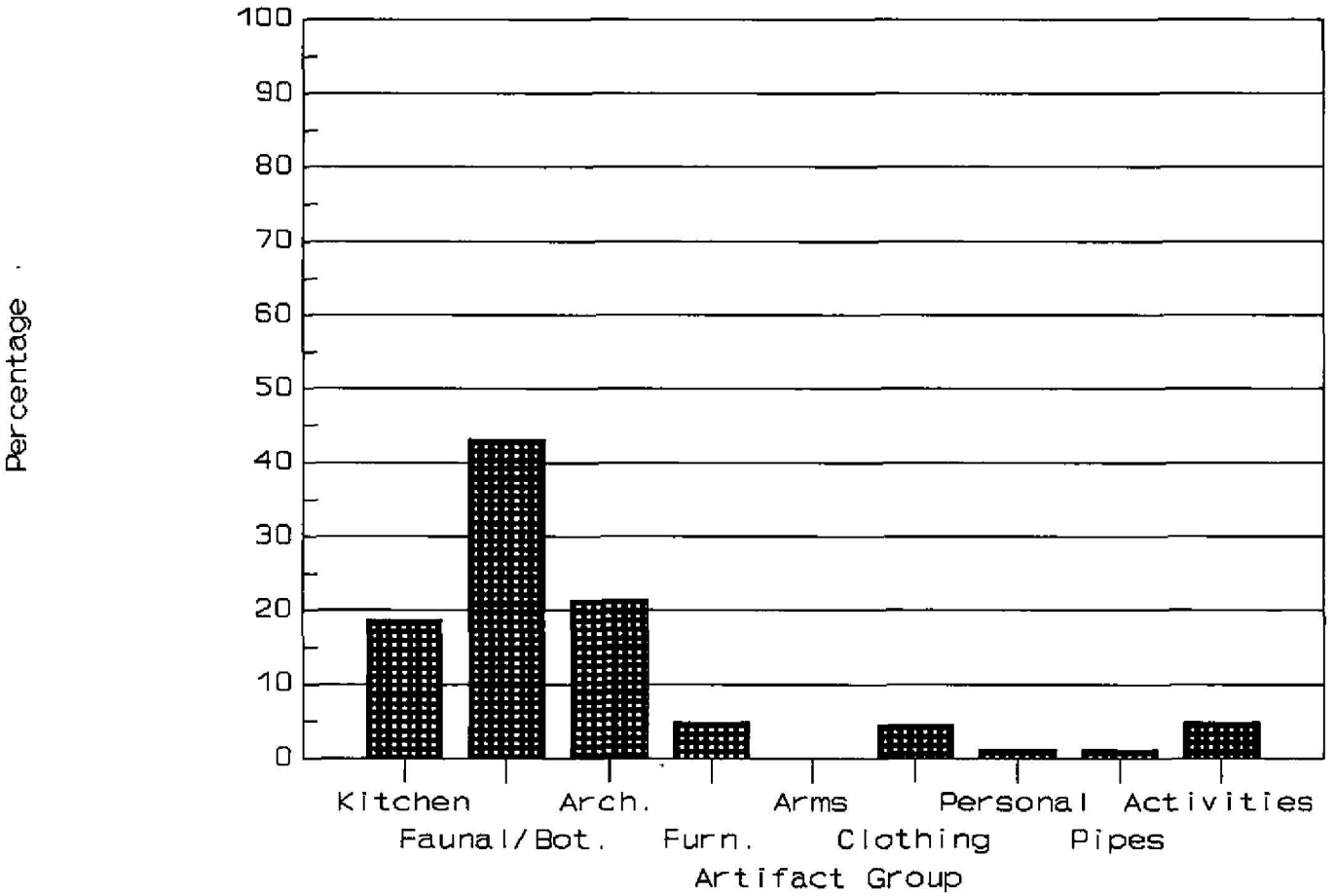


Figure 12-4: Excavation Unit 8 59 Lawrence Street

latch plate, a door stop, door chain fasteners and doorknobs, one with the back plate still attached, may be the result of one or more doors being removed from the structure's interior. Various pieces of wood, some charred, classified in the architecture or the miscellaneous activities group could be part of a door. A sash fastener anchor plate (Catalog #1250) and a sash socket (Catalog #1461) are evidence for window hardware being removed from a structure. The door and window hardware are made from brass, including doorknobs, latch plate, escutcheon, doorstop, latch, chain fastener and a possible door number. The door/window hardware remains are distributed from Contexts 806.07 to 806.11.

Activities Group

The activities group is composed of toys, storage containers, miscellaneous hardware, housekeeping, public services and "other" classes. Many of the miscellaneous hardware are artifacts which cannot be identified further, in terms of architecture, furniture, tools or other groups due to breakage and corrosion. The "other" class consists of coal and charcoal which cannot be related any further to an activity which generated their presence in the artifact assemblage. The public services class is composed of 33 pieces of stoneware drainpipe distributed from Contexts 806.02 to 806.11.

The housekeeping class is composed of laundry bluing bottles and broom bristles. Broom bristles were recovered from Contexts 806.08 and 806.10. The broom or brooms are made from grass. Bluing bottles are found in Contexts 806.01, 806.02 and 806.05. The three bottles from Contexts 806.01 and 806.02 are aqua embossed bottles from "**Wyckoff & Cos Union Bluing.**" The fourth bottle, from Context 806.05, has the remains of a paper label advertising itself as liquid bluing for use in the home by families or laundries. The first three bottles feature a downtooled lip, pontil mark on the base and were made in a two-piece mold. The paper label bottle is aqua with a patent lip and was made in a multi-piece vertical mold.

