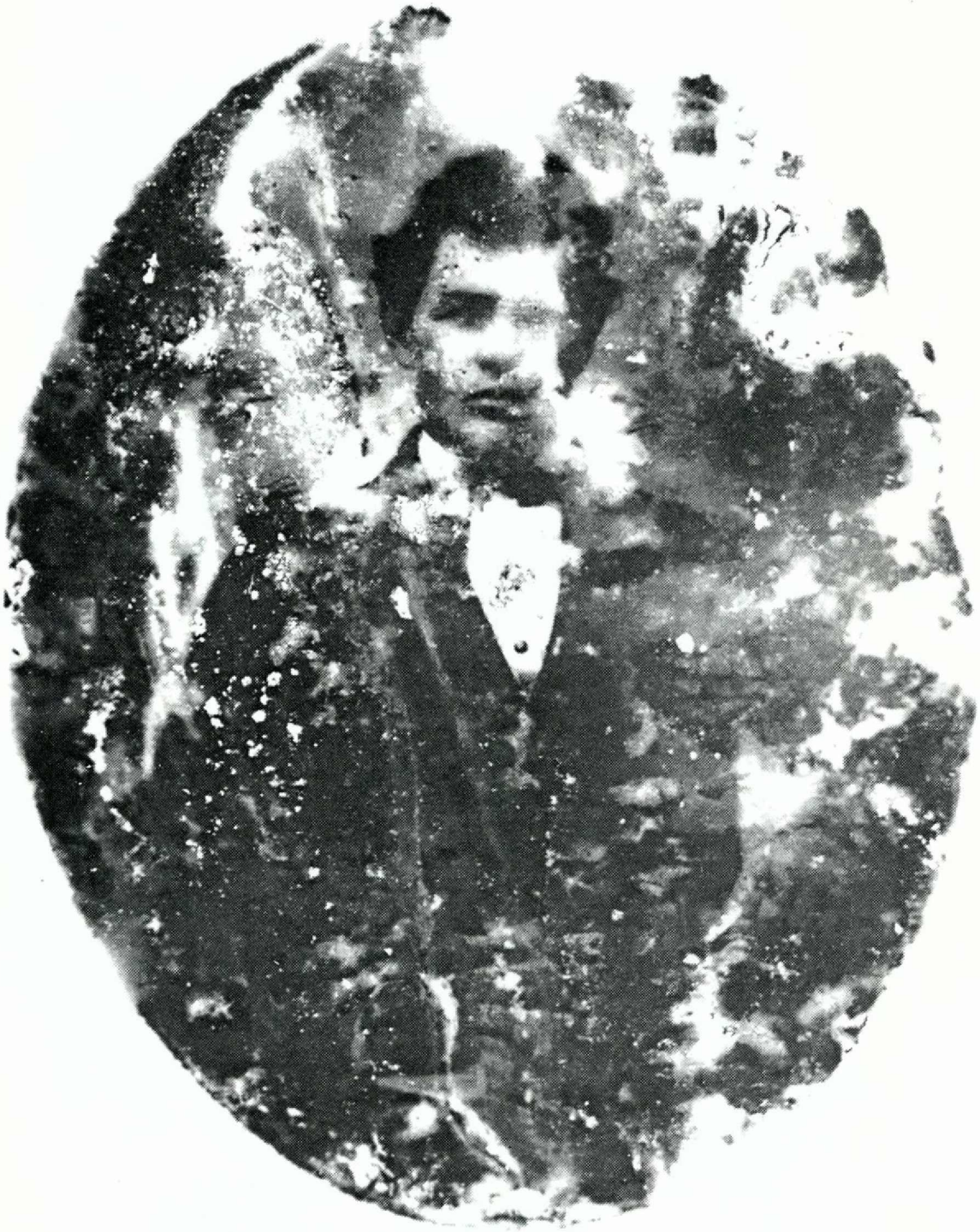
History and Archaeology of the Greenwich Mews Site

Greenwich Village, New York



Prepared for Greenwich Mews Associates
Prepared by Joan H. Geismar, Ph.D.
May 1989

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ACKNOWLEDGMENTS

Graphics: Kathe Gregory

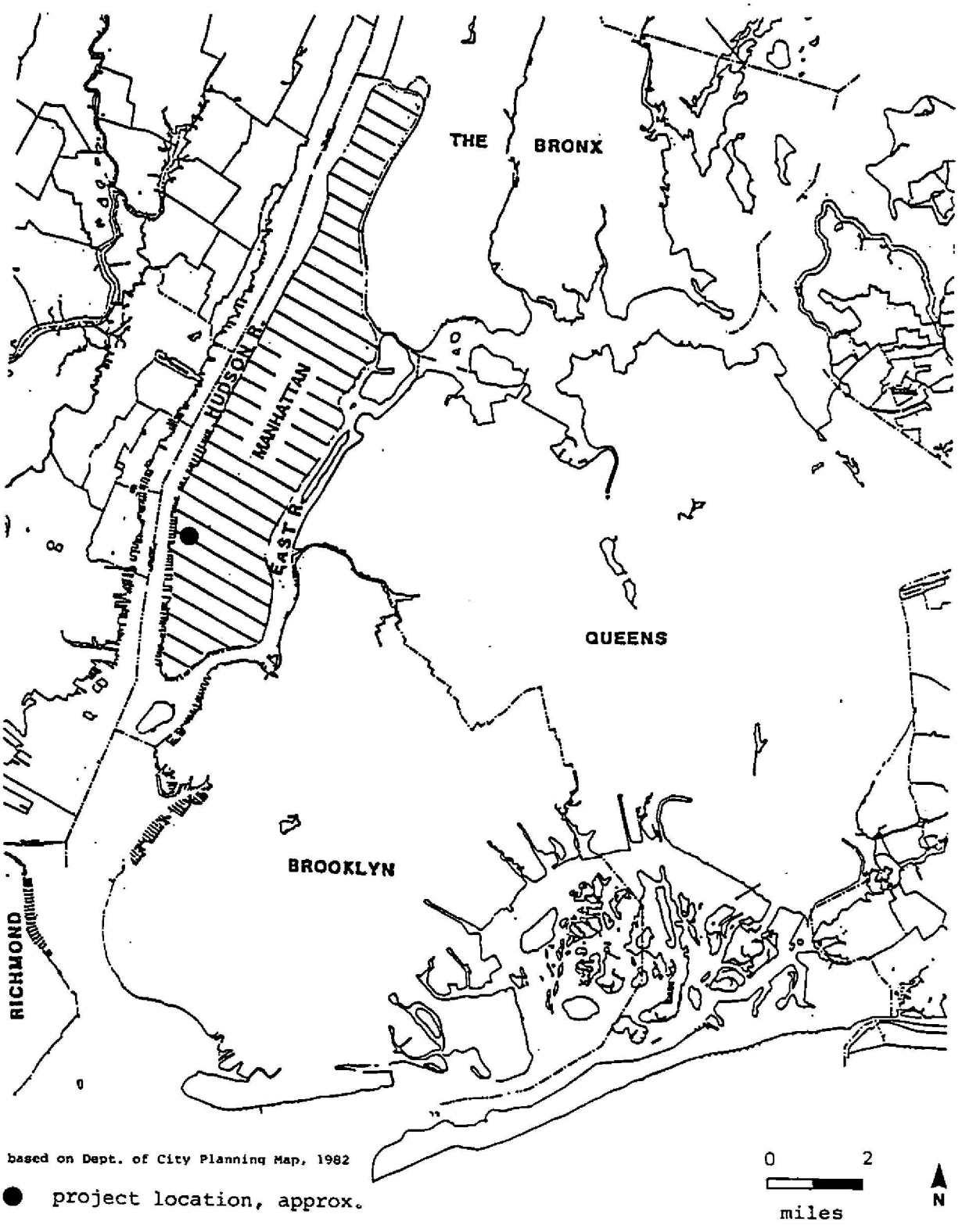
Photos: unlesss noted otherwise, artifacts photographed by Timothy Dalal, site and maps by Joan H. Geismar

INTRODUCTION

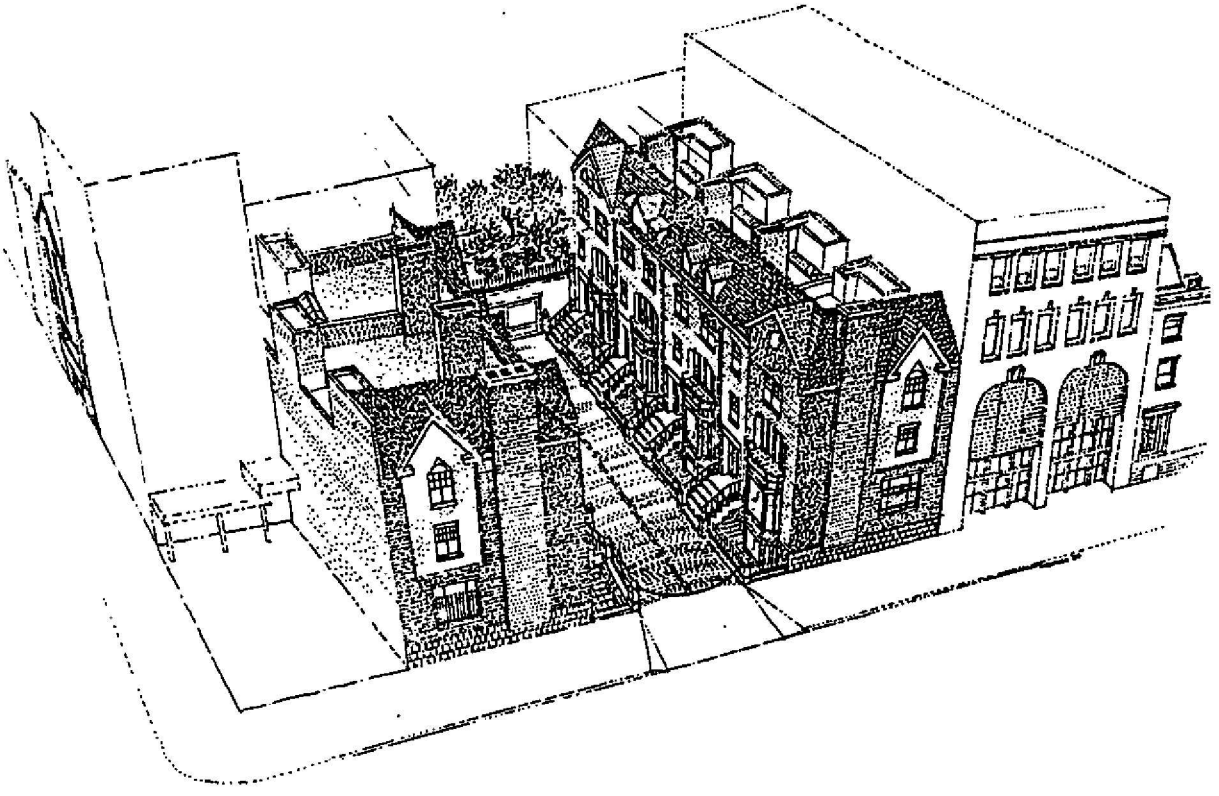
This report presents the results of archival research and archaeological field investigation of the Greenwich Mews site (Block 630, Lots 34 and 36) located on the southwestern periphery of the Greenwich Village Historic District, New York City's foremost landmarked historic district (Figures 1 and 2). At this writing, a mews complex comprising seven three- and one four-story, single family homes has been created on a former freight terminal site (Figure 3). Prior to construction, in anticipation of a permit review required for an underground parking facility, and in compliance with a directive from the New York City Landmarks Preservation Commission (LPC), the architects (Proposition Architecture) acting in behalf of the developer (Greenwich Mews Associates) initiated the investigation. The ensuing archival and field research revealed that the history and archaeology of the not so rich and not so famous can be very rewarding.

The little suburban village of Greenwich was where those who could afford it often chose to escape the late-eighteenth and early-nineteenth century summertime Yellow Fever epidemics that plagued the city. By the middle of the nineteenth century, the project area had become part of a middle- or working-class enclave with a commercial element along the river just to the west.

Based on documentary research, a short field program was recommended to uncover any cisterns or privies that might have been associated with three row houses constructed on the site between 1844 and 1845 (Geismar 1986). A century before this, the property had belonged to Sir Peter Warren, a wealthy British admiral who acquired most if not all of what is now Greenwich Village by the mid-eigh-


THE BRONX
HUDSON R.
MANHATTAN
EAST R.
QUEENS
BROOKLYN
RICHMOND
based on Dept. of City Planning Map, 1982
project location, approx.
0 2
miles
N

GREENWICH MEWS Project Site Location



courtesy of Proposition: Architecture PC

teenth century. Sir Peter died in England in 1752, and in 1788 this part of his estate, which had remained undeveloped, was purchased by Richard Amos for whom Amos Street, now West 10th, was named. Amos built small shops or sheds on one site lot and a house nearby on the corner of Christopher and Greenwich Streets. Upon his death in 1836, Amos's wife and children inherited this and other properties.

When Amos's widow died in 1843, three site lots and three adjoining lots to the south were sold, and from 1844 or 1845 until 1938, this was the location of the row houses mentioned above (a sole survivor still stands at 683 Greenwich Street, beyond the PATH power station; see Figure 14 this report). The site lot to the north and another on West 10th Street remained in the hands of Mary Hooker, one of Amos's daughters, who developed them into rental properties by 1877.

From 1945 until 1987, the small freight terminal mentioned above, which had no basement, covered the row-house yards while its loading platform was located on the former house sites (Mary Hooker's rental properties were also replaced by the freight terminal). This development suggested that sanitary features, particularly privies associated with the row houses, might still remain. When filled, these features become time capsules of sorts; consequently, they are often the focus of urban--and rural--archaeological inquiry. In this instance, the quest was extremely rewarding: two privies were found, one intact, the other only partially damaged by construction of the freight terminal's foundation piers. These features yielded 3,009 catalogued artifacts, most of them whole or mendable bottles and ceramics that offered a glimpse into the lives of the middle- and

working-class occupants of the structures. In addition, they provided information about sanitation and health in mid- to late-nineteenth century New York City. They also offered proof that municipal laws were often broken by those whose safety, health, and well-being they were meant to protect. And finally, questions were raised and, at least to a degree, answered about the nature of the ubiquitous privy.

The following sections present a site description, its development history, the field and lab methods employed, and the results of the investigation. Appendices detailing the artifactual analyses are also included.

SITE DESCRIPTION

Comprising 9,827 square ft. in two lots, the site is irregularly shaped: approximately 26 ft. of Lot 34 (258 West 10th Street) front the south side of West 10th Street and 82 ft. of Lots 34 and 36 (687 to 693 Greenwich Street) run along the east side of Greenwich street. As noted in the introduction, when archival research began, an abandoned freight terminal occupied the site (Figure 4). With the exception of a small, second-story extension, it was a one-story, basementless structure with loading docks and platforms large enough and high enough to accommodate trailer trucks. One part faced West 10th, another Greenwich Street (Figures 5, 6, and 7). In September, 1987, this structure was demolished and the site cleared in preparation for construction. Before demolition began, five days of archaeological field investigations were undertaken. At this writing, the planned mews houses have been built.

A paved lot north of the site forms the southeast corner of the West 10th and Greenwich Street intersection. Just east of this

GREENWICH MEWS Project Site (1987)

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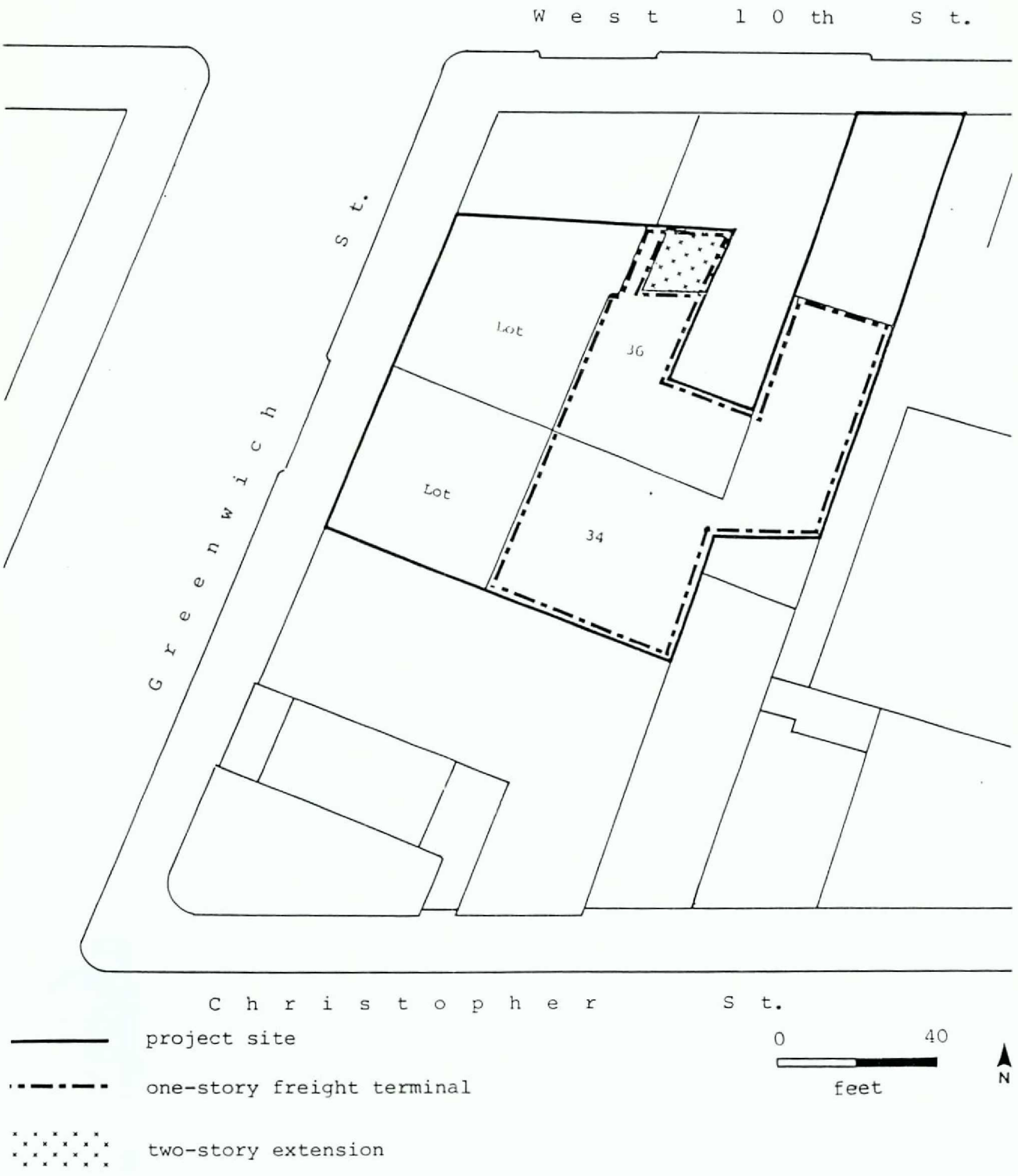
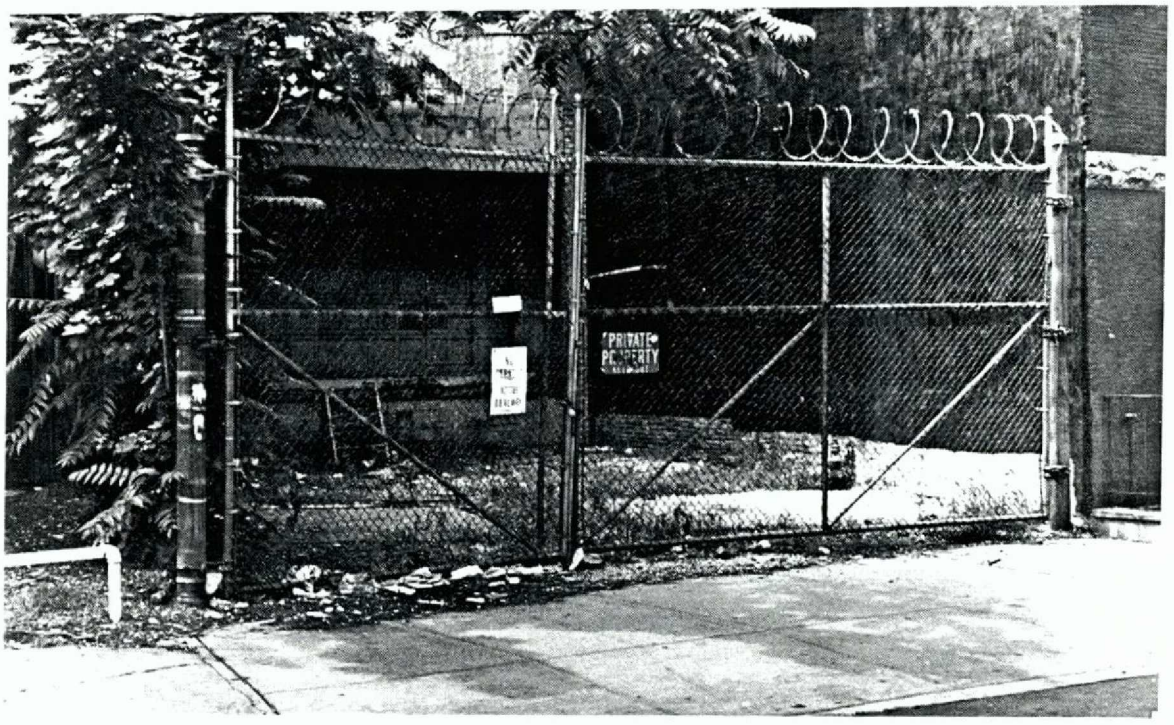