Storage containers consist of stoneware bottles/jugs and barrel(s). Barrel hoops, staves and samples of barrel contents are distributed stratigraphically from Contexts 806.02 to 806.10. Catalog #619, 620 and 621 constitute the largest mass of barrel(s), with hoops, staves and some substance in the base holding the artifact together. Stoneware vessels range from Contexts 800.00 to 806.09, with crossmends. Examination of the 23 pieces of stoneware containers resulted in identification of two maker's marks. A grey salt-glazed rim sherd from Context 800.00, Catalog #1742, was marked "**T.G. BOONE & SONS, SANDS ST. BROOKLYN, NEW YORK.**" Boone and his sons were in business, at that address from 1842 to 1846 (Ketchum 1987:477). Ketchum (1987:70) describes the ware from this pottery as "nondescript" with "mediocre" decoration. In Context 806.09, a mendable, fairly complete stoneware jug, Catalog #1207, was recovered. The artifact has a grey salt-glazed exterior with a light brown slipped interior. The maker's mark is an impressed "**HERZOGTHUM NASSAU**" which is located under a lion enclosed by a circle. "**SELTERS**" surrounds the lion. A single applied handle completes the vessel. This type of container is discussed by Schulz et al. (1983:115-117). The Herzogthum bottle was one of four such types recovered from excavations at Old Sacramento. Stoneware jugs were used for bottling German mineral water. A starting date given by Schulz is 1827 (1983:115). The Nassau district in Prussia appears to have bottled mineral water in the nineteenth century much the same as Perrier is currently. Schulz reports that German selters water was exported to the United States by 1846 (1983:117).

The toy class consists of two glass marbles, porcelain miniatures, a pair of roller skates and porcelain doll parts. Whether the marbles were used in play activities or were part of a decorative furnishing is unknown. Eight pieces of porcelain represent the arms, legs, shoulder and body of a doll(s). Again, whether these artifacts were a toy, a memento, or decorative items on Victorian furniture is unknown. The porcelain miniatures, a cup, pitcher, vase, lid and teapot, do not necessarily mean that a play toy tea set is present. Potteries sold miniature ceramic sets as promotional advertisements for their regular ceramic products. The roller skates constitute the only valid "play" activity class present at 59 Lawrence Street. Catalog #49 from Context 806.07 and Catalog #755 from Context 806.08 are ferrous metal platforms in the shape of a shoe sole. Four hard rubber wheels are attached to each platform. The wheels are arranged in a single row. The arrangement of wheels is similar to the "latest" style in roller skates (roller blades).

The absence of any significant number of toys recovered is acceptable when consulting the census lists for this household. The 1860, 1870 and 1880 lists show that adults and elderly people composed the household.

Furniture Group

Furniture hardware, lighting devices and decorative furnishings are the classes of artifacts composing the furniture group. In decorative furnishings, 147 sherds belong to red earthenware flowerpots. Other decorative furnishings include three conch seashells, two broken porcelain figures, two broken whiteware figurines, two different pieces of broken molded glass, a possible incense burner lid, a brass picture frame with residues of a photograph or painting on the glass, an unbroken and a broken rectangle of glass which could have been used in picture frame. A carved bone peg, Catalog #1477, served an unknown function. A carved bone hook, Catalog #1476, exhibits a threaded end and possibly served as a decorative hook for cups. A notched ivory rod with a threaded cuplike end, Catalog #1304, served an unknown function, possibly as a handle to a piece of furniture. Three porcelain vases crossmend across several contexts. Two of the three vases constitute a set and are stamped with "171" on the base. A Chinese export porcelain jar crossmend across several contexts. A final decorative furnishing which crossmends, is an ironstone commemorative plate, Catalog #1572/1573. The plate has a raised alphabet around the rim and a black transfer-printed scene of a seated woman and kneeling girl. The inscription at the bottom reads: **"MOTHER AND DAUGHTER DEAR TO EACH. WITH A LOVE SURPASSING SPEECH."** The plate was made by the Elsmore and Forster pottery, Staffordshire, England, which has a manufacturing range of 1853-1881 (Coysh and Henrywood 1982:127).

The 59 Lawrence Street assemblage was rich in evidence for lighting devices. Sixty-six milk glass sherds, crossmending between Contexts 806.02 and 806.03, are the remains of a milk glass lampshade. A complete glass lamp globe, Catalog #510 was found in Context 806.07. This large object is more typical of outdoor rather than indoor lighting. Ferrous metal bands are at both ends of the globe, with one band being threaded.

At least eighty-one pieces of chimney glass are present in Excavation Unit 8. Glass sherds are classified as chimney glass due to thinness of glass, rims, or are complete enough to be identified as lamp chimneys. More pieces, classified as container glass, may actually be part of lamp chimneys but are too fragmentary to be definitely classified as such. Catalog #295 mends to complete.

Wick raisers, burners, collars and burner covers constitute evidence for the metal part of kerosene lamps. Seven artifacts are classified for this component of lamps. Artifact #600, Context 806.06, is a complete unit of wick burner, raiser and collar. One wick raiser, Catalog #315, has a patent date of **"Mar 5 1862..."** etched on its wheel. A combination wick raiser and burner, Catalog #311, has a patent date of **"Jan 31 1860"** on its outer ring and **"Aug 1 1865"** on its inner ring. A wick is present in the base of this unit.

Artifact #1041 is a sturdy kitchen lamp. The thick-walled, colorless glass body is conical in shape with press-molded panels. The handle is missing from this artifact. A metal cap is still in place for the burner. Spillman (1983:292) says these lamps were manufactured in the Unites States between 1850 and 1880. This style of lamp did not normally use kerosene for fuel.

The last lighting device is part of a free-blown candlestick, Catalog #489, dating between 1830-1840 (Spillman 1983:271). The colorless glass stem is baluster-shaped with two horizontally ribbed knops. The artifact is missing its pressed glass base holder and its cylindrical socket.

Other furniture items found are 147 artifacts ranging from Contexts 806.04 to 806.11. Twenty-five ironstone sherds crossmend to form a chamberpot. Four rectangular sheets of muscovite may constitute the remnants of lamp chimneys, canopies or smoke shades, as advertised in the 1902 edition of the Sears catalog (1989:633-nos. 24R8882, 24R8887, 24R8888, 24R8889 and 24R8894). A variety of furniture is represented by a number of items, such as drawer pulls and handles, escutcheons, metal encasings,

casters, bed springs and decorations. Twenty-four bed springs were retrieved from Context 806.06. Eleven possible bed frame fragments were recovered from Contexts 806.06, 806.07 and 806.08. The artifacts are hollow iron tubes, coated with black enamel. Catalog #444 forms a matching pair with #578. The 1902 edition of Sears catalog illustrates and describes examples of iron frame beds (1989:763-64). The iron frames of advertised beds are coated in enamel. A heavy brass ornament, Catalog #1252, Context 806.10, may have served as a bed frame ornament. Many of the Sears' beds sport brass fixtures and ornaments, such as caps, vases, knobs, mounts, rosettes and tips.

Other evidence for furniture disposal or repair include drawer handles and escutcheons. Four brass and two iron escutcheons were identified, along with one brass escutcheon cover and one brass escutcheon with a cover. Only the iron escutcheons appear to match, while the brass appear to be from different pieces of furniture. Four iron and four brass drawer handles were found in Unit 8 along with a circular brass plate to a drawer handle and a cuprous back plate to a drawer pull. None of these objects appear to match, implying there were different pieces of furniture discarded or mismatching pieces were used to repair a piece of furniture.

Six casters were identified from Unit 8. Two casters were made from iron, two from brass, one of cuprous material and the last, possibly from hard rubber. As with the previous furniture objects, the casters do not appear to match. In Catalog #754 the wheel is attached to a circular ferrous metal platform. Catalog #756 has a brass wheel and screw with a ferrous metal attachment. Catalog #757 is a brass wheel and attachment. The brass part is attached to a square ferrous metal platform. Catalog #58 caster may be composed of a hard rubber wheel attached to a cylindrical block of wood discolored green due to a former cuprous band attachment. Catalog #773, 774, 1115, and 1116 are the culprits for the green discoloration. These metal bands once encased furniture legs. Catalog #773 and 774 are complete cuprous bands with two parallel lines incised at each end. Six other narrow cuprous band or tubes (Catalog #38, 75, 577, 1256, 1297 and 1464) encased wooden spindles, some of which still contain wood in the tube (#1256, 1297 and 577).

Clothing Group

The clothing group consisted of 481 artifacts in the apparel, clothing ornamentation, fasteners and making/repair classes. Fasteners consisted of buttons, buckles and strap adjusters. The 54 buttons recovered are made from milk glass, cuprous metal, mother-of-pearl, wood, ferrous metal and metal covered with fabric. Three buttons possessed evidence of embossing or etching. Catalog #336 is a complete circular button made from brass and glass. Letters circling the rim, under glass include "...**ATHE**...". A second complete button, Catalog #644, is made from brass. Etched on the back side, encircling the rim, is an inscription, "...**GOLD SURFACE...RICH...ANTED.**" This button was probable gold plated at one time. Catalog #685 is a complete circular button of brass. The front is embossed with two wings attached to an object. On the reverse side are two embossed circles of letters. The outer circle reads "**M.M. COLLIER COLLEGE GREEN DUBLIN.**" The inner circle says "**MAKER TO HIS MAJESTY.**" Above the shank, within the inner circle of letters is "**No**" and beneath the shank, "**II.**" This is the only confirmed Irish artifact recovered from a household full of Irish immigrants.

Seven buckles were found in Unit 8. They are composed of cuprous or ferrous metal. One ferrous metal buckle still has a leather strap attached while a cuprous metal buckle includes slides and rollers. Two buckles of unidentified material (Catalog #76 and 859, Contexts 806.06 and 806.08) both have two cuprous tacks embedded in them. One portion of a belt strap was also recovered in Unit 8 (Catalog #747, Context 806.08). Eight strap adjusters were also recovered ranging from Contexts 806.02, 806.05 and 806.10. Catalog #1237, Context 806.10, still has cloth attached to two strap adjusters. Such artifacts may have been part of the undergarment apparel of women, worn over the corset to hold up stockings. These types of suspenders were introduced in the 1870s (Ewing 1978:83).

A variety of cloth samples were part of the Unit 8 assemblage. Eighteen samples of felt, silk and unidentified fabric were found. The samples are not large enough to identify as to whether they were articles of

clothing, part of household furnishings, umbrella coverings, or the like. The preservation of material is excellent in many cases to render the stitching holes still visible. The function of the felt may have been as an insulator in boots or shoes.

Shoes represented the largest part of the clothing group at 383 fragments. The shoe parts consisted of uppers, counters, welts, heels, grommets, soles and eyelet rows. The size and shape of the soles indicated that these artifacts were once men's, women's and children's shoes. Preservation conditions allowed a glimpse at construction of mid- to late nineteenth century shoes. In Catalog #80, one shoe part sports a shoelace hook, with part of the shoelace still wrapped around it. The shoe part of Catalog #738 has felt sandwiched between leather. Catalog #1311 is an instep sole that exhibits the remains of fabric which cushioned the wearer's feet. In Catalog #1317, one eyelet row still has fabric attached to it. Shoe remains were distributed from Contexts 806.04 to 806.11. The style of shoe is peculiar to the mid-nineteenth century (Wilcox 1948:149, 150). The shoes are characterized by being long, narrow, square-toed, with wooden heels, and laced up.

Tobacco Pipes

One hundred twenty-five ball clay pipe fragments were recovered from Excavation Unit 8. One red earthenware bowl fragment was also found. The clay tobacco pipe collection is fairly homogenous. Fourteen of thirty pipe bowls are identifiable as Dutch manufacture. Thirty-two stem fragments exhibit "Peter Dorni" style motifs. Two pipe bowls (and possibly a third) are "T" "D" embossed. Three pipe bowls, and possibly, a fourth are Type I fluted. Unique pipe stems include Catalog #702, embossed with "...**LELY**" "**BROOK**" and Catalog #132/398 embossed with "**W. MASTERS.**"

Measurement of stem bores resulted in the following data:

4/64" = 14 stems
5/64" = 63 stems
6/64" = 7 stems

Using the Binford formula (Binford 1978:66) resulted in a date of 1743.74, a date inconsistent with pipe maker's marks and the rest of the 59 Lawrence Street collection, as well as with historical documentation.

The Type I fluted bowl (Catalog #174, 643, 1467 and 1096) is described by Alexander (1983:212-14). The lower part of the bowl is fluted while the upper section remains plain. Alexander states that this patterning of design on the bowl is characteristic of pipes manufactured in the United States. The flutes are characterized by alternating wide and narrow bands. Alexander (1983:213) notes that Type I bowls can either be spurred or unspurred. In the 59 Lawrence Street collection, #174 is a fragment, #643 and #1467 are unspurred while #1096 is spurred. The manufacturing date range for the style is 1825 to 1875.

The TD style pipes have been manufactured for at least 200 years (Alexander 1983:198). All three TD bowls from Excavation Unit 8 are spurred. The plain bowl most closely corresponds to Alexander's Type 8 TD pipe, which he dates to 1850-1875 (Alexander 1983:204, 202-Figure IIC).