5 View of abandoned freight terminal on Greenwich Street (693-687 Greenwich Street) prior to demolition, looking southeast from corner of Greenwich and West 10th Streets. The PATH power station is on the right, to the left rear is a 1934 warehouse converted to apartments. Cars are parked where a house built by Richard Amos about 1820 stood until 1915. This lot, just north of the project site, has remained vacant since the building was demolished (photo 6/86).



6 View of West 10th Street entrance to the abandoned freight terminal, formerly the site of a 5-story tenement built in 1886 (photo 6/86).

7 Aerial view of the project site prior to demolition of the freight terminal and construction of the mews complex. View is east with Greenwich Street in the foreground and West 10th Street to the left. West of the terminal that occupied the site from 1945 to 1987 is the power station for the PATH trains. To the right of this building is 691 Greenwich Street, the sole survivor of six row houses built between 1844 and 1845. Left of the terminal, on West 10th Street, is a renovated warehouse, and beyond it but not visible at 258 West 10th Street (arrow) is the freight terminal entrance shown in Figure 6 (photo courtesy of Proposition Architecture).

lot, creating a division between the Greenwich Street and West 10th Street portions of the site, is a five-story, L-shaped building originally constructed as a warehouse but now converted into apartments. To the south is a power station erected in 1907 for the PATH system that links New Jersey and Manhattan; a passenger station for this line is located around the corner from the site on Christopher Street. As noted in the introduction, just north of the power station is a renovated brick building that is the sole survivor of houses built on the site and adjacent Greenwich Street lots between 1844 and 1845 (see Figure 14).

SITE DEVELOPMENT

The information presented here is an expanded version of the history found in the original site evaluation report (Geismar 1986). Two aspects of the site's development are considered: the possibility of Native American occupation in the project area before European contact and the historic or post-contact period. The prehistoric period in the metropolitan New York area includes the millennia of sparse aboriginal use that began with the retreat of the last glacier about 10,000 to 12,000 years ago; the historical period encompasses approximately three and half centuries and brings us to the present.

For the prehistoric period, there is limited archaeological literature from the early part of this century that documents Native American activity within one-half mile of the site, but not on the site itself. Numerous sources provided material to reconstruct the site and project area's historical development, a development that represents a facet of New York City's evolution into a major urban center. These include the records of several city agencies (for

example, the City Register's Office for deed information and the Water Register's Office for data on water supply) and the collections of the Municipal Archives, the Borough of Manhattan President's Office (Topographic Bureau), the New York Historical Society, the New York Public Library, the New York Society Library, and of the author.

Native American Site Considerations

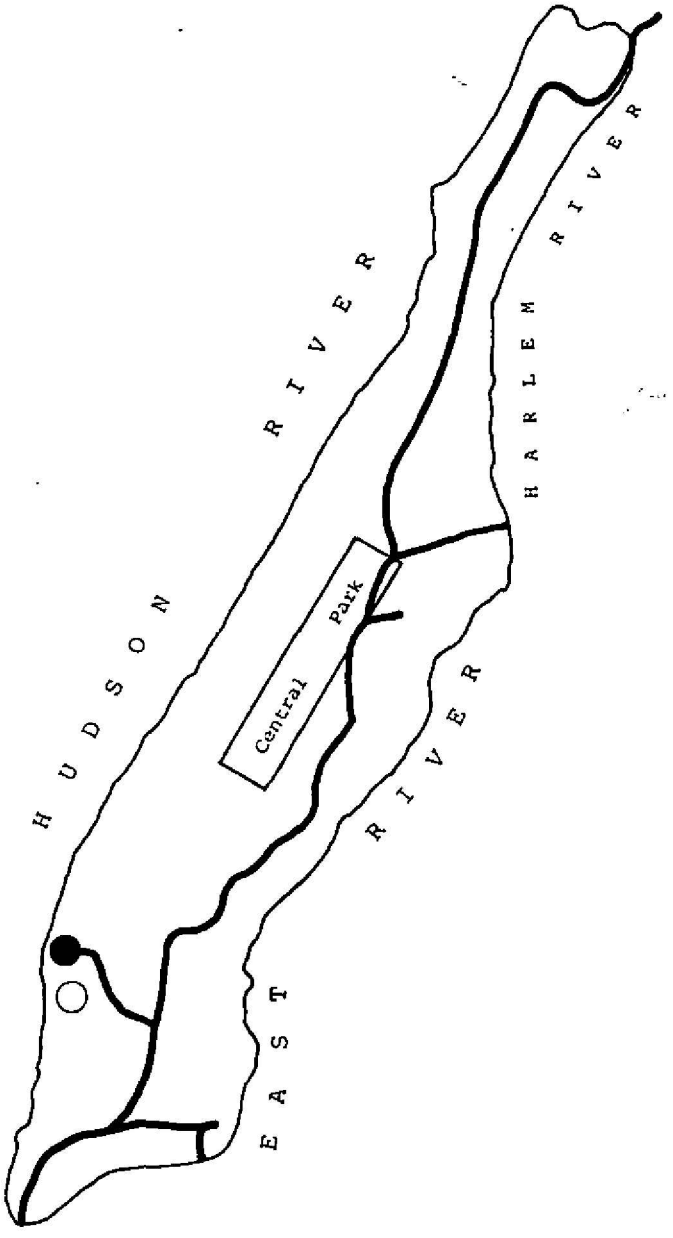
As noted above, most of the archaeological literature dealing with Manhattan's prehistory dates from the beginning of the twentieth century. This was a time when the city's development was intensifying and Native American sites were being exposed by road grading on the northern part of the island. It was also a time when an interest in archaeology was growing. People such as William Louis Calver, Alanson Skinner, and Reginald Pelham Bolton were excavating sites and compiling what amounts to the only documented evidence we have for Manhattan's prehistoric and early-historic aboriginal period. Mainly, this comprises isolated stone tools and ceramic sherds or undated camp-sites and seasonal camps, the latter often with shell deposits, or "middens" (the trash from ancient meals often mixed with debris and human or animal burials), as their main components. As noted above, because of development occurring at the time, most of these finds were made in northern Manhattan (Skinner 1915:51).

By 1920, Bolton had used historical references to reconstruct the major routes established by Native Americans to traverse Manhattan from end to end and from side to side. One of these east-west paths was apparently located at present day Gansevoort Street, less than one-half mile north of the Greenwich Mews site. This was where Native Americans from the New Jersey mainland may have landed their

canoes (Bolton 1920:303). From here, a path apparently led eastward to join the major inland route that connected the southern tip of Manhattan with Spuyten Dyvil and the mainland to the north (Bolton 1922:Map I; Figure 8 this report).

No shell heaps, middens, or Native American implements are documented in the immediate site area which was neither on the shore of a major body of water--in this case the Hudson River--nor close to fresh water, two prime factors in aboriginal site location. Moreover, some early maps as well as a reconstruction of the project area's natural terrain suggest a flat meadowland (Figure 9; see also Figure 12), a topography not typically chosen for campsites. Skinner does note, however, that a Native American settlement was supposedly situated at "Sappokanican" near the Gansevoort Market as late as 1661 (this nineteenth-century market was located on a block bounded by West, Little West 12th, Gansevoort, and Washington Streets [Stokes III 1918:959]). Sappokanican apparently meant "tobacco field" and was the Native American name possibly applied to the area known since English times as Greenwich Village (Skinner 1915:51-52). Skinner cites this as the name for all the land between the Hudson River and Manetta Water, also known as Bestavaar's Kill (see Figure 12).

A mid-nineteenth century report notes the leveling of a hill that once rose north of Christopher Street and crossed between Hudson and Greenwich Streets, a location that appears to include the project site (Citizens Association Report [hereafter CAR] 1865:117). However, the Goerck and Mangin map of 1803 (Figure 10), locates this hill just east of the site. If the project site was once a hill or



based on Bolton 1922, Map I

● Sapohanikan

○ project site, approx.

N


project block
0
1000
feet
N

note hill east of project area; this is not found on Viele
no. 34 is the State Prison

adjacent to one, it undoubtedly would have been drastically altered and disturbed by leveling activities. If, on the other hand, it was a flat, unwatered meadowland as depicted on the Viele and Ratzer maps (Figures 9 and 12), a terrain where only an isolated tool or projectile point lost in the hunt might be a concern, these artifacts would not have survived subsequent development. In either case, prehistoric or early historic-Native American deposits or artifacts were not an issue in the planned development.

Historical Considerations

The site is situated within the southwestern limits of the Greenwich Village Historic District (see Figure 2), the largest, most heterogeneous landmarked district in the city (Goldstone and Dalyrmple 1976:150). In 1750, this part of Manhattan was a collection of country seats belonging to illustrious British Colonial families such as the Warrens and the De Lanceys (DeVoe 1862:400). It was a section of the island noted for its healthful aspect (e.g., CAR 1865:116), and, as previously mentioned, it became a respite for the wealthy from the summer yellow fever epidemics that first struck the city in the late 1790s and intermittently returned during the first quarter of the nineteenth century (e.g., CAR 1865:116).

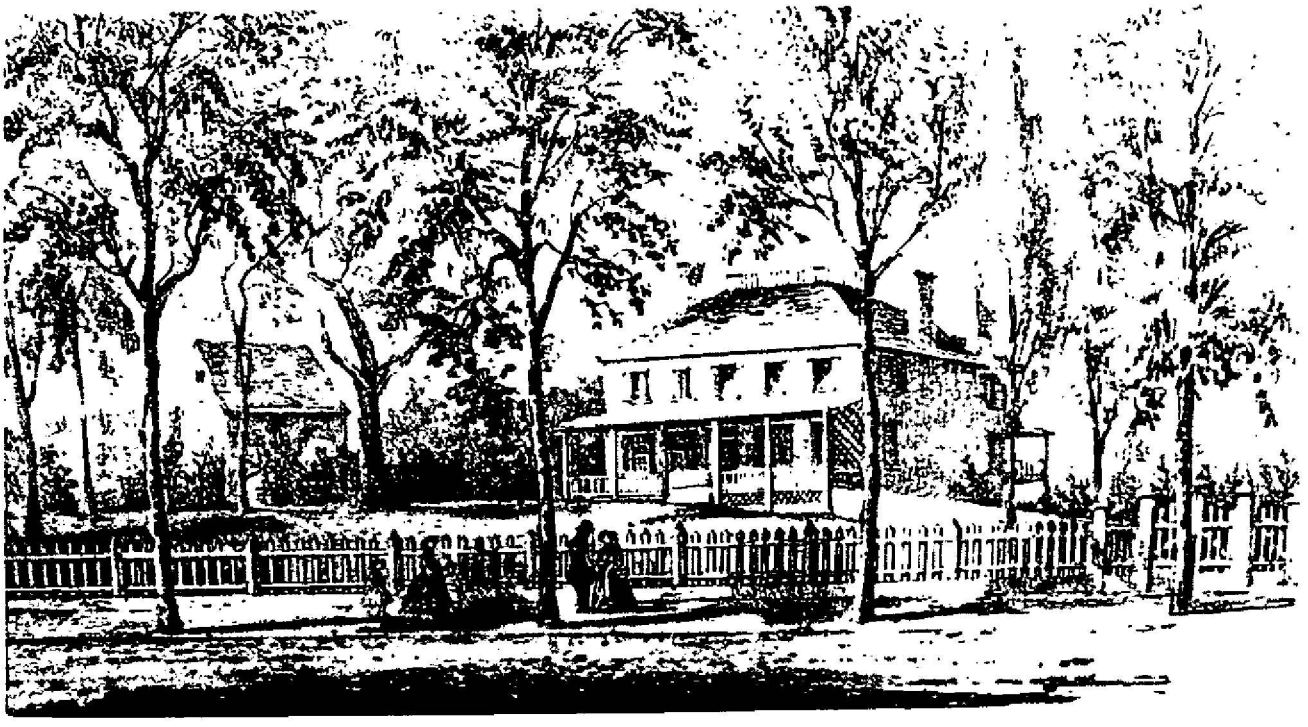
It has been noted in the introduction that by the mid-eighteenth century, almost all the land now included in Greenwich Village belonged to Sir Peter Warren, an admiral in the British Navy. Between 1731, the year he married Susanah De Lancey, a member of one of Colonial New York's most prominent families, and 1744, the year he left New York for good, Warren had acquired his farm in parcels (Stokes VI 1928:166-169).

The project site is located in a parcel designated D in the reconstruction of original farms and grants presented in Stokes' Iconography of Manhattan Island. This portion of Warren's property has been traced back to Edward Wilson and Francois Listley (Leslie) who received it before 1638 from Wooter Van Twiller, then the Dutch Governor (Stokes VI 1928:164). At that time it was land located at "Saphackenican," the "Sappokanican" noted by Skinner in 1915 (see the Prehistoric section above). This undeveloped land, also called Bossen Bowerie, changed hands several times before Warren acquired it from James Henderson in 1744 (Stokes VI 1928:167).

Although Stokes had reported that Warren built his mansion just northeast of the project site in 1740 (Stokes III 1918:866), subsequent research caused him to revise this view. It appears that James Henderson--in some documents a merchant, in others a physician --acquired this 23-morgan parcel in 1726 through a deed of partition; about the same time, he built what later became known as the Warren mansion (Stokes VI 1928:166).

While the ownership review in Stokes notes several seventeenth-century homesteads within what became Warren's holding, none are documented on the project site. Through the early-nineteenth century, the nearest building was Warren's mansion located on the block later bounded by Perry, Fourth, Bleecker, and Charles Streets (Bussing 1907; see Figure 11 this report). Abraham Van Ness (or Nest [?]), a merchant, acquired it in 1819; the structure was demolished in 1865, a year after he died (Stokes III 1918:866).

Warren died in England in 1752, and after his wife's death, his property was divided between his three daughters in 1768. Just

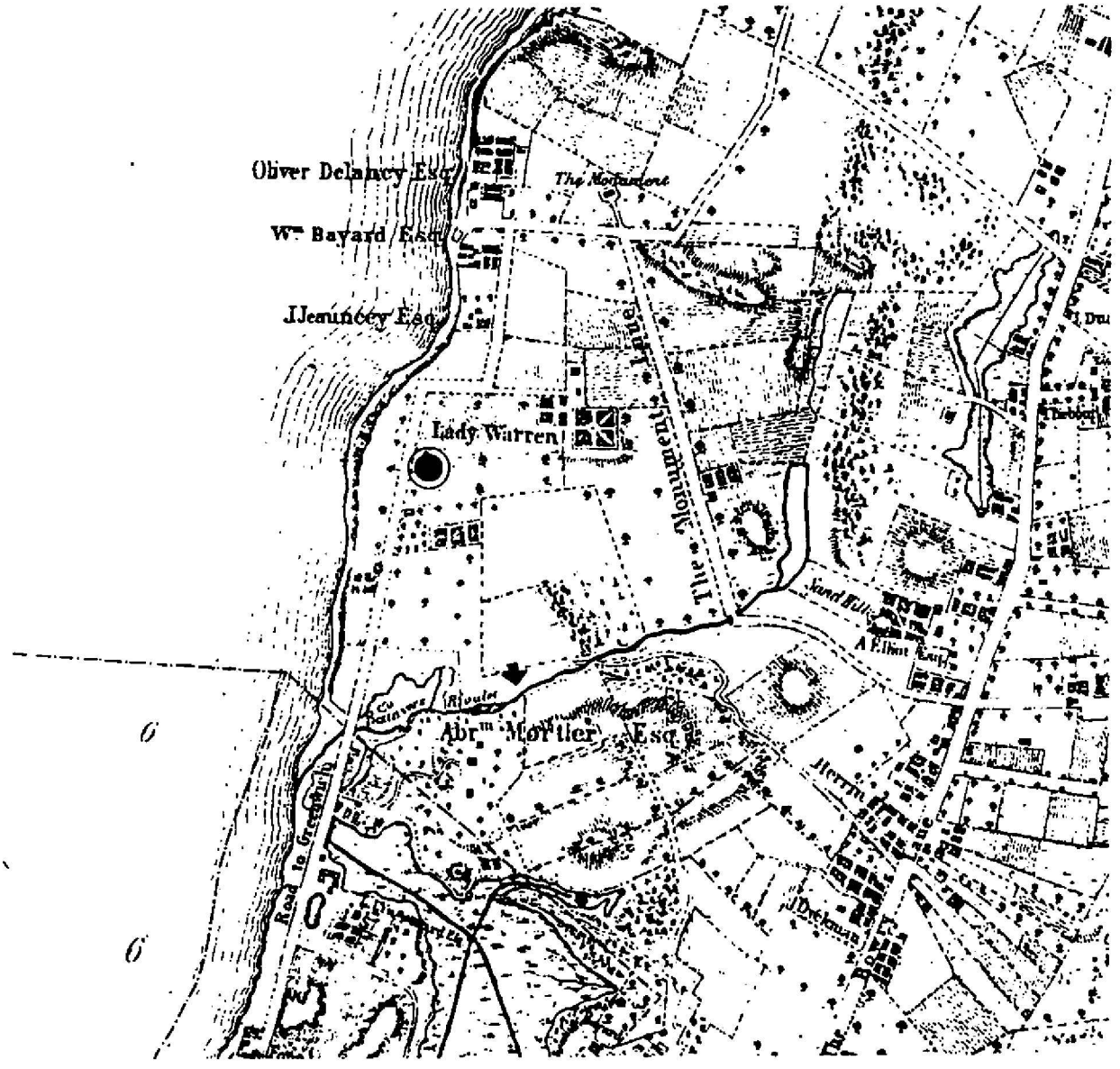


11 1854 view of the Warren Mansion then bounded by Bleecker, Fourth, Charles, and Perry Streets. The building was erected about 1726 and became Sir Peter Warren's country home in 1744, two years before he left America for good. It was demolished in 1865 (engraving from Valentine's Manual 1854).

before its division and partial settlement, it is shown on the 1767 Ratzer map as the Estate of Lady Warren (Figure 12). In the settlement, the portion that included the Warren mansion and extended south to Christopher Street went to Charlotte Willoughby, the wife of the Earl of Abingdon; it is for her husband that Abingdon Square is named. Another daughter married William Skinner, and Skinner Road, now Christopher Street, was named for him. The third married Charles Fitzroy, later the Baron Southampton. Fitzroy Road, apparently another name for Greenwich Lane, was named in his honor (see Figure 13 this report).