The Dutch pipes are identified by means of the Peter Dorni stems and makers' marks embossed on the backs of bowls. As Walker (1983:32-33) and Alexander (1983:211) note, Peter Dorni was a French pipe manufacturer who developed a distinct motif for pipe stems. The pipe stem is circled by two rows of leaves at the start and finish of the embossment. Within the rings of leaves are approximately fourteen rings which encircle or partially encircle the stem. Inside the partial rings are cartouches on both sides. One cartouche is labeled "**PETER**", and the other "**DORNI.**" Walker and Alexander list ca. 1850 for the initial appearance of the Dorni style stem.

The popularity of the Dorni design during the third quarter of the nineteenth century is apparent due to evidence that this motif was copied by Dutch and Scotch manufacturers (Walker 1983:33; Alexander 1983:211). One such manufacturer was A. Sparnaay of Gouda, represented in the 59 Lawrence Street collection by Catalog #426 and 696. In the case of Sparnaay, he replaced the "PETER" "DORNI" car-

touches with his own: **"A. SPARNAAY", "IN GOUDA."** The rest of the Dorni motif remained the same. A. Sparnaay worked in Gouda in 1850. Other Sparnaays also manufactured pipes in Gouda in the late eighteenth and nineteenth centuries (Walker 1983:5, 29).

Twelve other Dutch bowls are in the Excavation Unit 8 collection, many of which have a "Dorni" stem. The "Crowned 51" mark (Catalog #422) is an impressed mark on the back of the bowl. The date range for manufacturing this pipe is 1835-1881 (Alexander 1983:211). Another impressed bowl mark is $I^{W}I$. The date range for this particular mark is 1850-1881 (Alexander 1983:211).

Walker (1983:16) lists prices for Scottish pipes from 1875 and 1900. The average wholesale price range in 1875 was 2s2d-2s8d, while in 1900, with the deteriorating market for clay pipes, the average price ranged lowered to 8d-9d for a gross of pipes. McDougall's (Glasgow) sold "Dorni" pipes at 2s4d a gross which was the middle of the average price range (Walker 1983:33-34). In 1900, McDougall's sold Dorni knockoffs between 8d to 9d for a gross which "...suggests Dorni pipes were considered ordinary products at that time" (Walker 1983:33). For "TD" pipes, 1900 price lists from four Glasgow manufacturers ranges from 8 1/4d to 9d a gross. However, the 1875 price list sells "TD" pipes at 2s2d-2s8d a gross, a value at the low end of the average price scale. Walker attributes the relative price increase for "TD" pipes from 1875 to 1900 to their increasing popularity during the last quarter of the century (1983:38-39). The price listing for pipes indicates that the residents of 59 Lawrence or their guests were purchasing an average priced pipe, about as middle of the road in price range as could possibly be bought.

While the pipe assemblage from 59 Lawrence Street is fairly homogeneous with a preference for pipes of Dutch manufacture from the mid-nineteenth century, it does exhibit three peculiarities. The first point is that at least nine bowls do not exhibit evidence of use. There is no evidence in the base of the bowl for smoking. These bowls may represent the remnants of a box of pipes, part of which were used and the rest discarded. The second point is that there are only four stems with the tips made into mouthpieces. Three of the four mouthpieces exhibit evidence for use. The third peculiarity is an Irish household without evidence for Irish pipes. In Paterson, New Jersey, a distinguishing feature of the Irish households were the remains of Irish tobacco pipes (DeCunzo 1987:290). Alexander (1986:69-75) documents Irish pipes from a number of sites in the United States. Irish pipes, made both in Ireland and the Unites States, featured Irish motifs, such as shamrocks, and current topics such as: "HOME RULE", "ERIN GO BRAGH", and "THE LAND LEAGUE". Such an absence from an Irish household may indicate a lack of interest in the political fervor gripping their mother country. The absence may also be due to the area of Ireland the members of the household originated from, or it may be due to the household's socioeconomic status. Another guess may be that non-Irish guests of the household used these pipes and discarded them at the site.

Kitchen Group

The kitchen group was the third largest category of artifacts recovered from Unit 8 at 1,954. Classes constituting the kitchen group include ceramic tableware, flatware, kitchenware, tumblers, stemware, bottle/container glass, other containers, and lid/caps/stoppers (to bottles). The kitchen group comprises artifacts which are used in the preparation, serving and storage of food. The group encompasses artifacts used directly in the house (i.e., kitchen) and those that were used in ancillary buildings, i.e., milk pans in dairies.

Flatware Class. Nine artifacts, representing eight utensils, were readily recognizable as flatware/cutlery. For the most part, handles to flatware survived while the working ends of utensils were either broken and lost during use or disintegrated after discard. Catalog #764, 807, 809, 812 and 819 came from Context 806.08. Catalog #807 consists of a table knife blade which is partially covered by pitch. Catalog #764 is a wooden handle sandwiching a ferrous metal strip. Catalog #809 is a handle to a piece of tableware. The handle is wooden with three nails still intact, which functioned to attach the wood to the metal core. Catalog #812 is a heavily corroded handle covered with an unidentified substance. The handle is spatulate in form. Catalog #819 is the handle to a table knife. The outer casing of the handle consists of wood.

Two layers of iron constitute the core of the instrument. A badly corroded metal band joins the handle to the beginning of the broken blade.

Catalog #1257 and 1303 were recovered from Context 806.10. Number 1257 consists of the upper and lower portion of a brass handle. The presence of cupping at the base of the handle makes it probable that the handle is to a large spoon. The handle widens at the top with the name "**W. CHANDLER**" embossed on the back. Two parallel line outline the shape of the handle on both the dorsal and ventral sides. Number 1303 is the bone handle to a piece of tableware. A rounded layer of bone sandwiches a ferrous metal core and is held in place by two nails. This handle snapped at the juncture with the working end of the tool.

Catalog #1475 from Context 806.11 consists of one layer of an ivory handle. Whether this artifact constituted part of a handle to a piece of tableware or a pocket knife cannot be determined based on its appearance. One side is smooth and discolored green by contact to cuprous metal. The outer side presents a corrugated or peanut-shell type appearance.