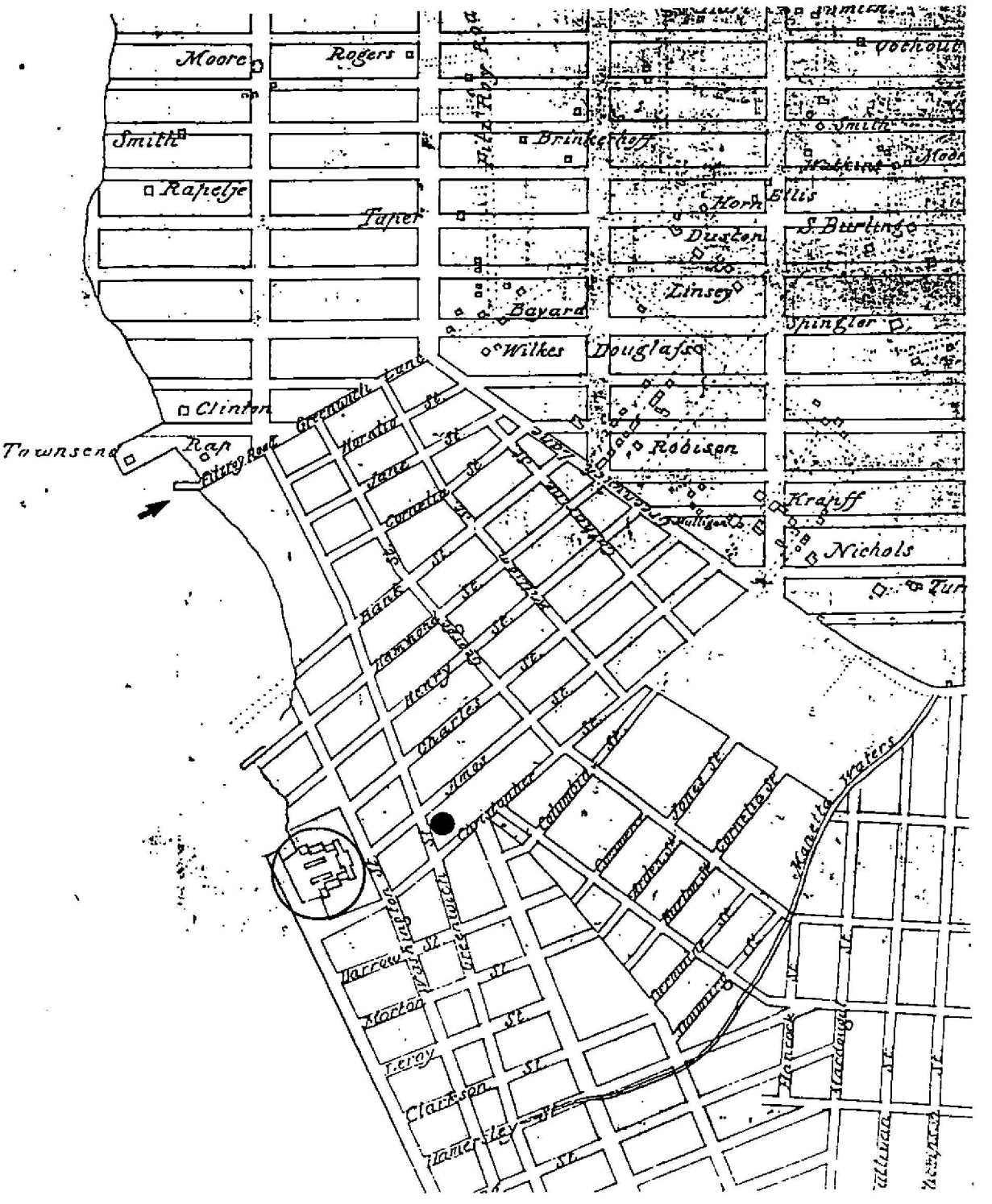
In 1788, Charlotte's inheritance was sold to Richard Amos, listed as a gardener in the deed between him and Willoughby's agent (Liber of Deeds [LD] 53 1788:1-5). At the time of the Amos purchase, eight years were left on a twenty-one year lease; it was not until 1796, when this lease expired, that Amos recorded his deed for the nine acres that included the project site.

By 1817, Amos had subdivided his purchase into lots (Corning 1817) apparently in anticipation of development. The earliest tax record indicating that he owned a house in the project area dates from 1815, but the structure's location is vague (Ninth Ward Tax Rolls [NWTR] 1815). According to information found in the Minutes of the Common Council (MCC), by 1807 Amos apparently had built a dwelling near if not on what became the project block. Two years later, when he granted the city land to run streets through his property, he stipulated that "the old building he has now erected the corner of which will be in Greenwich Street" would be undisturbed for five years (MCC V 1930:760). By 1816, he had apparently moved to the



site location, approx.

note Bestavaar's Kill (arrow) or Manetta Brook,
the southern limit of Greenwich Village



project site location, approx.

State Prison

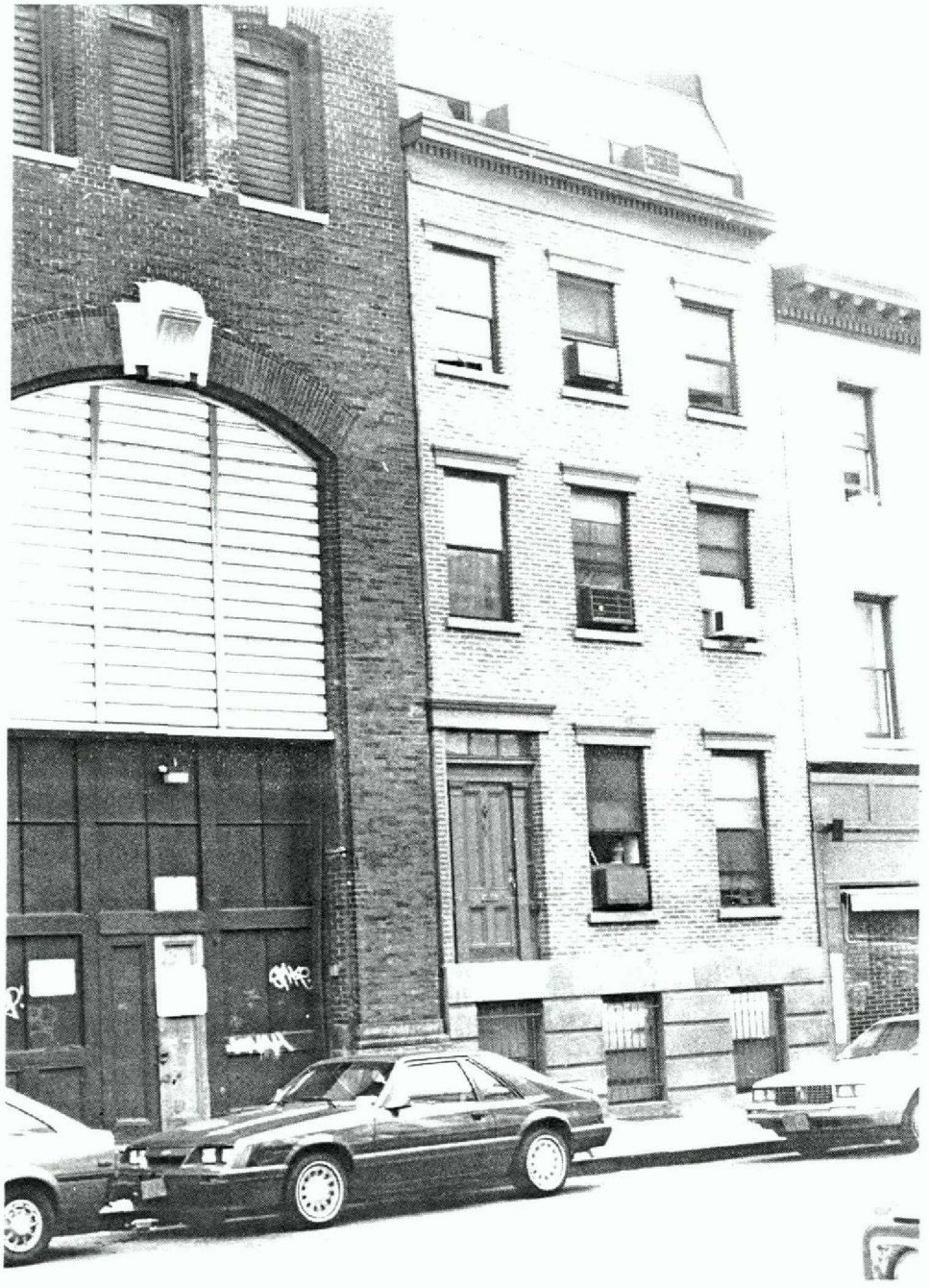
Fitzroy Road

northeast corner of Greenwich and Christopher Streets where he lived until his death in 1836[1] (NY Directories 1816-1836; Liber of Wills [LW] 76:199-207).

As noted in the introduction, Amos's will devised the property that became the project site to his widow, Elizabeth, and his daughter, Mary Hooker who had formerly been married to a man named Charles Fleming. Other property in the project area and beyond went to his numerous sons, daughters, grandchildren, and a son-in-law. Of his two surviving sons, only Samuel, a boatman, remained in New York City, living on Washington Street property inherited from his father (LW 76:200; NY Directories 1839-42); Richard Amos, Jr., had apparently moved to the family farm in Bergen County before his father's will was proved (LW 76:207).

In addition to the homestead at the corner of Christopher and Greenwich Streets, Amos's widow also inherited six vacant lots along Greenwich Street (NWTR 1836-1844), three of them now part of the project site. Mary Hooker received four lots that comprised the southeast corner of Amos (it did not become West 10th Street until 1858) and Greenwich Streets. At this time, a house that was a rental property stood on the corner beyond the project site and a commercial "shed," also a rental property, was located on the adjoining lot that became 693 Greenwich Street and is now part of project Lot 36. According to tax records, the house had been erected by 1820 and the shed (actually probably a shop) by 1829 (NWTR 1820-1829).

[1]This documentation refutes information in the Greenwich Village Historic District Designation report indicating that early-Federal buildings occupied two site lots and that the Amos homestead was in the middle of the block at 685 Greenwich Street (Bailey 1969:234).



14 681 Greenwich Street, the sole survivor of six row houses built between 1844 and 1845. The front stoop has been removed and a skylighted top floor added. The entrance is now at 137a Christopher Street. The PATH power station is to the left and a 3-story structure that replaced Richard Amos's homestead in 1900 is to the right at the corner of Greenwich and Christopher Streets (photo 6/86).

After Elizabeth's death in 1843, her Greenwich Street house and lots were sold to Thomas and Lewis Radford, New York City grocers (LD 451:123-126). By 1844 or 1845, they had built a row of six three-story houses as rental properties (Figure 14). In 1851, Thomas Radford lived around the corner at 137 Christopher Street (NY Directory 1851), but it appears that he may have briefly moved to what became 691 Greenwich Street, one of the site lots, between 1852 and 1854 (NWTR 1852-1854; see Table 2 this report). A commercial shed was built on Mary Hooker's Amos Street lot (later either 258 or 260 West 10th Street) by 1844 (NWTR 1844); changing street numbers make the location of this structure somewhat vague, but it appears to be the project lot on West 10th Street (for example, see Figures 15-16). By 1859, this shed was replaced by a three-story rental structure (NWTR 1859), and in 1886, a five-story tenement was built on the lot (New Building Application [NB] 1886:1816-86).

In the early years, transient residency is documented for one of the three row houses then on the project site (687 Greenwich Street). However, occupation of the two lots that later became the focus of the archaeological investigation (689 and 691 Greenwich Street) was more constant. Based on directory listings, John G. Davis, a dry-goods merchant, and his family who lived at 695 (later 689) Greenwich Street for seven years (NY Directories 1845/46 to 1852/53; Table 1), was then the most steadfast occupant. His business partner, Samuel Furman, rented next door at 697 (later 691) Greenwich Street for six years. Both men were apparently the first to lease and occupy their respective houses.

The 1851 Street Directory (Doggett 1851) also lists a "David Hosack, candies" at Furman's address, suggesting there was a store

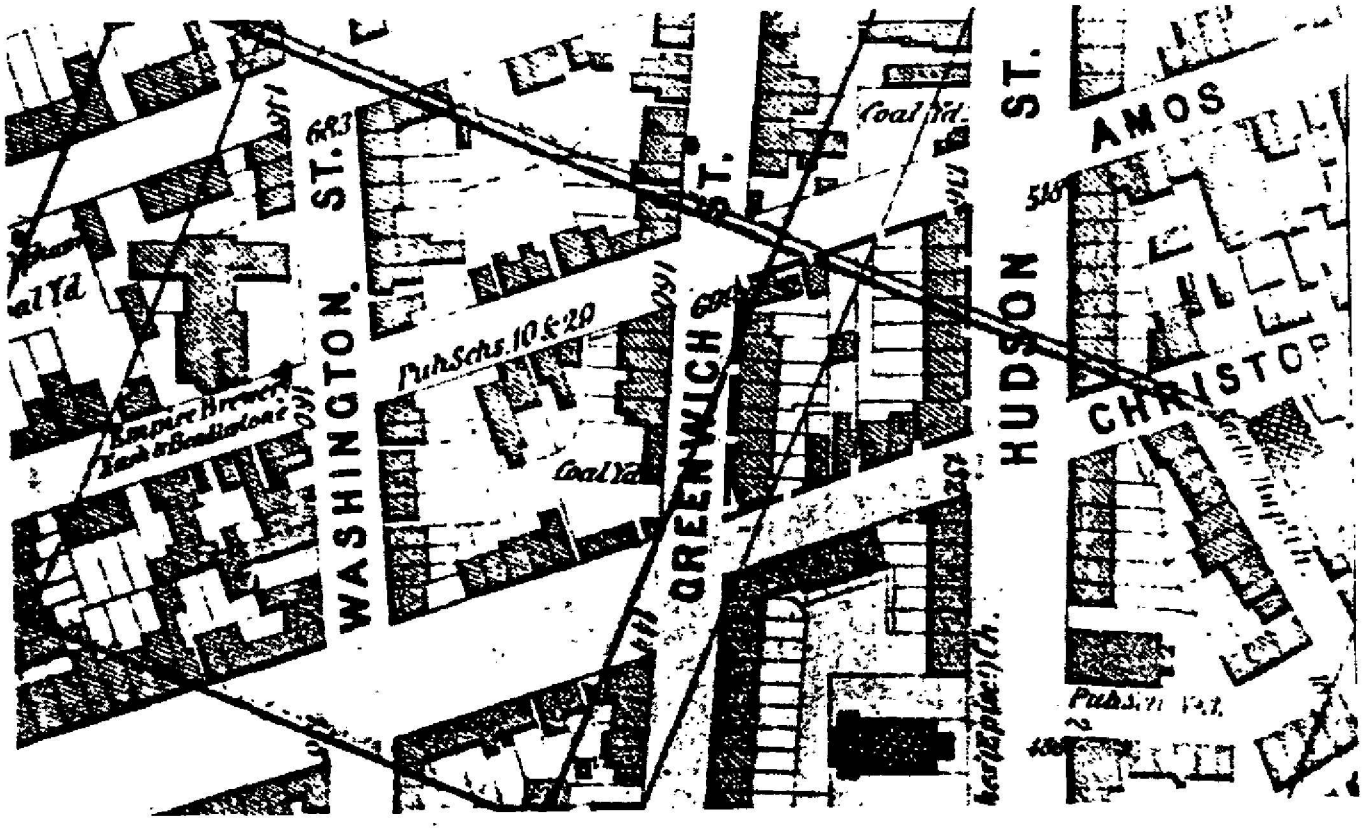
Table 1. GREENNWICH MEWS Occupants of 695-687 Greenwich Street 1850-1851 (Based on the 1850 Census, Doggett's 1851 Street Directory, and the New York Directories 1844-1854).

Modern Address	695‡ Greenwich	693 Greenwich	691 Greenwich	689 Greeenwich	687 Greenwich
1850-1852 Address	699‡ Greenwich	no address	697 Greenwich	695 Greenwich	693 Greenwich
Family name and occupation (1850 Census)	Mettler (grocer Shuler (wine store)		Furman (merchant)(6)	Davis (merchant)(7)	Josephs (carman)(1) Welch (carman)‡‡ Wood (lumberman(2) Randall (tailor)(f) Newkerk (carpenter)(f)
Family name and occupation (1851 Street Directory)	Shaller (liquors) Mettler (?) Chamberlain (feed) Boberack (shoemaker) Wax (shoemaker) Lockwood (silversmith)		Furman (?)(6) Hosack (candies)(f)	Davis (?)(7)	Josephs (carman)(1) Wood (lumber)(2) Reynolds(?) (Tailor)(f) Austin (teacher)(f)

Length of occupation in years is taken from the New York Directories and shown in parentheses; (f) represents a short occupation indicated only in the 1851 Street Directory (Doggett 1851).