Kitchenware Class. The kitchenware class constituted 272 items from Unit 8. Preparation and serving vessels as well as carrying containers are examples of artifacts in the kitchenware class. Metal container fragments, probably buckets, and bails account for 196 of the artifacts. Two complete kettles, one stuck inside the other, were also found. A short, thick frying pan handle is another metal kitchenware artifact. Ceramic kitchenware include an ironstone pitcher, colored earthenware pie plates, an ironstone bowl, a yellow earthenware bowl, an earthenware batter bowl, a slipware pie plate and a slipware platter. The yellowware pie plate, Catalog #377, was generally manufactured between 1860 and 1900 in the United States (Ketchum 1983:175). Yellow earthenware baking dishes replaced red earthenware in popularity as the nineteenth century progressed. A rectangular slipware platter, Catalog #1371, was recovered from Context 806.10. This particular specimen has a coggled rim and trailed slip design, with a manufacturing range of 1800-1860 (Ketchum 1983:189). A second piece of slipware recovered from Context 806.10 was a pie plate inscribed, in slip, "**AMELIA**," (Catalog #1370). Wares inscribed with names or sayings may represent made-to-order gift items. The time frame for manufacturing this particular style of serving ware ranges between 1800-1870 (Ketchum 1983:169).

Tableware, Tumbler, and Stemware Classes. Thirty-one pieces of glass were identified as tableware, other dishware, stemware or tumblers. Twenty-three distinct vessels were defined, a number which was reduced to nineteen when crossmending occurred between contexts. Press-molded plates were found in Contexts 806.05 and 806.11. Various drinking glasses, mugs, tumblers, a shot glass, a salt cellar and stemware were found from Contexts 806.04 to 806.11.

Five artifacts were traced on the basis of their designs to particular peaks of popularity in the nineteenth century. A 6.9 cm tall cordial with a red painted exterior was found in Context 806.07 (Catalog #551). The artifact has a plain foot and stem with a pontil mark on the base. Spillman (1982:21) describes a red-stained, engraved goblet as being manufactured by the New England Glass Company, Cambridge, Massachusetts and by the Brooklyn Flint Glass Works, Brooklyn, New York between 1850 and 1870. Although the artifact recovered from Unit 8 is undecorated, it may have been part of the catalog of the Brooklyn firm. Due to the proximity of the Brooklyn firm to the site, the consumer may have purchased this item locally.

A second artifact is a glass cup, Catalog #1043, Context 806.08. The handle of the cup is broken but it possesses a six-sided pressed paneled body. The date range, based on the tumbler variant, is pictured and described in Spillman (1982:42) and McKearin and McKearin (1989:398; Plate 209:#17-20). This style of glassware was manufactured by many glasshouses between 1850 and 1880.

A third artifact, which can be dated, is Catalog #467, Context 806.06, a piece of stemware in the form of an eggcup. McKearin and McKearin (1989:395;Plate 208:#5) identify the "Pressed Gothic" design as being popular in the 1860s and 1870s.

The fourth and fifth artifacts, Catalog #1546/1547 and 993 are fashioned in the "Ribbed Ivy" design. Artifact #993 from Context 806.08 is a whiskey tumbler (McKearin and McKearin 1989:Plate 208:#14). The crossmending stemware from Contexts 806.06 and 806.08 is a probable eggcup. McKearin and McKearin (1989:395) describe the "Ribbed Ivy" design as one of "... the most popular patterns of the 1850's and early 1860's, ...". The five pressed glass tableware artifacts can be described as belonging to the third quarter of the nineteenth century.

Container Class. The container class includes eight miscellaneous pieces of ceramic, 159 pieces of cans and ten caps/lids/stoppers. The bulk of the collection is composed of glass containers (700). If glass exhibited curvature, but was too small to exhibit any other characteristics, it was diagnosed as "container glass." Any sherd with lips, bases, or other features of bottles were labeled as such. The bottles, classified as bottle/container glass from Unit 8 contained liquor or food. Identified medicinal products were assigned to Group 7: Personal, Hygiene Class.

Bottles can be described in terms of technology. As such, four datable manufacturing groups were delineated: Ricketts Mold, Phase I and II; two-piece molds; and two-piece vertical molds. Jones and Sullivan (1985:30) state that the Ricketts mold "... was used almost exclusively for dark green glass liquor bottles between ca. 1821 and ca. 1840." The wine or liquor bottle, Catalog #1044, from Context 806.08 is an example of this type of manufacturing. Glasshouses gradually tapered off in using this style of manufacturing for liquor bottles after 1840.

A second application of the Ricketts mold came into use after 1840. This style of manufacturing was popular for packaging toiletry supplies and medicinal products. An example of this bottle style is artifact #297 from Context 806.05. The range of time during the second phase of Ricketts mold use is the 1840s to 1920s (Jones and Sullivan 1983:30).

A third type of datable manufacturing style is the two-piece mold which is characterized by mold seams extending from beneath the finish, down the body of the bottle and across the base. While general manufacturing dates range from 1750 to 1880, Jones and Sullivan (1985:27) assign a date of 1810-1880 in the United States. This style of manufacturing was used for tableware, soft drinks and medicines. Catalog #483, Context 806.06 is an example of a two-piece mold bottle.

A fourth datable style of bottle manufacturing is the two-piece vertical mold with separate base part. Mold seams run from base to finish but not across the base. Jones and Sullivan (1985:280) date the technique ca. 1850-mid 1920s. The two- and multi-piece vertical molds gradually replaced the two-piece and Ricketts molds in the nineteenth century. As a result, like the previous mold types, two-piece vertical molds contained medicines and toiletry supplies. Catalog #627, Context 806.08 is an example of the fourth style of manufacturing.

Several bottles are datable on an individual basis. The most prominent is a dark olive-green demijohn, Catalog #1449, Context 806.10. The bottle is complete except for the lip and upper part of the neck. The object was probably blown in a dip mold. The body is globe-shaped and slightly flattened. The holding capacity is approximately 1 1/2 gallons. Spillman (1983:44) dates the manufacturing for demijohns between 1840 to 1880. McKearin and McKearin (1989:Plate 225:#3) feature the most representative example.

Two complete "**PHILADELPHIA XXX PORTER ALE**" bottles were recovered, Catalog #106, 487, Contexts 806.02 and 806.06. The short, sturdy artifacts are made from aquamarine glass, are mold-blown with a flat collar. These particular specimens are also embossed with "**R B & G BROOKLYN.**" Glass manufac-

turing houses, taverns, and breweries in the Northeast made these bottles for porter ale and beer between 1845 and 1875 (Spillman 1983:56).