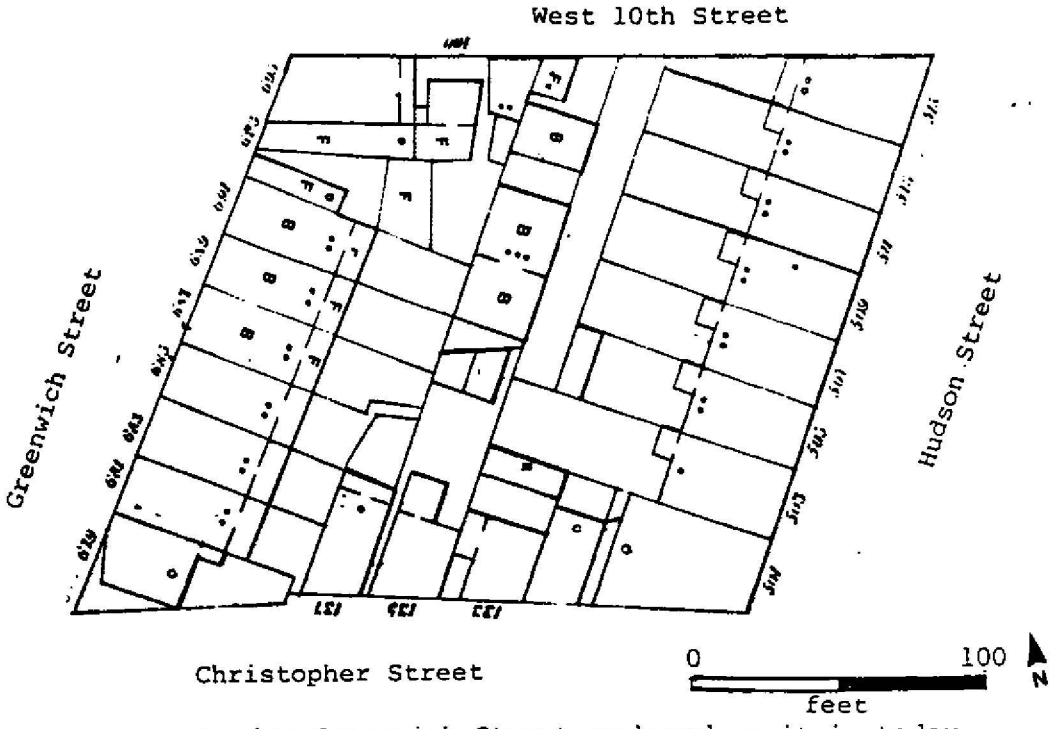
‡This lot is just north of the project site at the southeast corner of Greenwich and West 10th; it is included here (without lengt of occupancy) since it is likely that several occupants listed in the 1851 Street Directory were actually at modern 693 Greenwich Street, a project lot, but one which had no address in the directory (8 addresses are listed for 9 lots).

‡‡Welch and his wife were apparently living in the Josephs household; he is not found in the 1851 Street Directory (Doggett 1851).

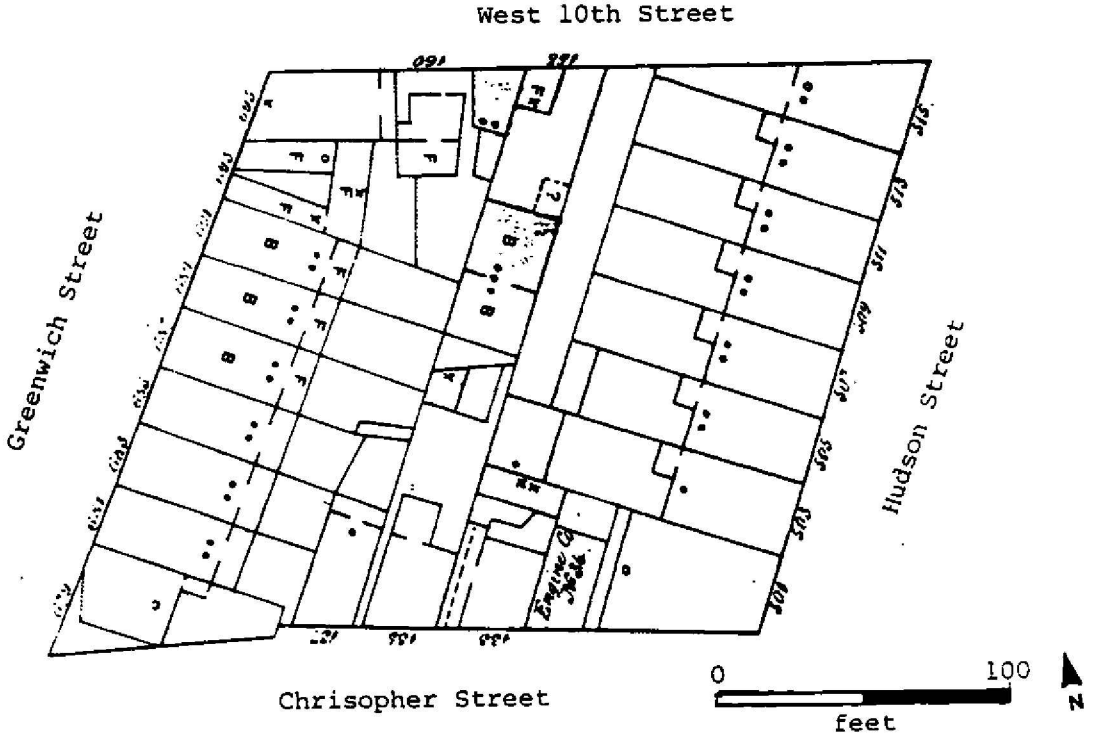


dimensions as indicated on map

The project site is defined by a dashed line. Note six row houses on Greenwich Street and a small structure (a shop?) on the first lot from the corner of Amos (West 10th) and Greenwich Streets. At this time, a 3-story structure stood at what became 258 Amos Street, one of the site lots (NYPL Map Division)



16a 1854 Perris map showing Greenwich Street numbered as it is today. The row houses that extended from 681 to 691 were brick with frame extensions. Note three frame buildings at 693 Greenwich Street, two in front may have been dwellings with stores, or just stores; the rear frame building is depicted as as a dwelling, but according to census data from 1850, no families are listed here Frame buildings on the project site are indicated with an F, brick with a B.

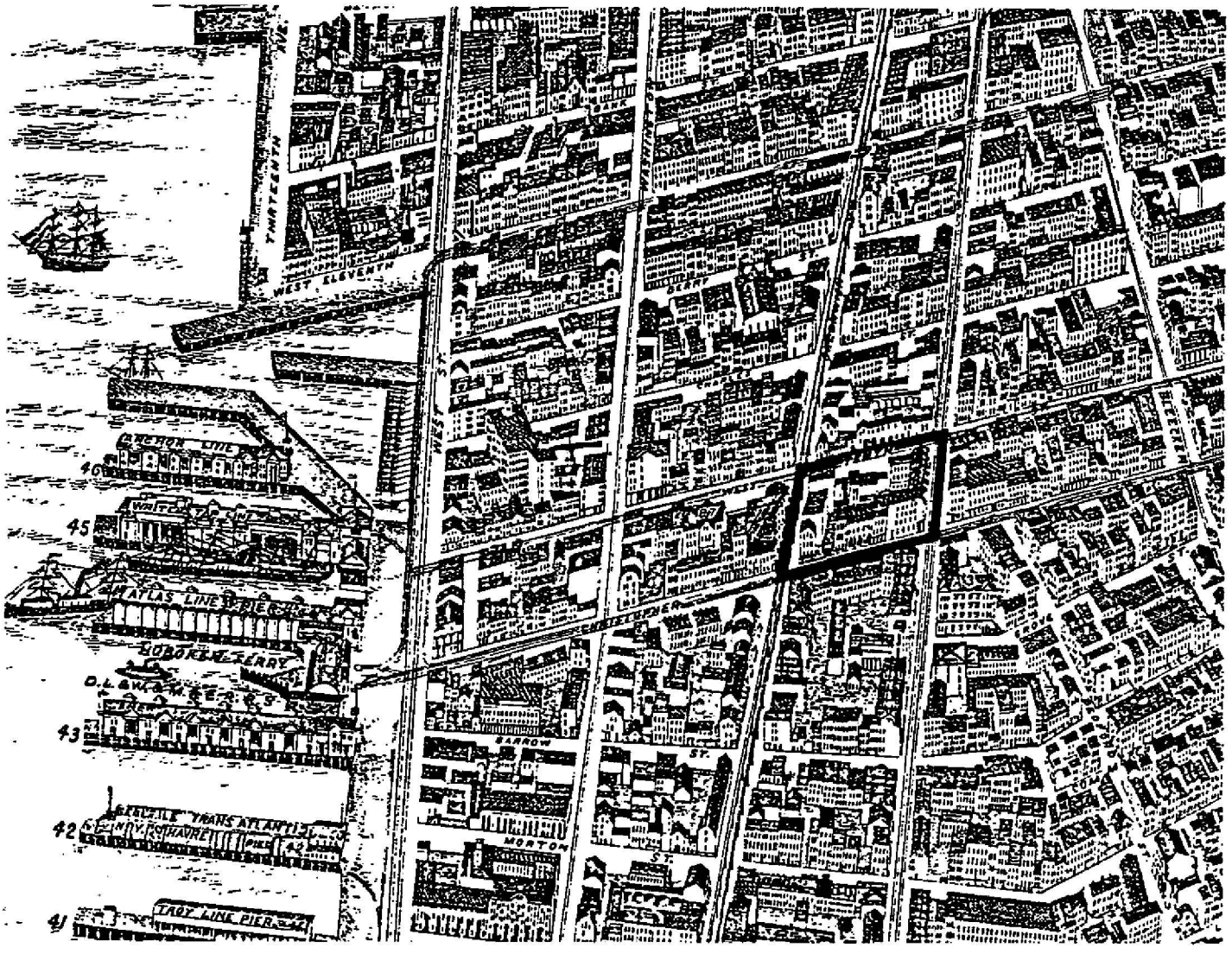


16b 1859 Perris map shows almost the same configuration as the earlier version. A variation is found at 693 Greenwich Street where the size and situation of the three frame structures on the lot have changed

beneath his dwelling (there is none indicated on the 1854 Perris Insurance Atlas [see Figure 16a], and the 1850 census documents Hosack's household one block north on Greenwich Street). Based on directory information, other families living on the site in 1850-1851 remained up to two years. Some occupations were so transient they do not appear on any census manuscripts or in the annual directories (see Table 1). It appears that multiple, transient occupancy was the norm on this block much as it was throughout Greenwich Village in the mid-nineteenth century (Spann 1984:109-110). Later, however, there are some site residencies that persist for as many as sixteen years (see section on Results, Tables 4 and 5, and Figure 34).

Both the Hooker and Radford properties remained family holdings for most of the nineteenth century. However, the Hooker property passed to succeeding generations through inheritance and was developed during the last quarter of the century. By 1877, this included a four-story tenement at 693 Greenwich Street (NWTR 1877-1879) and, by 1886, by the five-story apartment dwelling or tenement at 258 West 10th Street mentioned above (see Figure 17). All the site buildings erected by 1886 endured into at least the second decade of the twentieth century, but over the years some were extended into backyard areas (compare Figures 18 and 19).

By 1913, two of the three Radford row houses on the project lots had become rooming houses (Water Register's Records [WRR] 1913): at 687 Greenwich Street there were thirteen furnished rooms serviced by a single water closet or toilet in the yard; at 691 there were eleven rooms and a basement apartment with one water closet or toilet also in the basement. The other row house (689 Greenwich)

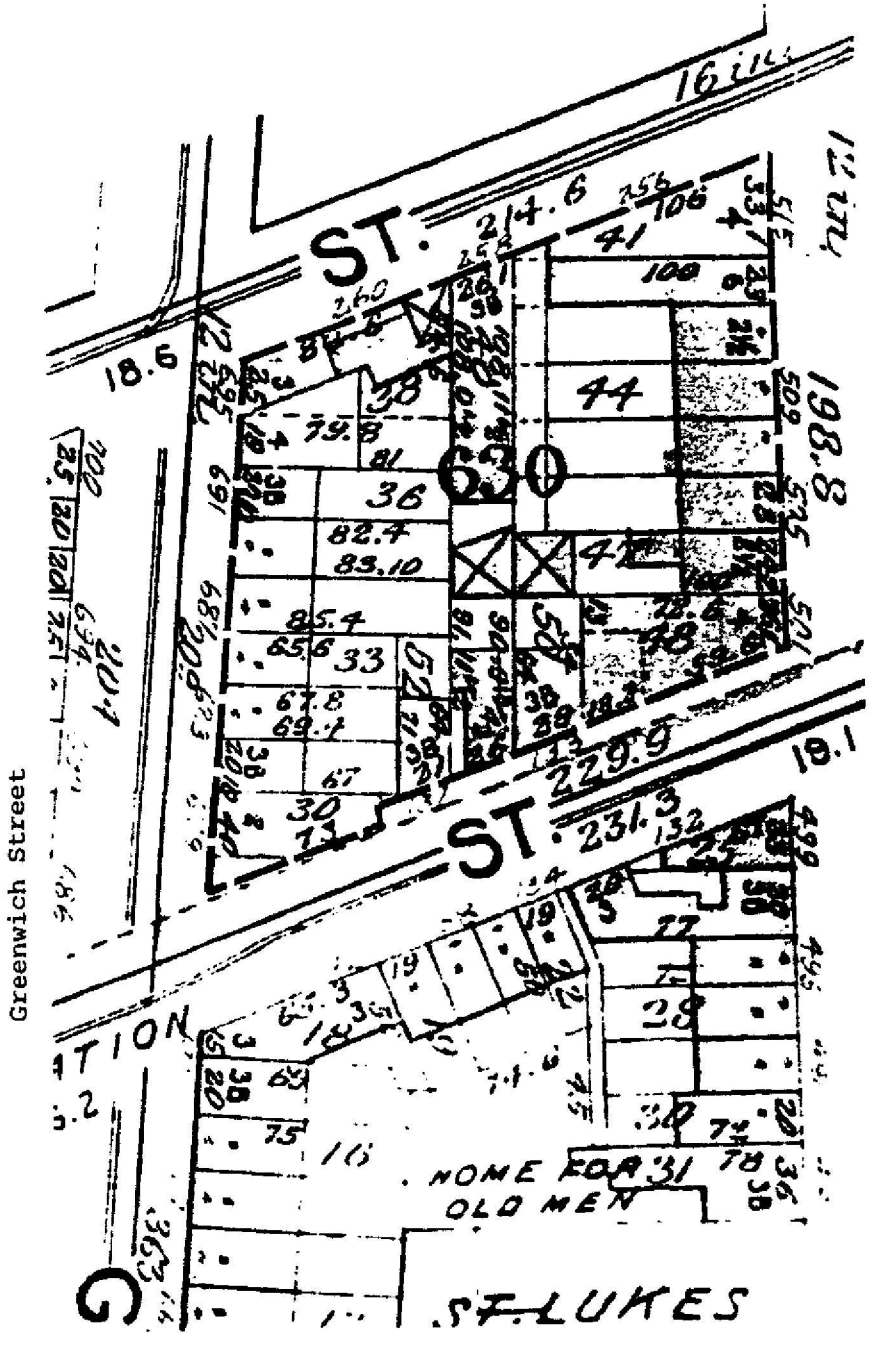


project block

no scale indicated N

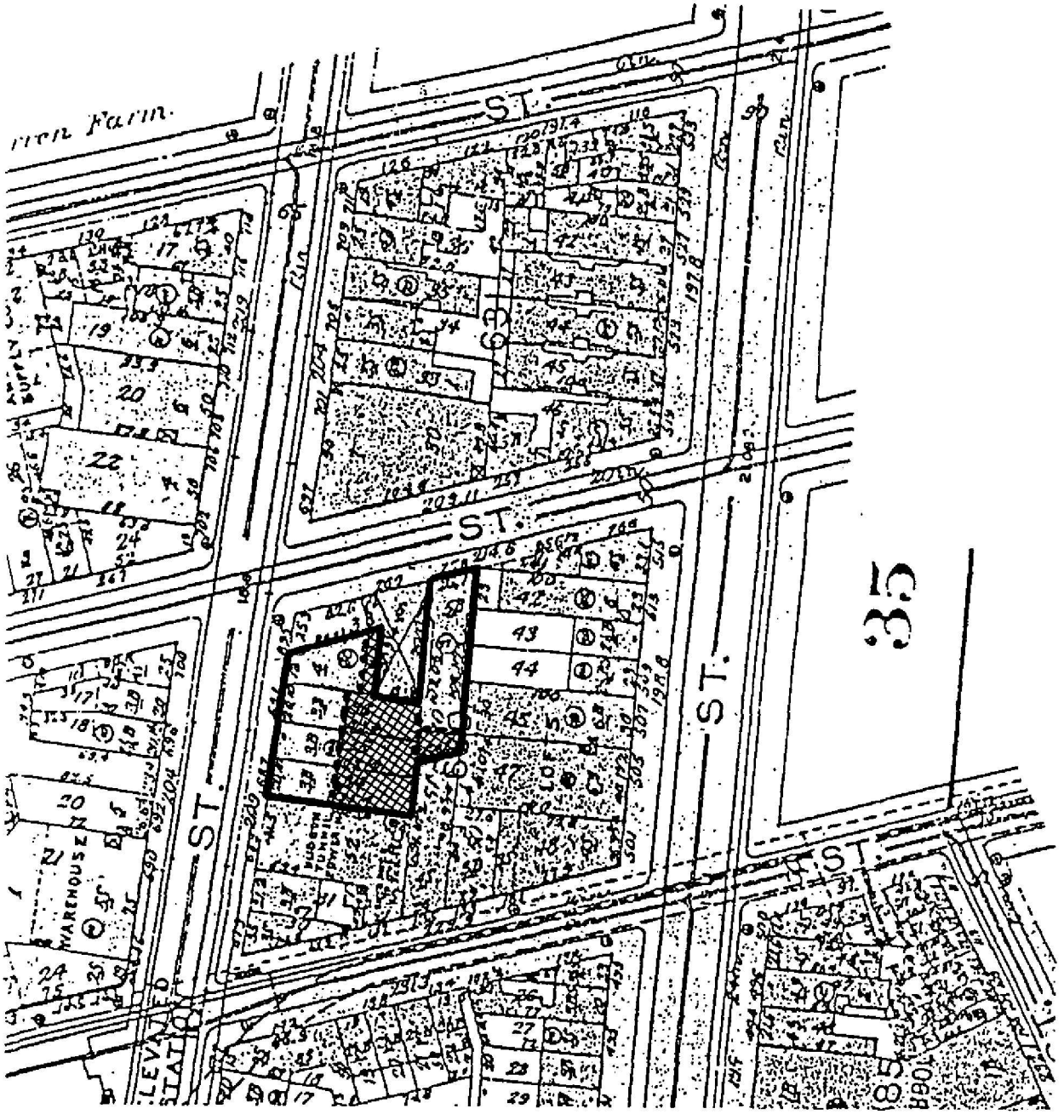
While its accuracy may be questionable, this rendering suggests the kind of development that occurred on the site block and in the general site area by the late-1870s. Note the large building beyond the row houses on Greenwich Street on the site block which undoubtedly represents the 4-story tenant building constructed in 1877. Also note the entrance off Christopher Street to the block's yard area and interior buildings. An elevated line is shown on Greenwich Street.

West 10th Street



dimensions as indicated

Project block defined by a dashed line. Note the size of the yard behind the 4-story tenement at 693 Greenwich Street and compare it with FIgure 19.


ST.
ST.
ST.
ST.
ST.
35
project site
backyards, 1934
0
100
feet
N

within the project site was still a two-family dwelling with one water closet or toilet in the yard and another on the second floor.

In 1867, an experimental elevated railroad was introduced on Greenwich Street south of the site (Stokes IV 1923:1926). By 1870, an improved passenger railroad that undoubtedly changed the ambiance of the project area ran north to 30th Street. Ultimately, as the Ninth Avenue Line, it ran from South Ferry to 155th Street. It has been noted that although elevated railroads aided transportation, they added blight to neighborhoods and turned their route-streets into dark, noisy eyesores (Delaney and Lockwood 1984:vi). In the project area this condition persisted for seventy years until demolition of the elevated tracks in 1940 (NY Times 9/8/40; 10/8/40).

As noted above, two of the three-story row houses on the project site were converted into rooming houses at least by 1913; two others immediately to the south were replaced in 1907 by a power station for the PATH trains that link New York and New Jersey (NBA 1118-06). Currently, the one remaining row house (681 Greenwich Street), has been converted to apartments and an architect's office with its entrance on Christopher Street. The Amos homestead on the northeast corner of Christopher and Greenwich Streets, also beyond the project site, was replaced at the turn of the century by a three-story building that still stands (NBA 411-00).

The three-story frame structure on the corner of Greenwich and Amos Streets built by Amos about 1820 was still there in 1913, but its upper floors had been vacant for years (WRR 1913). The building was finally demolished in 1915 (Demolition Permit [DP] 79-15) and the lot has remained undeveloped. As noted earlier, it now is a paved

parking area (see Figure 7; also see Figure 19 for the Greenwich Street building configuration in 1934).

The project site's nineteenth-century buildings were all razed in 1938 (DP58-33, 61-33) and the recently demolished freight terminal built in 1945. Plans for the terminal called for shallow support piers extending only 4 ft. below grade and a loading platform and first floor raised 3 ft. above grade (NBA 269-45). However, archaeological field investigation revealed deeper foundation piers than planned (see Figure 25). The terminal virtually wrapped around 260 West 10th Street, the building mentioned in the site description that was originally built as a warehouse in 1934 (NBA 93-34) and was converted into apartments by 1975 (CO 17453; see Figures 5-7).

THE STATE PRISON AND THE GREENWICH MARKET

Eighteenth-century Greenwich was not exclusively the home of the wealthy and famous, nor solely a health resort and refuge (Chapin 1917:51). Lower and upper Greenwich--the latter the location of the project site--were humbler offshoots, and the west village became a middle- and working-class enclave in the nineteenth century (e.g., Delaney and Lockwood 1984:iv; CAR 1865:120). It was here, just west of the project site, that two structures were built that both caused and were the result of the area's development: The State Prison that opened at the foot of Amos Street in 1797 became an attraction; the Greenwich Market operating at the foot of Christopher Street in 1813 was a response to the needs of a growing population (an informal market had sprung up somewhere in this vicinity in 1806, but was removed almost immediately [DeVoe 1862:382-383]).

The State Prison

Originally two state prisons were planned, one at Albany the other at New York City but only the New York City facility was built, and its first prisoners were received in 1797 (Valentine 1853:161). Initially, the building and 204 ft. of its four-acre grounds fronted on Washington Street (see Figures 10 and 13), but over time it was expanded, ultimately requiring land reclamation along the Hudson (Stokes I 1915:456). Surrounding the compound was a stone wall 23 ft. high on the river side and 14 ft. high on Washington Street (Valentine 1853:461), a construction that undoubtedly presented a formidable appearance.

As mentioned earlier, it appears that upper Greenwich was quite proud of this institution and it may actually have spurred development: ads for local hotels used it as an enticement (e.g., Chapin 1917:52). Perhaps it is not totally coincidental that Richard Amos recorded his eight-year-old deed in 1796 (see Historical Considerations), the year construction of the prison began.

In 1829, the last prisoners were transferred to Sing-Sing (Stokes III 1923:973) and by 1847, within a few years of the construction of the three-story rental properties on the project block, the building became a brewery (NY Directories 1847). It continued to function as a brewery well into the twentieth century (e.g., Hyde 1912:72).

The Greenwich Market

By 1813, the public Greenwich Market had opened on the south side of Christopher Street between Greenwich and Washington Streets. Initially planned a few blocks north at modern Perry (formerly Henry)

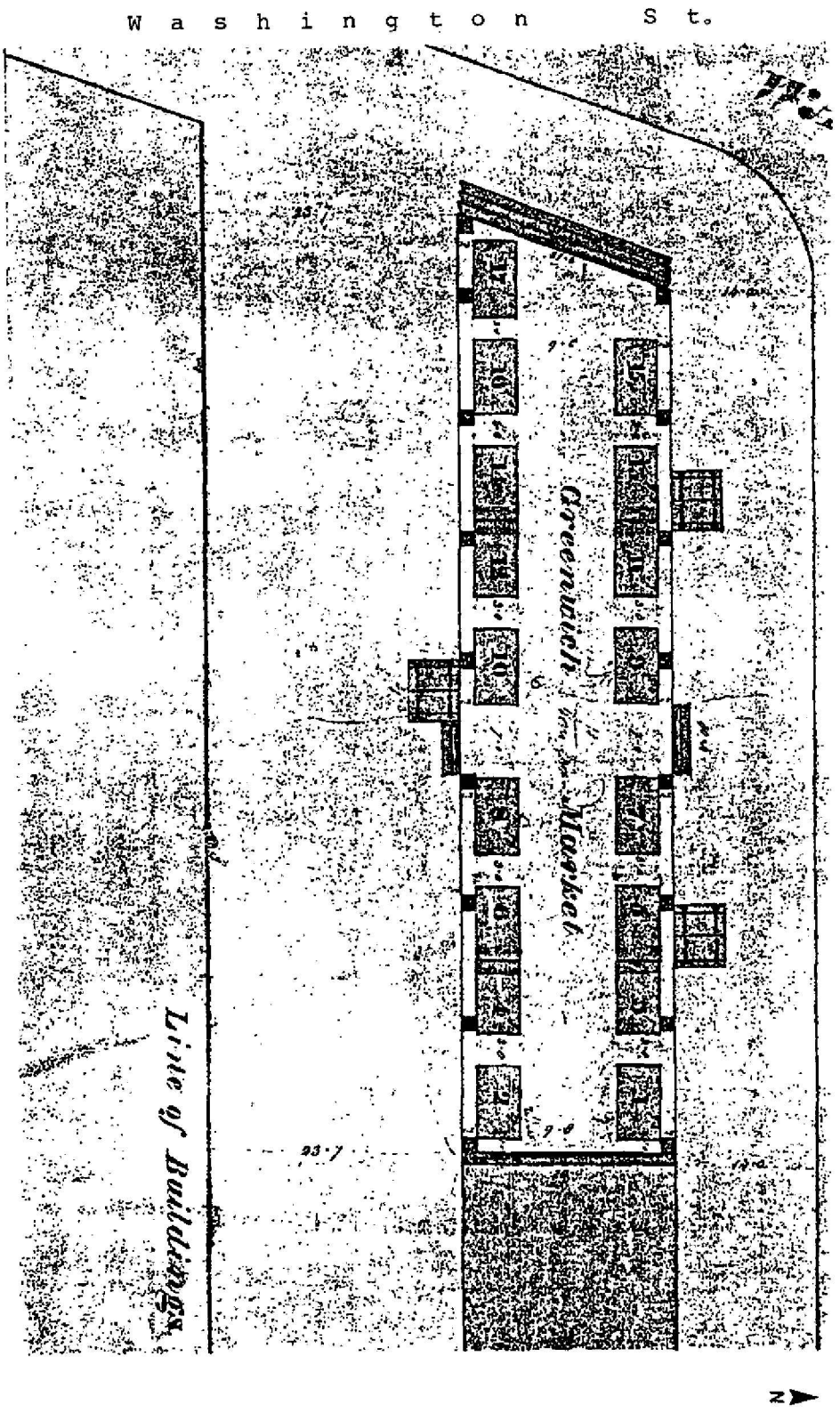
Street, Trinity Church ceded land for the Christopher Street site with the stipulation that when the market closed it would revert back to the church (DeVoe 1862:399).

During its twenty-two-year operation, the market was enlarged twice, in 1819 when a cellar was added and again in 1828 (DeVoe 1862:401-402). An 1825 plan has been located that shows seventeen stalls and three cellar entrances as well as steps on Washington Street and a plaza on Greenwich (Figure 20).

It has been noted that business was generally good at this upper Greenwich location, particularly in the summer when the population seasonally increased, and the market continued to flourish until 1832. After this, a slackened business was compounded by the opening of the Jefferson Street Market to the northeast at Sixth Avenue and Greenwich Lane (Greenwich Avenue) in 1833. Two years later, age and neglect prompted the closing of the Greenwich Market, but to keep the property from reverting back to the Church, the Common Council ordered it to be paved and appropriated as a market (DeVoe 1862:403). By the end of the century it had become the site of the U.S. Appraiser's Offices and Sample Stores which served a customs-related function (King 1984:787). This building has now been converted into apartments.

RESEARCH QUESTIONS RELATED TO GREENWICH MEWS FIELDWORK

An ongoing research question in Manhattan's archaeological investigations pertains to the introduction of city services to the city's various districts and neighborhoods. For example, records for the 175 Water Street site in the seaport area of lower Manhattan suggested that privately piped in water was available by 1820 or


W a s h i n g t o n S t.
Greenwich Market
Line of Buildings
93·7
C h r i s t o p h e r S t.
N

earlier and that city sewers were in place by 1855. However, archaeological evidence indicated that cisterns were used for private water collection through the 1860s and privies even longer, some of them until the turn of the century (Geismar 1985).

Intensive research suggested when City services were theoretically available in the project area; however, as was found at 175 Water Street, availability did not necessarily mean adoption, and archival research could not pinpoint when these amenities were introduced to the project site. It was anticipated that archaeological field investigations might help answer this question.

Archival Research Findings

The Croton Water system that still supplies the city's water was initiated in 1842 (e.g., Anon. 1917:63). As early as 1844, water pipes and street faucets may have been installed on Greenwich, Amos, and Christopher Streets as was apparently the case throughout the city (Board of Aldermen:file 329). After water was available, sewers could be installed, and the 1857 annual report of the Croton Aqueduct Department (CAD) presents a listing of city sewers built prior to 1856. Among those listed are an Amos Street sewer installed between Fourth Street and the Hudson River in September, 1853, and a Christopher Street sewer installed between Greenwich Avenue and the river in March, 1853 (CAD 1857:110, 118). There are none indicated on Greenwich Street (nor does a city sewer map list any), implying that sewage was probably ultimately removed from this part of the block through connection with one or both of the side street sewers.

An interesting social and economic aside is found in the petition for and the remonstrance against the Amos Street sewer in

1853. Reasons cited for wanting the sewer included damp cellars, the standing water in the street, and the inability to enjoy the benefits of the Croton water. Among the petitioners was Nash Beadleston, the owner of the brewery mentioned above that replaced the State Prison just north of the project area (Petition 1853).

Objections raised against the sewer were that it "was not wanted, Necessity [sic] does not call for it, nor our comfort or convenience demand it;" moreover, it was felt the large Croton water pipe previously installed in the street precluded it. A more honest objection related to the taxes it would generate for property owners on Amos Street (apparently most of the signers were absentee owners) and the cross streets such as Hudson and Bleecker (and probably Greenwich) where there were no connections. And finally, it was felt the class of houses did not "warrant or require the modern luxuries of bathing rooms and indoor conveniences that would make the construction of a sewer a necessity" (Remonstrance 1853). Among those signing the objection were Walter T. Fleming, Eliza J. Thorp, and A. Van Buren, grandchildren of Richard Amos and absentee owners on Amos Street.

Another clue as to when amenities were available or adopted again comes from a Croton Aqueduct Department Annual Report. In 1863, both Christopher and West 10th Streets at Greenwich still had street pumps in use (CAD 1864:100-102), suggesting piped-in water was not yet available or at least common locally. On the other hand, the cold running water and one toilet per floor documented in 1928 water records, the earliest available for the four-story building erected at 693 Greenwich Street in 1877, may have been part of the building's

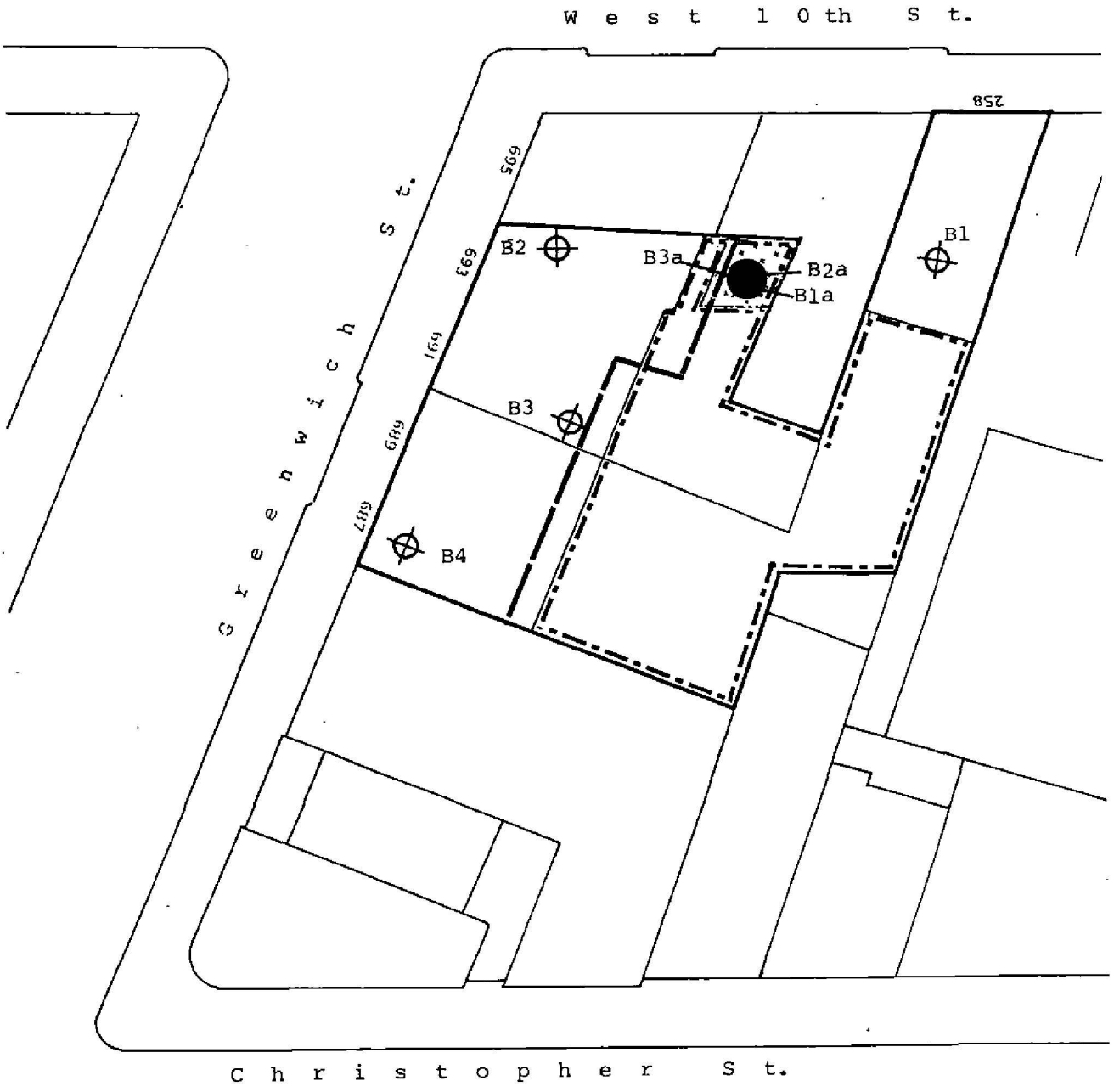
original design, but this remains a question. As noted previously, these records also disclose that by 1913, and possibly before, some of the older row houses had been converted into rooming houses where sanitary conditions were more primitive, providing only yard or basement toilets or water closets.

Based on available archival material, it appeared that indoor plumbing was definitely not available in the project area before 1853 and perhaps not until well after 1863. It also seemed possible that yard privies might be augmenting minimal indoor facilities in 1913 and perhaps even later. As discussed in the 1865 Citizen's Association report, sewerage in the general district was found to be defective in both quality and quantity, a circumstance prevailing throughout the city (CAR 1865: 118). In some places this condition continued into the twentieth century. However, based on documentation, just how late it persited on the site and in the general area was unknown.

SUBSURFACE TESTING: SOIL BORING DATA

In March of 1986, four borings were drilled by the Heller Drilling Co. to obtain subsurface data for construction purposes. Samples were recovered at 5-ft. intervals with one boring (B1) taken to 40 ft. and the others (B2 to B4) to 30 ft. None were taken to bedrock and all indicated an upper level of between 10 to 14 ft. of fill (see Appendix A). These borings, which were drilled before site research was undertaken, were all located where the mid- to late-nineteenth century buildings had stood (Figure 21). Consequently, additional testing to recover continuous samples in one backyard area was undertaken in September, 1986 (Appendix B).

The goal of the second testing program was to determine the conditions in a yard area where minimal disturbance caused by subse-


W e s t 1 0 th S t.
G r e e n w i c h S t.
C h r i s t o p h e r S t.
695
693
691
689
687
258
B1
B2
B3
B4
B1a
B2a
B3a
project site
one-story freight terminal
second-story extension
approx. location of Borings B1-B4, April, 1986
approx. combined location of Borings B1a-B3a, September, 1986
rear building line, Greenwich St. buildings, 1934
0
40
feet
N

quent construction was anticipated. Since the freight terminal covered the nineteenth century yards, the efficacy of testing through borings was questionable. However, a lightweight, tripod rig was used to sample three locations within the freight terminal where a yard segment behind 693 Greenwich Street was located. It was hoped that testing here would reveal site conditions in former yards. In addition, it was where the terminal building included a second-story that permitted the use of an indoor drill rig. Unfortunately, it also proved to be where the 1877 tenement had been extended into the yard area.