Food bottles included mustard and honey containers. An aqua cathedral-style bottle with the remains of a paper label was recovered from Context 806.06, Catalog #1539. The label reads **"MOHAWK VALLEY HONEY"**. A similar bottle, without a paper label, was recovered from the same context, Catalog #491. Spillman (1983:79) assigns the cathedral-style bottle to being popular between 1840 and 1880.

Mustard bottles were found in Contexts 806.06, 806.07 and 806.08. Catalog #399, Context 806.06 has a fragmentary paper label reading **"... MOUTARDE ..."**. Five complete bottles, from Contexts 806.06 and three broken mustard bottles, from Contexts 806.07 and 806.08, have a barrel-shaped body with three molded rings at the base and top.

Catalog #1447, Context 806.10, is a complete green bottle made in a three-piece vertical mold embossed with **"Wm UNDERWOOD BOSTON"**. McDougall (1990:64-65) describes the Underwood Company as preserved food manufacturers. The company was established in 1822. Although 1846 marks the date when the company began to sell their meat products, such as Underwood Deviled Ham, in tins, they continued to use glass for "... sauces, mustard, cranberries without sugar, cranberry jam, spiced meats, and pie fruits ..." (McDougall 1990:65).

Ceramic tableware. Ceramic tableware from Unit 8 consists of porcelain, redware (red-bodied earthenware), buff earthenware, yellowware (yellow-bodied earthenware), whiteware and ironstone. Ceramic tableware consisted of 765 sherds, of which, some vessels are intact. Many other vessels mend to complete or nearly complete.

Porcelain constituted one percent of the ceramic tableware assemblage. Eight artifacts representing a minimum of four vessels were recovered from Unit 8. Identifiable vessels include two eggcups, a plate, and one demitasse cup. The small number of porcelain tableware pieces may be due to a number of factors or combination thereof. One explanation is the household could not afford porcelain. Due to the recovery of a number of decorative furnishings that are porcelain, including a Chinese export porcelain jar, this first explanation should be held in reserve. A second explanation is the household could afford porcelain but used it only for special occasions or they repaired broken vessels. However, this explanation sheds no light as to why complete porcelain decorative furnishings were disposed. A third explanation is that items in one room or section of the house were disposed. The third explanation does not account for disposal of the large quantities of ironstone or other ceramic wares.

Whiteware constituted 5.5 percent of the ceramic tableware assemblage. A total of 42 whiteware pieces representing a minimum of ten vessels were recovered from Unit 8. Vessel forms include two plates, a pitcher, a bowl, and one plate or saucer. Designs include transfer-print green, polychrome floral, hand-painted blue, transfer-print blue, paneled/scalloped, and molded. The pitcher, Catalog #625, has maker's mark, W. Davenport & Co., Longport, Staffordshire, England. This pottery was in business from 1793-1887 with this particular mark used between 1800 and 1860 (Kovel and Kovel 1986:2).

Sixty-three colored earthenware sherds were 8.2 percent of the ceramic tableware class. Thirty red-bodied earthenware sherds form a minimum of one vessel. One sherd of refined red-bodied earthenware was recovered yielding a vessel count of one. Two sherds of yellowware constitute a vessel count of one. Two buff earthenware sherds represent two vessels. Eight vessels were reconstructed from 27 yellow-bodied earthenware sherds, of which five vessels were Rockingham. Vessel forms include a porringer, a small pitcher, a coffeepot, a "Rebecca at the Well" teapot, and two lids. The Rockingham "Rebecca at the Well" teapot, Catalog #1081, has a manufacturing range of 1860-1900 (Ketchum 1983:138). The redware porringer, Catalog #1830/1548/1549 (crossmends), has a manufacturing range of 1750-1850 (Ketchum 1983:158).

Ironstone constituted 85 percent of the ceramic tableware assemblage. Vessel forms represented in the unit are: plates, platters, eggcups, saucers, deep saucers, a coffeepot, shallow bowls, pitchers, a teapot, lids, cups, bowls, serving dishes, a jar and a mug. A minimum of 94 vessels were identified. Patterns of decoration include transfer prints in blue, black, red, green and grey; plain ware, various molded decorations, handpainted polychromes, flow blue, molded wheat, and various annulars. A minimum of eighteen makers' marks were traced. These English (and one French) potteries were active in the second and third quarters of the nineteenth century. Included in the list are:

1) Henry Alcock & Co., Cobridge, Staffordshire, England
1861-1910 (Kovel and Kovel 1986:116);
2) John Alcock, Cobridge, Staffordshire, England
Mark #1: 1843-1874 (Healvilin 1981:45)
Mark #2: 1850-1875 (Healvilin 1981:45);
3) T & R Boote, Burslem, Staffordshire, England
1842-1964+ (Kovel and Kovel 1986:12);
Waterloo Pottery closed in 1906 (Coysh and Henrywood 1982:47);
Registry Marks: July 1, 1845 (Kovel 1953:viii)
September 1851 (Kovel 1953:viii);
4) Bridgwood & Clarke, Burslem, Staffordshire, England
1857-1864 (Kovel and Kovel 1986:195);
5) Edw. Challinor
1819-1880 (Healvilin 1981:51);
However, an Edward Challinor is listed for Tunstall, Staffordshire from 1842-1867, who started out as a partner in Wood & Challinor in 1828 (Coysh and Henrywood 1982:77).
There is another Edward Challinor working at Burslem who took over from Bathwell & Goodfellow, established in 1819 (Coysh and Henrywood 1989:52).
6) L.M. & Cie Leboeuf & Milliet, Creil, France (eggcup)
1841-1895 (for company), 1841-1863 (for mark) (Kovel and Kovel 1986:185);
7) Joseph Clementson, Shelton, Hanley, Staffordshire, England
1839-1864 (Coysh & Henrywood 1982:87, 217);
8) W. Davenport, Longport, Staffordshire, England
Maker's mark: 1800-1860
Registry mark of "Amoy" - 1844
Duration of pottery: 1793-1887 (Kovel and Kovel 1986:2);
9) James Edwards, Dale Hall, Burslem, Staffordshire, England
1842-1882 (Healvilin 1981:68);
10) Elsmore & Forster, Tunstall, Staffordshire, England
1853-1871 (Coysh 7 Henrywood 1982:127);
11) Holland & Green, Longton, Staffordshire, England
1853-1882 (Coysh & Henrywood 1982:178)
Registry mark: May 31, 1858 (Kovel and Kovel 1953:viii);
12) John Maddock, Burslem, Staffordshire, England
1855-present (Kovel and Kovel 1986:101);
13) C. Meigh & Son, hanley, Staffordshire, England
1851-1861 (Kovel and Kovel 1986:10);
14) J.W. Pankhurst, Hanley, Staffordshire, England
1850-1882 (Healvilin 1981:24);
15) E. Pearson, Cobridge
1846-1851 (Healvilin 1981:89);
16) John Ridgway, Bates & Co., Cauldon Place, Shelton, Hanley
1856-1859 (Kovel and Kovel 1986:263; Coysh and Henrywood 1982:302);
John Ridgway, Shelton, Hanley