Borings B1a to B3a were located under the freight terminal's second story extension. Boring B1a was terminated at 4 ft. because of refusal (it should be noted that it was impossible to by-pass obstructions with the tripod rig within the confined testing area); the entire sample was fill, but because the terminal floor was approximately 3 1/2 ft. above grade, this boring just barely reached below-grade deposits. Fill was also found in the next boring (B2a), and to save time, sampling did not begin until a depth of 5 ft. was reached.

Like Boring B1a, Boring B2a encountered fill until refusal at 11.5 ft. below the terminal floor, or 8 ft. below grade. Refusal was apparently caused by a brick obstruction that might have been a fill fragment or perhaps a remnant of foundations for small shops or sheds on the lot by 1829. Or, it may have been a structural element of a later yard or basement (this latter interpretation proved correct).

Boring B3a also revealed fill, here to 10 ft. below grade (13.5 ft. below the terminal floor). This brick, cinder, and sand deposit was followed by about 4 ft. of brown sand with silt and gravel before a sandstone obstruction that caused refusal was reached. Again, this

sandstone might have been a cobble or boulder, a yard feature, or part of a building extension.

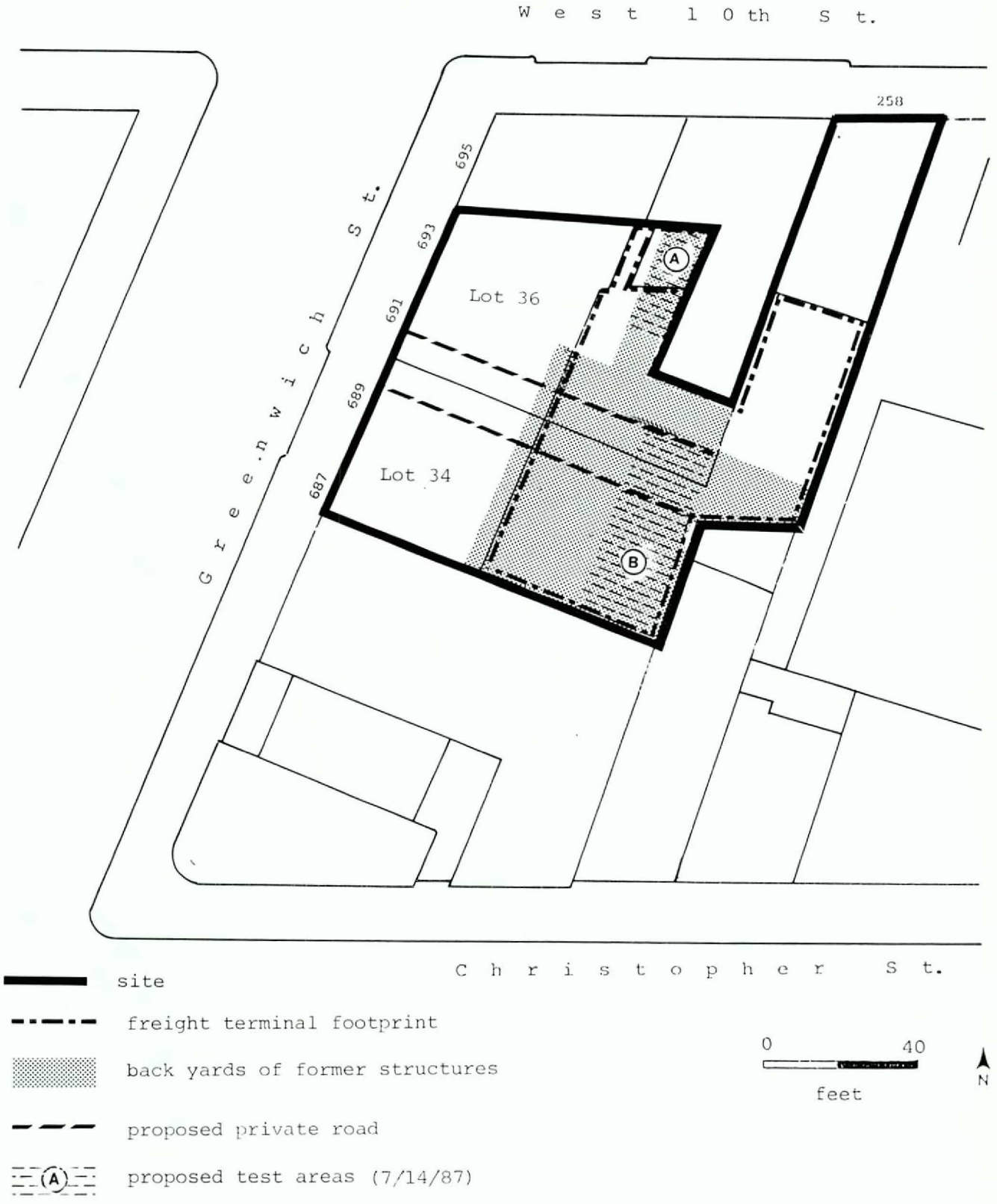
Since sampling could not continue past the obstructions encountered in Borings B2a and B3a, the nature of the material and what it represented remained a question. Consequently, testing within the confines of the terminal was inconclusive in relation to the site's archaeological potential. Based on this information and the archival data, a limited field testing program was recommended.

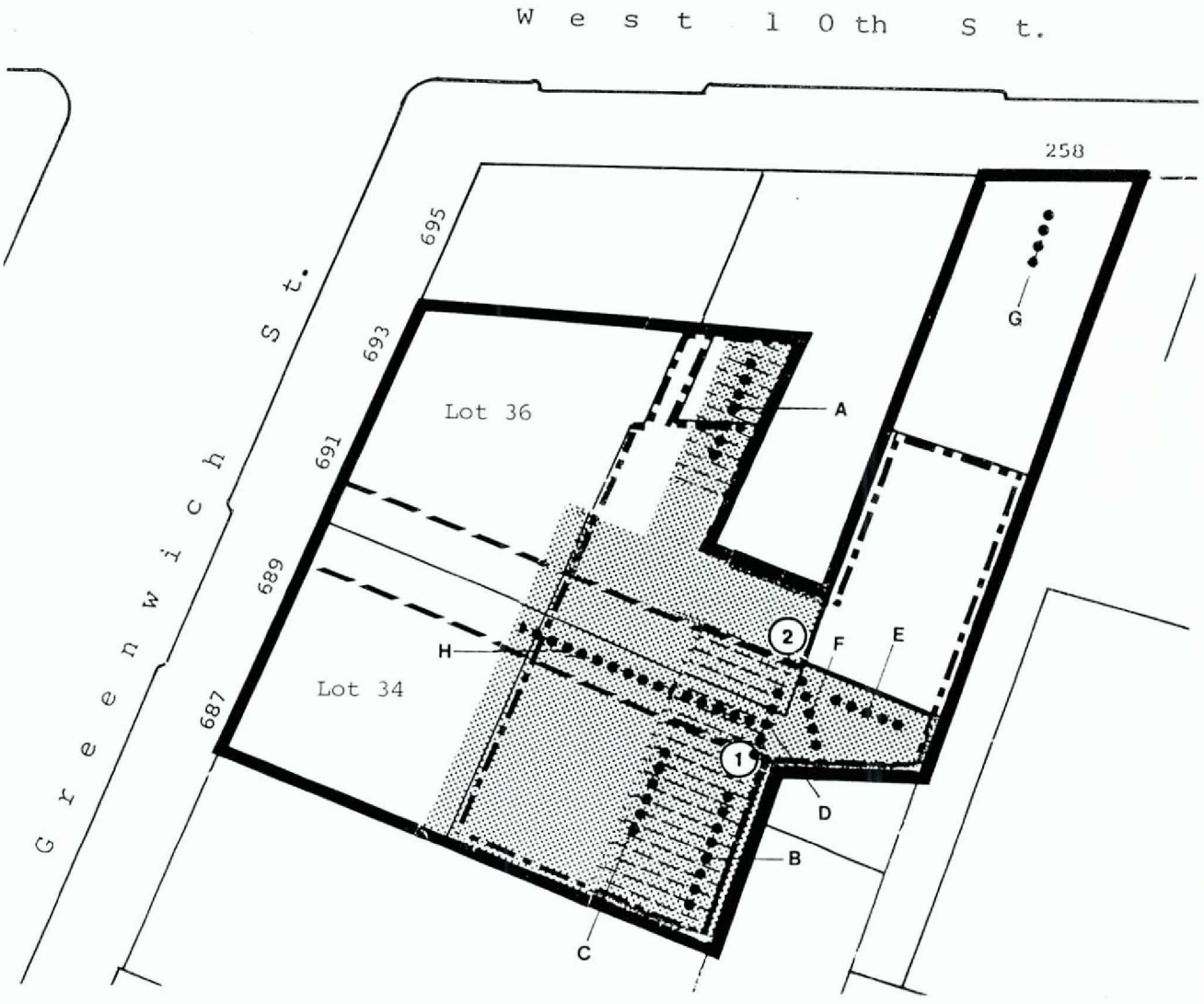
FIELD INVESTIGATIONS

The proposed scope of work, approved by LPC, was designed to test for yard features in the site's five former building lots (Geismar 1987; Figure 22 this report). Five field days were slated to obtain information about when any privy pits, wells, or cisterns associated with the row houses were no longer in use. A secondary goal was to document any remains of small, vernacular structures that might have preceded tenement houses built in the last quarter of the nineteenth century on two of the site lots. The field crew comprised the principal investigator, Joan H. Geismar, and an assistant field archaeologist, Shelly Spritzer, working with a backhoe and operator and two construction workers.

While only five days were spent in the field, inclement weather and scheduling problems extended the field time over a ten day period, from November 9 to the 18th. A total of eight trenches and three tests (smaller excavations) were dug that tested all the former yards on the site as well as the area under the basement of 258 West 10th Street where small structures once stood (see Figure 23 for trench locations). The trenches ranged from 10 to 45 ft. long and 5 to 10 ft. deep.

GREENWICH MEWS Proposed Test Areas (1987)

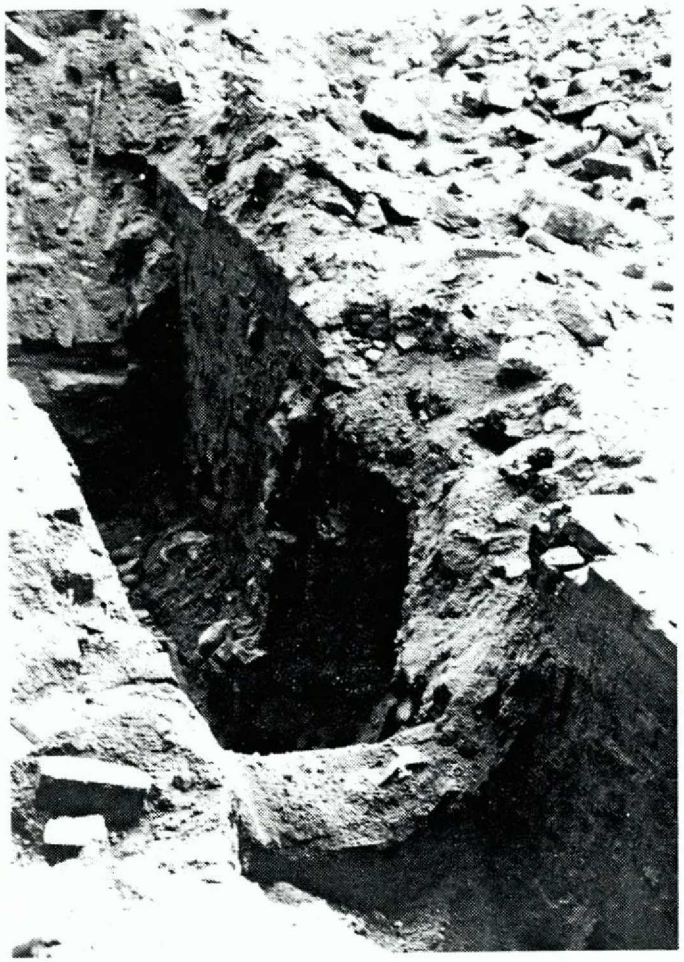



West 10th St.
Greenwich St.
695
693
691
689
687
258
Lot 36
Lot 34
A
B
C
D
E
F
G
H
1
2
site
freight terminal footprint (partially shown)
former back yards (1934)
proposed road
proposed test areas
location of trenches
located privies
0
40
feet
N

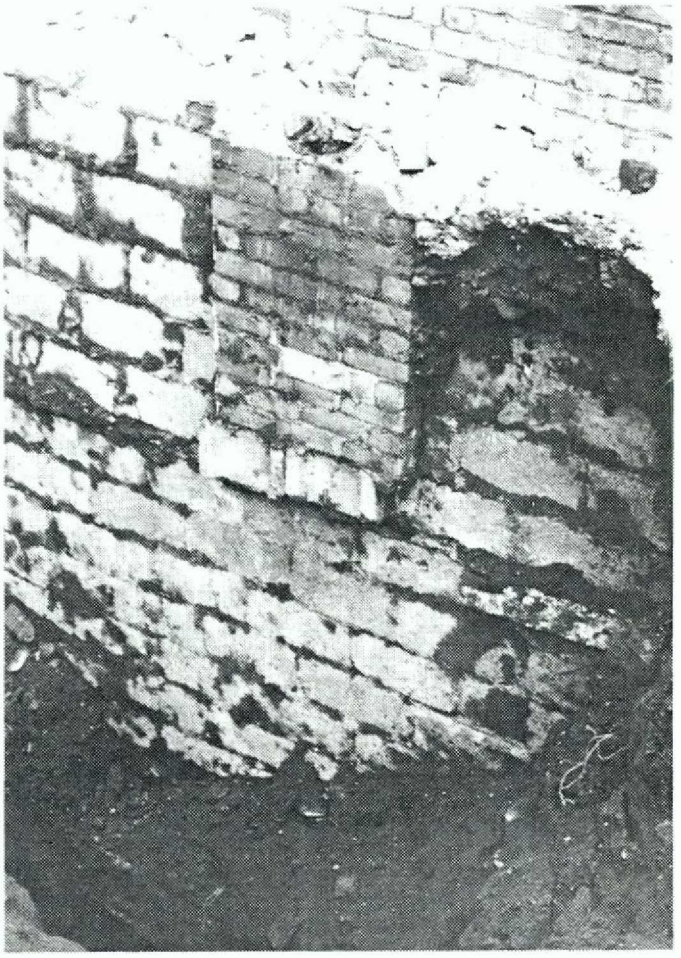
On the first day, the rear yards of 693 Greenwich Street and 258 West 10th Street, the two tenement sites, as well as portions of the yards at 687, 689, and 691 Greenwich Street were tested (Tests 1 and 2, Trenches A through F; Figure 23). These explorations revealed that a light-shaft or some other structural feature of 693 Greenwich Street had extended into the building's small yard area (Figure 24), obliterating possible evidence of the lot's early vernacular structures. They also revealed that foundations for the demolished freight terminal building were deeper, extending about 13 ft. below grade, and more obtrusive than anticipated (Figure 25). In addition, what appeared to be a basement entrance or perhaps a light-shaft had also been built onto the West 10th Street tenement.

It should be noted that no screening was attempted during the investigation: it was not appropriate during the trenching since rubble fill was encountered in the late-nineteenth century building extensions, and the two privy features ultimately found in testing contained such a profusion of easily recovered, whole or almost whole diagnostic artifacts that shovelling and trowelling the soil was considered an adequate sampling technique. In addition, speed was of the essence both for scheduling and for safety (this was particularly true of the first privy encountered, but for consistency of sampling, the same method was used for the second one). Moreover, the ultimate depth of both privies and the concomitant instability of their walls again made crew safety, and therefore speed, a primary factor.

Excavation of Trench B revealed that construction of the freight terminal wall had caused extensive disturbance in the rear portion of the 687 Greenwich Street yard, obliterating any trace of



24 Light shaft (?) exposed at rear of 693 Greenwich Street, an 1877 tenement built where small structures had been located by 1829. View looking southeast (photo 11/87).



25 North foundation of the freight terminal exposed during excavation at 693 Greenwich Street. It proved to be about 14 ft. below ground level rather than 4 ft. as shown in plans (NB 93-34) (photo 11/87).

its privy, and the trench was backfilled. Trenches C and F revealed no features and these, too, were backfilled. Trench D exposed a cement slab just under the surface with ash below. This shallow trench was closed, but in retrospect, if it had been continued it might have revealed the privy later uncovered in Trench H.

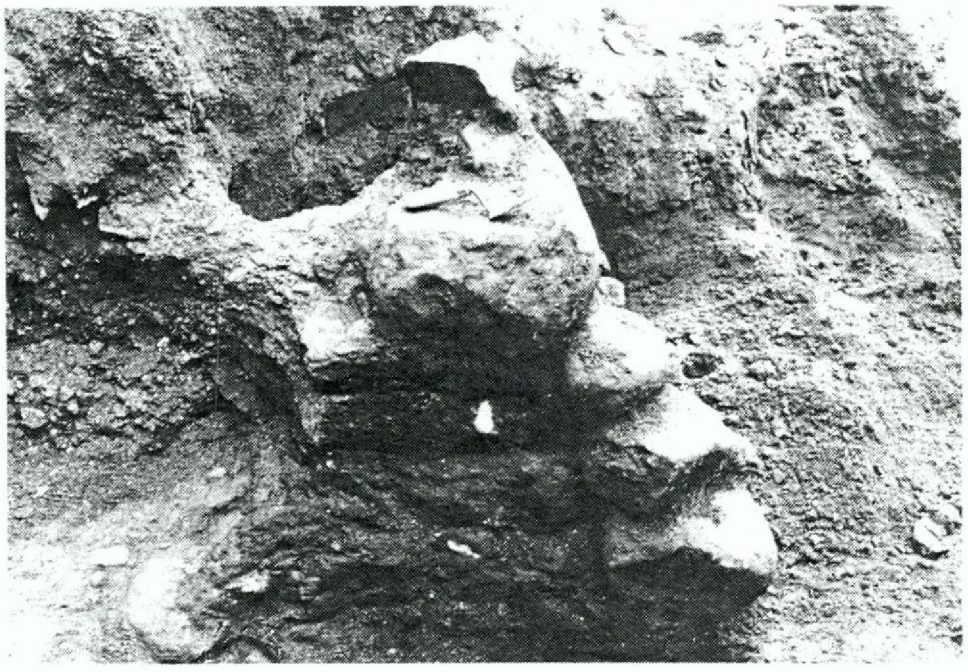
During the second field day (Friday, November 13), Trench G was opened down the center of the former structure at 258 West 10th Street. Although no exploration was originally planned here (see Figure 22), it was where early structures once stood and where deep excavations were planned for a parking garage. This trench was excavated to a depth of 10 ft., extending it beyond the rubble-filled basement, through a thin cement floor, into virgin soil. Half-round, undressed uprights placed 5-ft. apart were exposed in the basement, but no evidence of earlier foundations was found. Although the trench was expected to be stabilized by the concrete slab remaining from the freight terminal parking area, it quickly became unstable and was backfilled.

Trench H, running approximately 45 ft. from west to east, was excavated to expose any evidence of the back walls of the former row houses themselves or any property walls between 689 and 691 Greenwich Street. In addition, this trench might have exposed yard features straddling the property line. The excavation inadvertently veered slightly south as it reached the back of the yard, and it was here that large cobbles were seen for the first time. Backhoe trenching was stopped and shovels were used to define what turned out to be the remnants of a curving, dry-laid stone wall with artifacts adjacent to it in a dark ashy soil to the east. This part of the feature was

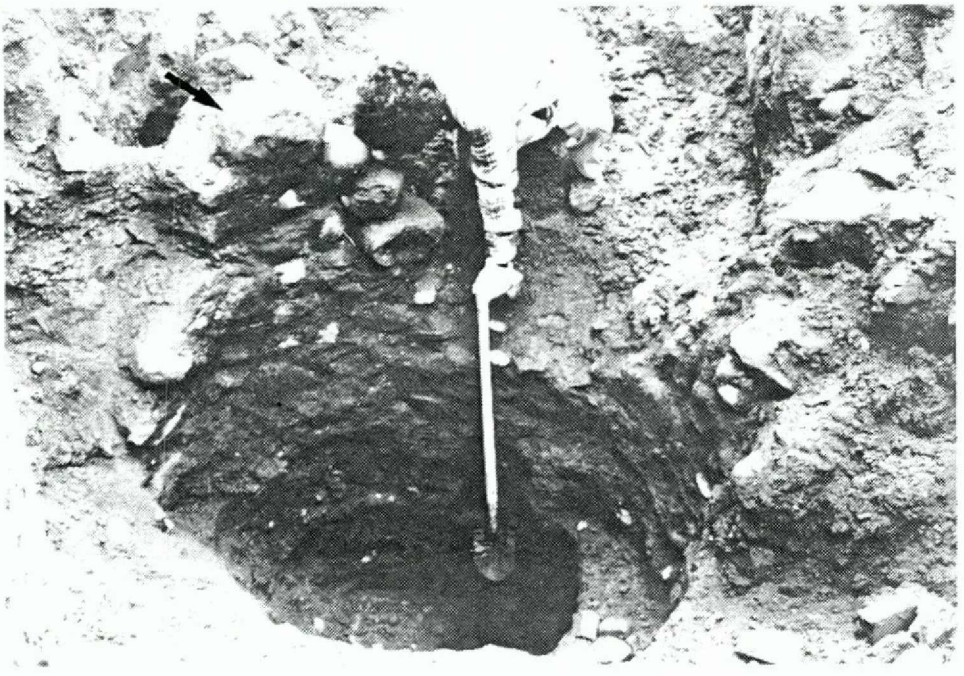
fully exposed, revealing that its finished, interior portion faced east (Figure 26). It is possible excavation of Trench D destroyed part of the feature, but since that trench was very shallow, and no stones were observed during its excavation, it is more likely that construction of the eastern wall of the freight terminal caused the damage.

All observed artifacts were recovered through shovelling or trowelling: these included whole or mendable, often embossed, identifiable bottles; ceramics, many with makers' marks that could identify and date them; and animal bones and shells, mainly oyster but some clam.

As shovelling continued beyond the damaged portion of the feature, it became apparent it was a privy approximately 6 ft. in diameter (Figure 27). Its depth and size made access and digging difficult, and the backhoe was ultimately used to transport excavators in and artifacts out. A grab sample was taken by approximately 1-ft. levels, and discarded earth was trowelled. In addition to bottles and ceramics, oyster shell and meat bones were found throughout (this was not the case in the second privy feature found later). The relatively pristine condition of the artifacts made for excellent recovery of diagnostic specimens, however, the condition and nature of the feature made profiling virtually impossible. Instead, an attempt was made to document the excavations and the feature itself through photos and notes about the soil--an ash-laden, clayey deposit, darker than the earth surrounding the feature. Soil density and wetness increased with depth although no standing water was encountered. Excavation stopped for the day at a depth of 108 in. (9ft.) below the damaged



26 Damaged, upper portion of Privy 1 at 689 Greenwich Street looking west after excavation. Note 10-in. trowel for scale (photo 11/87).



27 Same view as Figure 26 after excavation of Privy 1. Note partially destroyed portion shown in Figure 26 and marked here by an arrow (photo 11/87).

wall, or a little over 12 ft. from the surface. (It is interesting to note that the site grade was about 2 ft. below the grade of Greenwich Street.)

While excavations extended approximately 9 1/2 ft. below the top of the privy wall, only about 7 ft. were undisturbed. Discarded beef bones and oyster shell were found in profusion in the last 6 to 12 in. of the deposit. Approximately 1/4 of this part of the deposit was sampled (movement was greatly restricted and the privy wall appeared ready to collapse). Final measurements of Privy 1 taken prior to back-filling indicated the feature was somewhat elliptical, measuring 6 ft. by 7 ft. (see Figure 28 for schematic profile).

Since it was only early afternoon, an attempt was made to find the privy associated with 691 Greenwich Street, the lot just to the north. Assuming privy placement was patterned on the lots, Test 3 was placed in the northeast part of the 691 yard, exposing an intact, circular, dry-laid stone feature about 4 1/2 ft. below grade under an ash fill containing construction debris. The top course of stone suggested it might be two combined features, but with depth, it became a cohesive circle and was designated Privy 2 (Figure 29a and b).

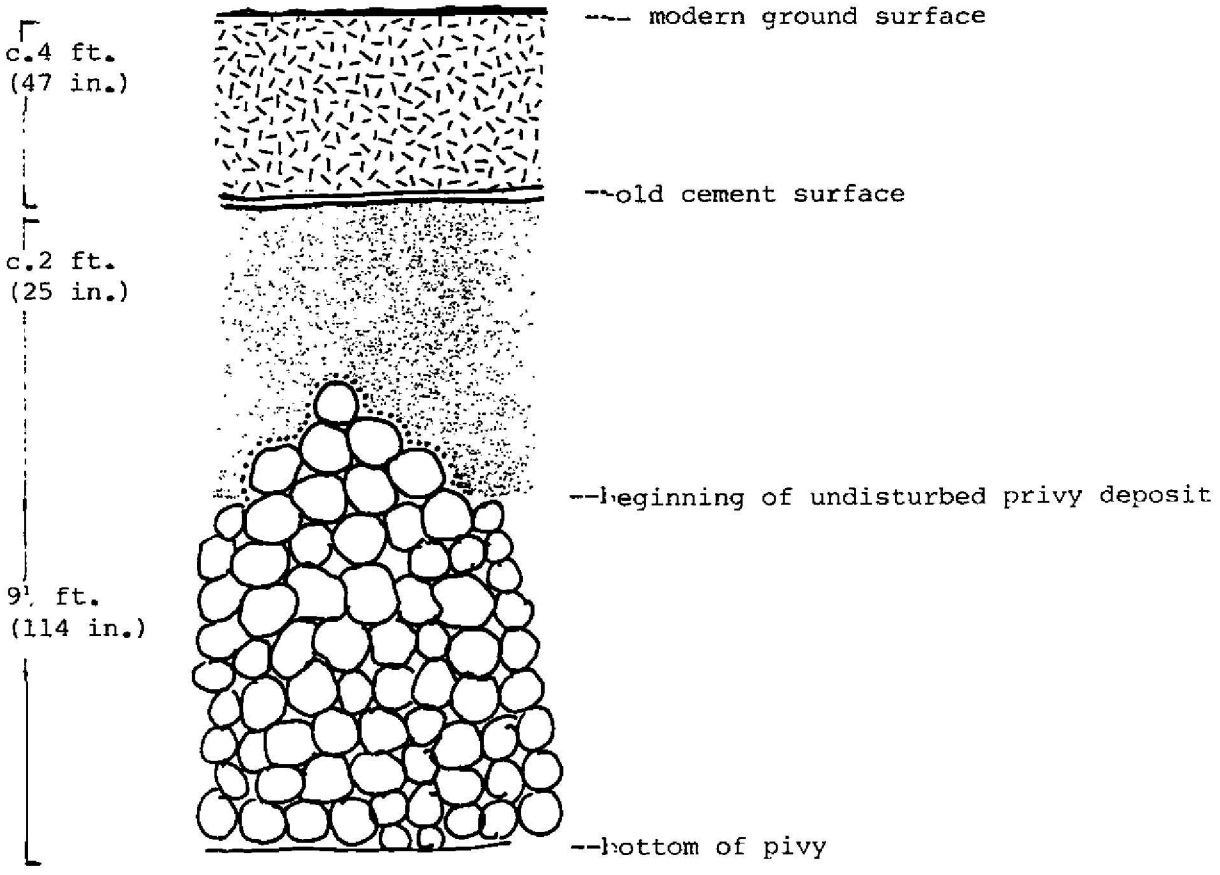
Four flat stones found in the western part could have been intended as support or covering, but were soon determined to be merely trashed step-stones. These were removed by hand and shovelling proceeded at approximately 1-ft. levels through 1 to 2 ft. of ash fill with relatively sparse artifactual material--mainly construction debris--that contained few bones or shells. As excavation continued, artifacts not only appeared less dense than those excavated from Privy 1, but also less diverse in terms of types of ceramics and bottles.

Beginning with Level 3, only the eastern half of the deposit was sampled to make it comparable to that of Privy 1 and to allow for profiling. About 4 ft. below the top of the privy wall, in the northeastern portion of the feature, several small (2 1/2 by 3 in.) glass plates and remnants of oxidized brass were excavated in situ (several more specimens were later found in the next level). Three had negative images of men still visible (one later disintegrated). These were identified as Ambrotypes, a form of direct collodion print, by Miles Barth, Curator of Archives at the International Center for Photography, and by Peter Mustardo, Head of Preservation for the New York City Department of Records, who cleaned and stabilized them (see Appendix I). A lock of blond hair and remnants of wooden frames were recovered in association with these plates (see Figures 52 and 53).

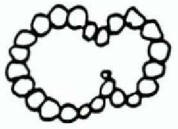
The upper 3 to 3 1/2 ft. of the western wall created by the excavation were profiled (Figure 30), but it collapsed soon after being drawn. No further attempt was made to profile the feature.

When excavation stopped for the night, measurements were taken that indicated there were 4 ft. 7 in. of yard fill above the privy, but no old cement layer comparable to that found above Privy 1 was encountered.

The next day, excavation was to begin at 8 1/2 ft. (102 in.) below the ground surface, but cleaning inadvertently extended slightly beyond, cutting into the privy deposit. After cleaning, an 8-in. void or hole was noted at this level, but it did not appear to have an outlet and its function remains an enigma. As excavation continued, it became apparent the soil in Privy 2, which included dense ash deposits, was somewhat wetter than that found in Privy 1.

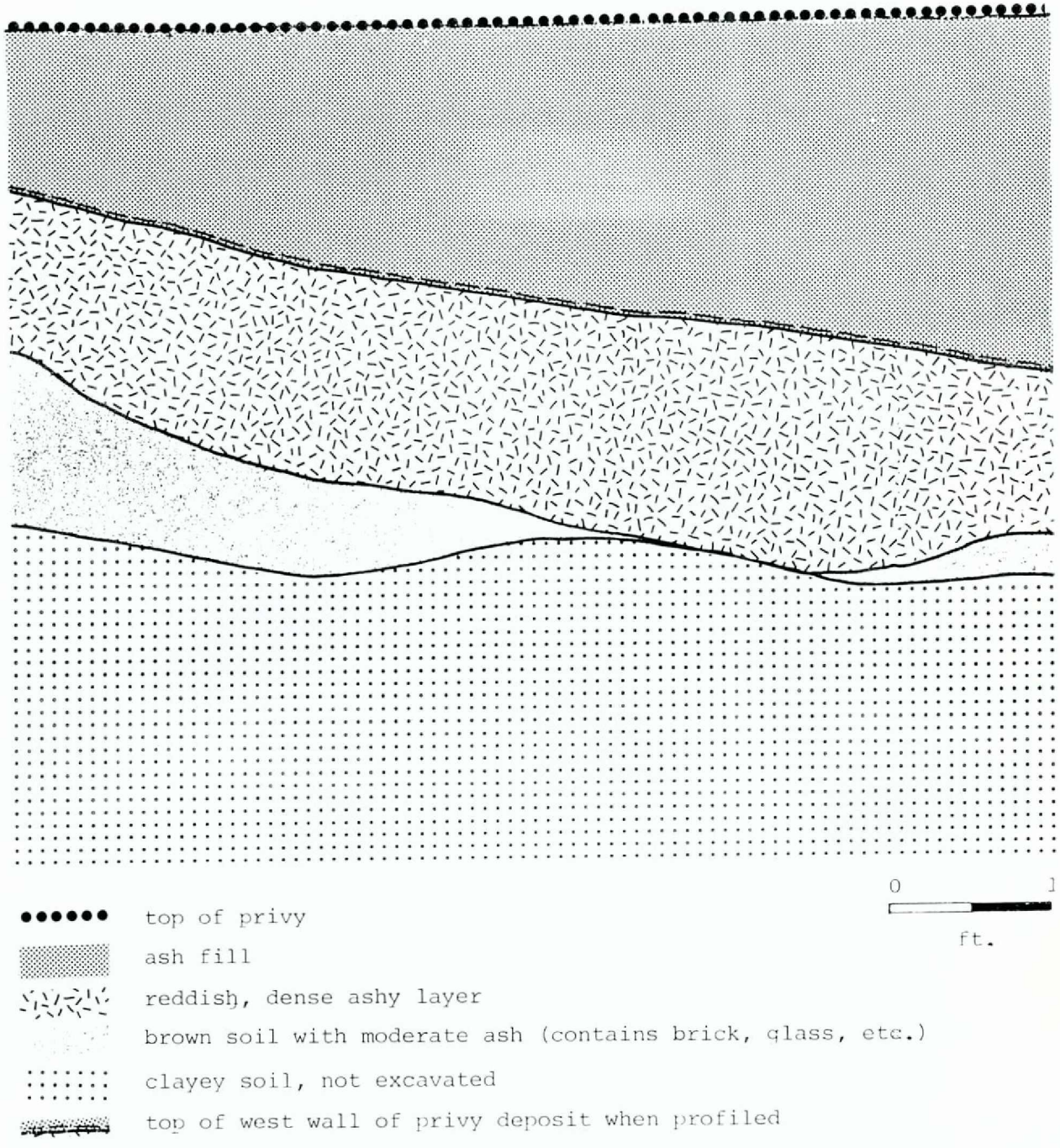

c.4 ft.
(47 in.)
c.2 ft.
(25 in.)
9½ ft.
(114 in.)
--- modern ground surface
--old cement surface
--beginning of undisturbed privy deposit
--bottom of pivy

not to scale



29a Schematic of opening configuration (not to scale).

29b Privy 2 on first day of excavation, looking east. Note fill overburden with imprint of backhoe teeth in upper left corner. Privy had become circular with depth (compare with 29a)(photo 11/17/87).


0
1
ft.
top of privy
ash fill
reddish, dense ashy layer
brown soil with moderate ash (contains brick, glass, etc.)
clayey soil, not excavated
top of west wall of privy deposit when profiled

While shovelling proceeded in the privy, the backhoe was used to test again for any remnant of the privy associated with 687 Greenwich Street to the south. Although isolated stones were found, no privy was identified even though 5 to 7 ft. of the back portion of the yard were investigated.

As the depth of Privy 2 increased, it became necessary to remove part of the western wall and some of the unexcavated deposit to obtain access and continue the excavation of the eastern half. This highlighted the difference between the soil inside and outside the feature: outside was a reddish clay, gravel, and sand; inside, a brownish, clayey soil with more ash than soil apparent.

At about 7 1/2 ft. into the deposit, the artifact content along the walls became denser, with few being recovered from the center. Oyster shells, which had been sparse, began to increase at about 8 ft. At this point, the privy was again closed for the night, this time by introducing plywood to mark where excavation had stopped and then backfilling. To protect the site from looters, "Beware of Dog" signs were mounted on the surrounding chain-link fences.

Metal objects were notably scarce in both privies--a door key, some copper coins (later determined to be a penny and a token from the Civil War period), a lamp part, a coat hook, and watch-works were almost all that were collected (see Figure 56)--and construction debris was denser in Privy 2 (this mainly comprised bricks and window glass from the upper levels, none of it kept). In addition to oyster shells, what proved to be the lowest level of the feature appeared to contain more porcelain ceramics than the upper ones, and blue transfer printed ceramic fragments were ubiquitous.

The artifact density continued to increase from 8 1/2 to 9 ft. as did the fragmentary condition of bone material (it should be noted that faunal material, which was relatively sparse, was not always collected in the upper levels of the deposit, but was in the lower ones). At 9 ft., the soil became less ashy, and within another 2 in. cobbles were encountered and the bottom of the privy reached. Two soil samples were taken from this level (others had been collected from above).