1830-1855 (Coysh and Henrywood 1982:302);

17) Turner, Goddard & Co., Tunstall, Staffordshire, England
1867-1874 (Kovel and Kovel 1986:12);

18) J. Wedgwood, Hadderidge, Burslem, later Tunstall, Staffordshire. The potter's name was John Wedg Wood, not of the famous Wedgwood Pottery. The potter appeared to capitalize on this similarity. The question arises as to whether the consumer knew the difference and whether the prices were the same for Mr. Wood's pottery and Wedgwood.
1841-1860 (Kovel and Kovel 1986:59; Coysh and Henrywood 1982:408).

Although a formal ceramic analysis has not been completed, general trends can be noted about the ceramic assemblage. One feature is the overwhelming preponderance of ironstone vessels. A second feature is that the ironstone was imported from the Staffordshire potteries in England. A third feature is that sets were purchased. This aspect can be observed through multiple types of vessels having the same marker's mark or same pattern of design. Whether complete sets were purchased is unknown at this stage of investigation. In other words did the Kelly household buy a complete dinnerware set or did they purchase a tea service of one pattern, some tableware of a second pattern, then a third pattern of tableware. A fourth feature is that the serving, preparation and storage vessels are of local origin. Whether the same trends exist for the other households at MetroTech is a matter for future analysis.

Despite the large number of artifacts in the kitchen group, it is quite limited in the variety and scope of artifacts. The flatware are broken odds and ends discarded after breakage, but the class does not yield any real information about social and economic status. The range of forms for glassware is very limited at 31 sherds. What can be determined from this restricted range of information is that the Kelly household bought the most popular designs of pressed glass. When a ceramic analysis is completed, perhaps more information on ethnicity, class, and status can be extracted from the data.

Group 7: Personal

The personal group had 124 artifacts assigned to it. Keys, coins, writing instruments, hygiene, personal ornamentation and "other" are classes of artifacts identified in Unit 8. One complete brass key and three coins are present. Personal ornamentation consists of two beads, two broaches and three medallions. One medallion, Catalog #527 from Context 806.07, exhibits a cross on top with a horizontally barred "M" bordered by stars. The reverse side is inscribed "**... VERY ... WITHOUT ... 1830 ... PRAY FOR US WHO ...**". The miscellaneous "other" class consists of nine umbrella parts, including hard rubber ribs and center ring or hub holding the ribs. A crossmended ironstone crucifix is also part of the miscellaneous personal class.

Eighteen pieces of slate pencils and four ink bottles are part of the writing paraphernalia class. The ink containers are conical, eight-sided, aqua glass bottles with a manufacturing range between 1865-1900 (Spillman 1983:122). This particular style of bottle is known as "umbrella inks". Ink bottles are found in Contexts 806.02, 806.07, 806.09 and 806.10. Unlike the bottles in the upper contexts, Catalog #1165 (806.09) and #1354 (806.10) both exhibit pontil marks.

The grooming/hygiene class consists of three combs, a toothbrush, an ironstone toothpowder pot (Catalog #1086), an ironstone soapdish and three ironstone ointment jars. Most of the ceramics are complete or mend nearly complete. The toothpowder pot includes the name of the doctor and his address on the lid (Dr. S.A. Main, Dental Surgeon, 3...BON...ET,...NEW YORK, Sapo Tooth Powder An Impalpable Dentifrice). Several unembossed glass vials, which probably contained pharmaceutical or toiletry preparations and two possible perfume bottles are also part of the grooming class.

Twenty-two bottles, representing eleven products have information about the product embossed on them. **"BARTINE'S LOTION"** (Catalog #1025), advertised between 1845 and 1910, was a remedy for rheumatism, sprains and bruises (Fike 1987:139). The copyright for **"J.R. BURDSALL'S ARNICA LINIMENT"**

(Catalog #1163) was obtained in 1849. The product was advertised until 1923 (Fike 1987:133). Another external medication was "**BARRY'S TRICOPHEROUS FOR THE SKIN AND HAIR**" (Catalog #1167, 1444). The product was advertised as early as 1801 but Alexander Barry did not team up with the product until 1851. The solution was advertised as late as 1982 but changed hands to Barclay and Company in 1873 and later, Lanman and Kemp (Fike 1987:122). Toted as a hair restorative, products such as Barry's Tricopherous could remedy the social ostracism and loss of prestige caused by baldness. A nineteenth century advertisement reads:

> '...the loss of ...[the hair] changes the countenance, and prematurely brings on the appearance of old age, which causes many to recoil at being uncovered, and sometimes even shun society to avoid the jests and sneers of their acquaintance' (in Young 1961:181).

Another bottle advertising a medicinal product is "**UDOLPHO WOLFE'S AROMATIC SCHNAPPS**", Catalog #640. Wolfe introduced the product to New York City in 1848 and advertised it as late as July 12, 1913. Fike (1987:187) notes that Aromatic Schnapps may have been advertised as early as 1821. Fike described the product as a "... medicinal gin tonic, diuretic, antidyspeptic and invigorating cordial ..." (1987:187).

A bottle embossed "**HEGEMAN & CO/CHEMISTS/NEW YORK**" was found in Context 806.06, Catalog #484. William Hegeman had a long career in the pharmaceutical industry in New York City in the nineteenth century. Serving as an apprentice and later, a clerk, in Rushton & Aspinwall, then Rushton, Clark and Company, Hegeman became president of his own company, Hegeman and Clark, in 1862. The business operated to at least 1903 (Fike 1987:46). Although the rectangular aqua bottle with three recessed panels and a flanged lip yielded no information as to its contents, Hegeman sold a range of nineteenth pharmaceutical products including cod liver oil, Florida water and sarsaparilla.

Another bottle embossed with "**PINCHOT & BRUEN/DRUGGISTS/NEW YORK**", Catalog #636, requires more research in order to find information on its proprietors. The rectangular bottle with four recessed panels and a cylindrical ball neck yielded no information as to its contents.

Four complete cod liver oil bottles are part of the grooming/hygiene class. Two bottles, Catalog #300 and 492 are aqua, rectangular bodied bottles with three recessed panels, which are embossed "**J.C. RUSHTON'S/COD LIVER OIL/NEW YORK**". The other two bottles, Catalog #299 and 499 are aqua, rectangular bodied bottles with four recessed panels which are embossed "**~~F.V.~~/RUSHTON'S/COD LIVER OIL/NEW YORK**". Rushton's Cod Liver Oil was advertised from 1850 to at least 1879. Rushton was a large pharmaceutical operation in the nineteenth century, which underwent a number of partnerships, i.e., Aspinwall, Clark (Fike 1987:46). What particular configurations and time periods represented by "J.C. Rushton" as opposed to "~~F.V.~~/Rushton's" is unknown at this point.

Three bottles, Catalog #1045, 1151, and 1544/1545 are embossed "**HYATT'S/INFALLIBLE/LIFE BALSAM N.Y.**" The aqua rectangular-bodied bottle has three recessed embossed panels. The "Infallible Life Balsam" was the first of William Hyatt's life balsams, initially advertised in 1849 to 1935 (Fike 1987:25). The second, "Pulmonic Life Balsam" was initially advertised in 1857 and the third, "Double Strength Life Balsam" in 1864.

Catalog #1537 is embossed "**STANDARD DRESSING/SMBI X By & Co.**" The bottle has an aqua rectangular body. Partial remains of a paper label were deciphered as being directions for use of the contents. The label is in English on one side of the bottle and in German on the opposite side. The product and the manufacturer are unknown at this stage.

Five bottles embossed, "**MRS WINSLOW'S/SOOTHING SYRUP/CURTIS & PERKINS/PROPRIETORS**", Catalog #481, 482, 500, 549 and 1494 were retrieved from Contexts 806.06, 806.07 and 806.11. This narrow cylindrical vial, made in a multi-piece vertical mold, came with patent or round lips. Catalog #1494, Context 806.11 has a pontil mark on its base, unlike the other four bottles. The syrup was developed by a Mrs. Winslow in 1835 for treating teething babies. A son-in-law named Curtis was

responsible for distributing the product. In 1854 Curtis and Perkins relocated to New York City. The syrup was advertised as late as 1948. The partnership began to undergo revisions in 1860, later becoming the Anglo-American Drug Company in 1880 (Fike 1987:231). As syrup contained a narcotic (Young 1961:247) which was probably opium (1961:221). As such the medicine was addictive, explaining the presence of five bottles in Unit 8 and could cause death in the advent of an overdose. In an oblique reference to criticism of "soothing syrup" a late nineteenth century journalist named Adams accused the proprietary medicine makers as part of a '... shameful trade that stupefies helpless babies and makes criminals of our young men and harlots of our young women' (cited in Young 1961:122). Thus, for the nineteenth century, addiction began early in life and continued through adult life. The 59 Lawrence Street household censuses of 1860, 1870 and 1880 did not list any infants.

Two bottles are embossed **"R.R.R. RADWAY & CO NEW YORK/ACT OF CONGRESS/ENTd ACORd TO"**. Both are from Context 806.08. Catalog #637 was made in a two-piece vertical mold with a rounded lip and Perry Davis type finish. Catalog #652 was made in a multi-piece mold with a downtooled lip. Radway's Ready Relief (R.R.R.) was initially promoted in 1848. The particular configuration of embossment found on Unit 8 bottles appeared in 1877 (Fike 1987:75). Although the product was advertised as late as 1948, the configuration on the bottle changed in 1905. Radway's advertised the product as an "Anodyne Nervine and Pain Killer" (Fike 1987:75).

Patent medicines were expensive. Young (1961:103-104) cited large sums devoted to advertising in order to attract customers. In the last quarter of the nineteenth century,

> ...the messages of Scott's Emulsion and Lydia E. Pinkham's Vegetable Compound to the American people required the expenditure in behalf of each remedy of about $1,000,000 a year (Young 1961:104).

The costs of advertising and packaging were passed to the consumer in the nineteenth century, the same as the twentieth century. The variety of medicine and the number of containers recovered from Unit 8 indicate that the household was wealthy enough to afford purchasing them.

Summary of Unit 8 Artifact Assemblage

Several features are prominent about the Unit 8 artifacts. First is the tight fit of manufacturing dates across all groups and classes of artifacts, whether tobacco pipes, pharmaceuticals, ceramics or clothing. The third quarter of the nineteenth century is prominent in all categories. A second feature is the completeness of many artifacts. A large number of bottles were found unbroken. Some ceramics were also found intact, while many, more mended to complete or nearly complete. Crossmends occurred across most contexts in the unit. The crossmends, completeness of artifacts and tight clustering of manufacturing dates fits the profile of a one-time dumping incident. While a single incident dumping episode is often indicative of a household moving, the censuses indicate the continuity of the Kelly household.

The initial impression of the entire Unit 8 assemblage is that the artifacts furnished or were part of a person's room or suite within a household. If this was the case, the particular dumping episode may represent the death of a member of the household. The formidable number of identified medicine bottles, as well as Ricketts Type 2 mold, two-piece mold, and two-piece vertical mold with separate base bottles, indicates the presence of an ill person. LeeDecker et al. (1987:240) state that the "... use of medicines is greatest among families with children under six, and second highest among the elderly." While the 59 Lawrence Street household censuses of 1860, 1870 and 1880 did not list any infants, elderly people were present who may have been suffering from debilitating diseases and complications from addiction to various patent medicines. Inspection of the 1870 and 1880 censuses showed that Elizabeth Kelly (age 70 in 1870) disappeared during the decade. Based on the knowledge of a deed transfer in 1878 and the presence of Radway's Ready Relief medicine (starting date for particular embossment - 1877), it was hypothesized that Elizabeth Kelly died in 1877/1878. A perusal of obituaries in the Brooklyn Eagle revealed that Elizabeth died August 31, 1877. As the widow of Patrick Kelly, who died in the 1860s, that branch of the household ceased with Elizabeth's death. The death of the last survivor of a branch of the

household may explain why so many beautiful, complete objects were dumped, simply because they held no meaning, emotional or monetary, to other members of the Kelly household.