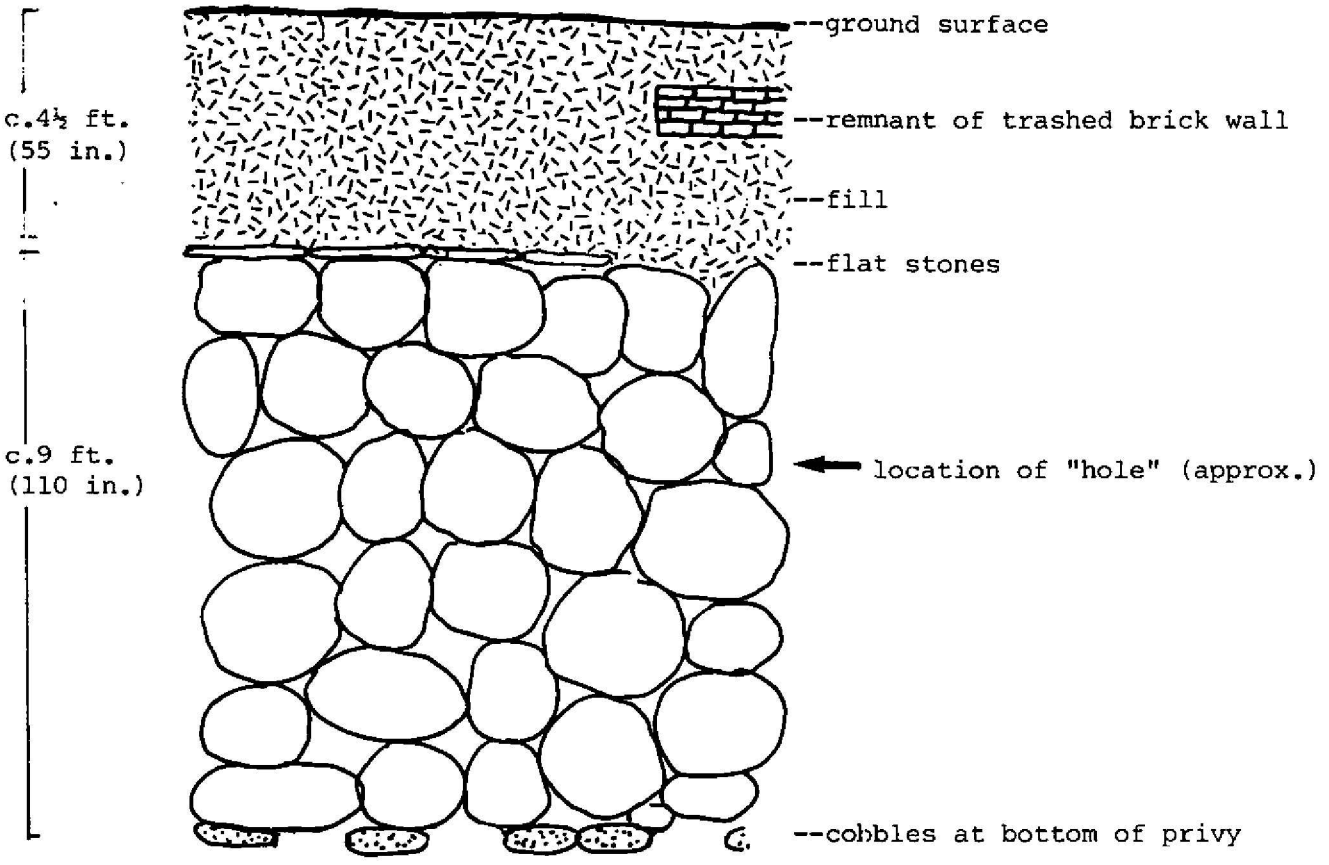
Again, cracks began to appear in the wall, and the privy was quickly backfilled for safety. The excavation was 13 ft. 9 in. (165 in.) deep: 9 ft. 2 in. (110 in.) being the privy pit and 4 ft. 7 in. (55 in.) the fill above it (Figure 31).

When Privy 2 was backfilled, arrangements were made to remove the artifactual material to the Hunter College Archaeology Lab for processing.

LABORATORY METHODS

Once the Greenwich Mews artifacts were removed from the site and taken to the Archaeological Laboratory at Hunter College (C.U.N.Y), they were either washed or, as was the case with leather and bone material, brushed when dry. A white water-based paint was then applied to a small space on each artifact and india ink was used to number them. These numbers were based on site, feature, level, and the individual item (e.g., GM 1-3-17 represents the site [GM/Greenwich Mews], feature [1], the level [3], and the artifact number [17]).[2] The dried ink was then sealed with nail polish and the artifacts cata-

[2] Since numbering the artifacts, the site has been assigned a New York State site number (A-1061-01-1303).


c.4½ ft.
(55 in.)
c.9 ft.
(110 in.)
--ground surface
--remnant of trashed brick wall
--fill
--flat stones
location of "hole" (approx.)
--cobbles at bottom of privy

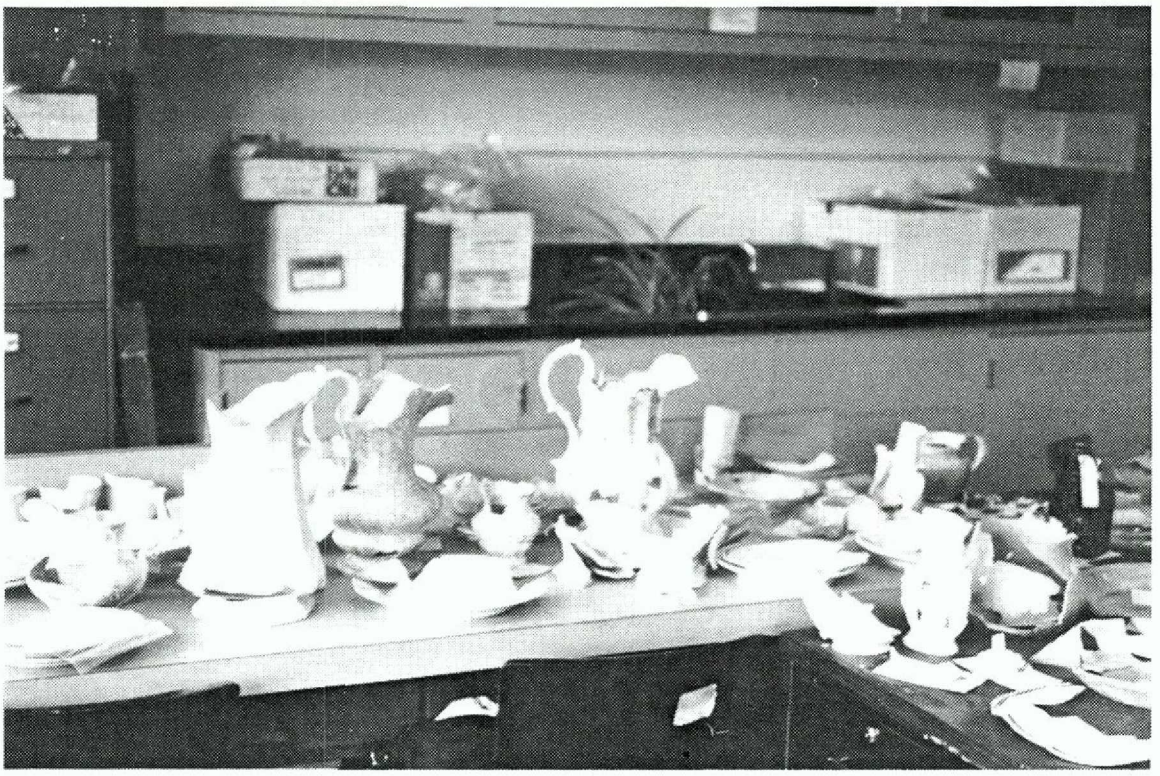
not to scale

logued. Those that were marked, such as ceramics with makers' marks or embossed bottles, were noted on cards for research purposes.

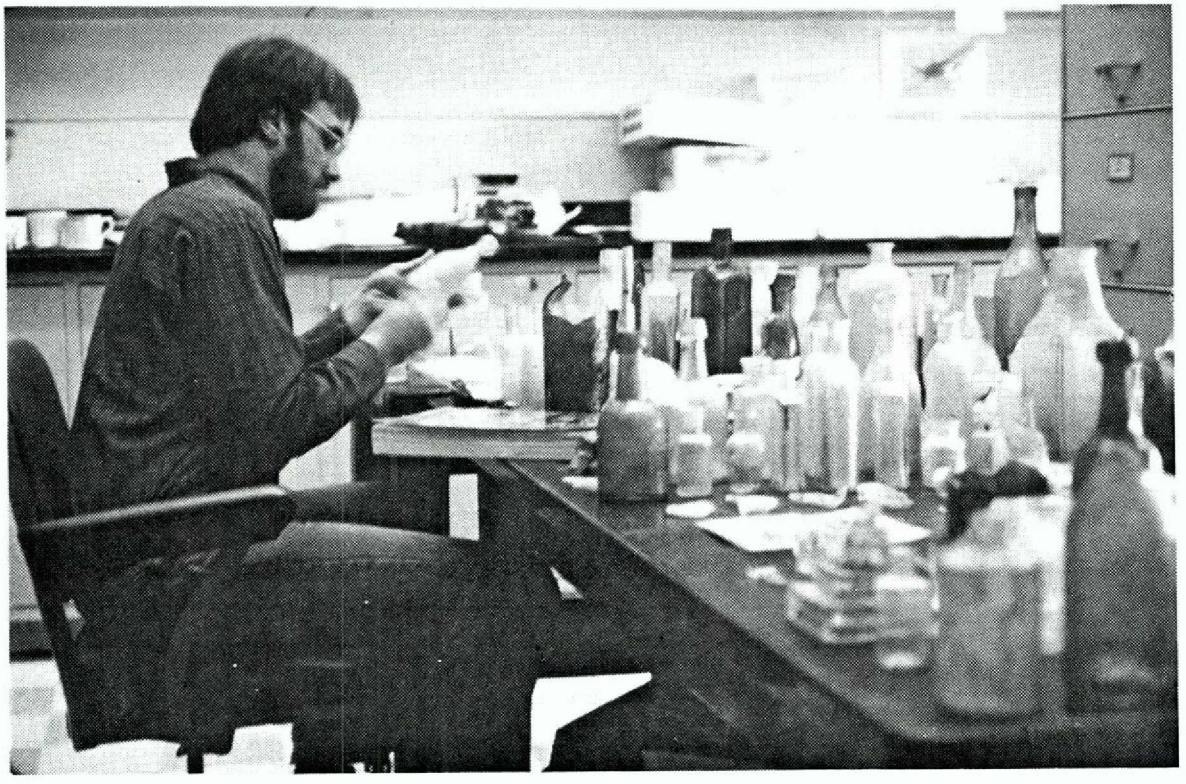
All mended artifacts were listed on cards as mends (sherds that mended within a level) or crossmends (sherds from one or more levels that mended) by the lowest artifact number. Most mends, and particularly crossmends, were assembled and glued. All artifacts were then bagged and boxed according to feature, level, and type (ceramic, glass, etc.). The crossmends were bagged individually and then boxed together, again using the feature and level as criteria.

There were thirty-six ceramic and two glass crossmends from Privy 1 and 100 ceramic and seven glass crossmends from Privy 2, all of them given vessel numbers (Privy 1 vessels were numbered 1 to 40, Privy 2 from 501 to 609). Major artifact categories, such as ceramics (Appendix C; see Figure 32), glass (Appendix D; see Figure 33), fauna (Appendix E), and micro-flora (Appendix F), were analyzed by experts (Meta F. Janowitz, Joseph E. Diamond, Barbara Davis, and Cheryl Holt, respectively) as were selected artifacts such as coins and the ambrotypes noted in the field section. In addition, Karl Reinhard did parasite and pollen analyses on soil samples from Privy 2 (Appendix G), and the contents of two sealed bottles were analyzed by Dr. Leonard Fine (Appendix H).

Of the 3,009 catalogued artifacts (fragments and whole or almost whole vessels and faunal material), only the ambrotypes were conserved (this was done by Peter Mustardo, Head of Preservation for the New York City Department of Records whose report is found in Appendix I). When lab procedures and analyses were completed, artifacts were bubble-wrapped and boxed for transportation to the South Street Seaport Museum where they are available for research and will eventually be exhibited.



32 Some of the mended ceramics from Privy 2 in the lab at Hunter College (photo 3/88).



33 Joe Diamond, the site's glass analyst, with some of the bottles and glass from Privy 1 (photo 3/88).

THE DATING, THE OCCUPANTS, AND THE ARTIFACTS

In the introduction to this report it was noted that archaeological investigation of the two extant Greenwich Mews privies provided data to address the issue of the abandonment of privies and the assumed adoption of the municipal sewerage system on this Greenwich Village street. In addition, it also offered glimpses into the mid- to late-nineteenth century lifestyles of the middle- and, to a lesser degree, working-class residents of the area (where possible, correlations were made with specific households). These were the tenants of row houses at 691 and 689 Greenwich Street, three-story structures that shifted from single-family occupancy when built in 1844 or 1845 to two-families by the 1870s. The investigation also yielded an extraordinary assemblage of whole, nearly whole, or mendable glass and ceramic artifacts that offered insights into manufacture dates, trade networks, and approaches to treating illness. And finally, it raised and at least partially answered questions about the construction and management of privies, and the degree to which laws instituted to protect the health and well being of the city's inhabitants were observed.

The previous section indicated that Appendices C through G present the detailed analyses of the major artifact categories used to address these issues. These include the analysis of ceramics, glass, fauna (bones), micro-flora (seeds), and parasite and pollen respectively, as well as analysis of the contents of two sealed bottles (Appendix H) and a description of the stabilization of mid-nineteenth century Ambrotype images (Appendix I). The information in this section is extracted from these appendices, tying the findings

together and expanding the analyses (the appendices, which will be found at the end of report, should be consulted for details and for additional information). There also are items, such as toothbrushes, smoking pipes, combs, shoe leather, buttons, and assorted objects that are part of the collection but did not undergo detailed analyses. These artifacts are available for research at the South Street Seaport Museum, as is the entire assemblage.

One result of the ceramic analysis was the definition of three relatively discrete deposits: one in Privy 1, a feature partially destroyed by construction of the freight terminal building in 1945, and two in Privy 2 (designated deposits A and B). These definitions are based on crossmended ceramics that identify a common level for each deposit. In Privy 1, this is Level 3: that is, almost all the privy's thirty-six crossmended ceramic vessels recovered from seven levels included fragments from Level 3. The crossmends from Privy 2's nine levels have two in common, Level 3 in the upper part and Level 7 in the lower, with a relatively clear break between Levels 4 and 5 (some sherds mend between the deposits, but the clarity of the pattern suggests these odd mends may be an effect of the collection method or of prior privy management; see Table 2). In addition, there is a possible concentration of crossmends in Levels 8 and 9, the two lowest levels. There is a vertical movement of fragments within all the deposits that suggests disturbance--perhaps a result of periodic privy cleaning--but the divisions are still well defined and were used to structure the artifact analyses.

Dating

Based on glass data from the upper levels of the intact privy associated with 691 Greenwich Street (Privy 2A), this feature, and

Table 2. GREEENWICH MEWS Ceramic Crossmends Plot
(number of fragments per level)
Privy 1 (vessel numbers 1-38)

CM#	L6	L2	L3	L4	L5	L6	L7
1	1	-	3	-	-	-	-
2	2	-	1	-	-	-	-
3	2	-	-	-	-	-	-
4	1	-	1	-	-	-	-
5	2	-	2	-	-	-	-
6	4	-	1	-	-	-	-
7	1	-	3	-	-	-	-
8	1	-	4	-	-	-	-
9	2	6	4	-	1	-	-
10	1	-	-	-	1	-	-
11	1	-	12	-	-	-	-
12	-	6	1	-	1	-	-
13	1	5	1	-	-	-	-
14	-	1	5	-	-	-	3
15	-	-	4	-	-	-	5
16	-	-	2	-	-	-	2
17	-	-	3	-	-	-	1
18	-	-	2	-	1	-	2
19	-	-	5	-	1	-	-
20	-	-	4	-	3	-	3
21	-	-	8	-	-	-	1
22	-	-	12	-	1	-	3
23	-	-	8	-	1	-	2
24	-	-	11	-	2	-	4
25	(VOID)						
26	-	-	2	-	1	-	-
27	-	-	7	-	-	-	-
28	-	-	1	5	-	-	2
29	-	-	4	-	-	-	1
30	-	-	1	-	1	-	-
31	-	-	1	-	4	-	10
32	-	-	1	-	-	-	3
33	-	-	2	-	1	-	-
34	-	-	2	2	3	-	1
35	(VOID)						
36	-	-	-	1	1	-	-
37	-	-	-	-	2	-	1
38	-	-	-	-	4	-	1
Total	19	18	124	8	29	0	45

Table 2 continues

Table 2. (continued)
Privy 2 (vessel numbers 501-602)

CM#	L1	L2	L3	L4	L5	L6	L7	L8	L9
501	3	1	–	–	–	–	–	–	–
502	2	1	1	1	–	–	–	–	–
503	1	2	–	–	–	–	–	–	–
504	1	6	–	–	–	–	–	–	–
505	1	1	–	–	–	–	–	–	–
506	4	–	–	–	–	–	–	–	–
507	–	6	2	–	–	–	–	–	–
508	–	8	14	–	–	–	–	–	–
509	–	4	5	–	–	–	–	–	–
510	–	3	1	–	–	–	–	–	–
511	–	1	2	–	–	–	–	–	–
512	–	1	1*	–	–	–	–	–	–
513	–	1	1	–	–	–	–	–	–
514	–	4	3	–	–	–	–	–	–
515	–	1	2	1	1	–	–	–	–
516	–	1	–	1	–	–	–	–	–
517	–	1	1	–	–	–	–	1	–
518	(VOID)								
519	–	–	2	–	–	–	–	–	–
520	–	–	1	4	–	–	–	–	–
521	–	–	3	–	–	–	1	–	–
522	–	–	1	–	–	6	2*	–	–
523	–	–	3	–	–	2	1	–	–
524	–	–	4	–	–	1	–	–	–
525	–	–	3	1	–	–	–	–	–
526	–	–	–	–	5	6	–	–	–
527	–	–	–	–	2	–	1	–	–
528	–	–	–	–	1	–	1	–	–
529	–	–	–	–	1	2	1	–	–
530	–	–	–	–	1	1	2	–	–
531	–	–	–	–	2	–	7	–	–
532	–	–	–	–	2	–	4	–	1
533	–	–	–	–	1	2	2	–	–
534	–	–	–	–	1	–	6	–	–
535	–	–	–	–	3	4	2	–	–
536	–	–	–	–	1	4	19	–	–
537	–	–	–	–	3	–	–	–	2
538	–	–	–	–	9	4	7	–	–
539	–	–	–	–	2	–	5	–	–
540	–	–	–	–	1	1	–	–	–
541	–	–	–	–	4	3	3	–	–
542	–	1	–	–	1	4	1	–	–
543	–	–	–	–	5	2	–	–	–

Table 2 continues

Table 2. (continued)
Privy 2 (vessel numbers 501-602)

CM#	L1	L2	L3	L4	L5	L6	L7	L8	L9
544	-	-	-	-	1	1	-	-	-
545	-	-	-	-	1	-	4	-	-
546	-	-	-	-	1	1	3	-	-
547	-	-	-	-	1	-	1	-	-
548	-	-	-	-	1	-	-	-	2
549	-	-	-	-	1	-	2	-	-
550	-	-	-	-	33	9	2	-	-
551	-	-	-	-	1	-	6	-	-
552	-	-	-	-	4	-	17	-	-
553	-	-	-	-	5	1	12	-	-
554	-	-	-	-	2	-	5	-	-
555	(VOID)								-
556	-	-	-	-	-	2	4	-	-
557	-	-	-	-	-	3	4	-	3
558	-	-	-	-	-	4	10	-	1
559	-	-	-	-	-	2	2	-	17
560	-	-	-	-	-	1	-	-	6
561	-	-	-	-	-	1	2	-	-
562	-	-	-	-	-	-	1	2	2
563	-	-	-	-	-	-	1	3	1
564	-	-	-	-	-	-	1	-	1
565	-	-	-	-	-	-	3	-	4
566	-	-	-	-	-	-	2	2	3
567	-	-	-	-	-	-	2	-	1
568	-	-	-	-	-	-	1	9	5
569	-	-	-	-	-	-	3	3	-
570	-	-	-	-	-	2	7	-	11
571	-	-	-	-	-	-	4	-	6*
572	-	-	-	-	-	-	6	8	2
573	-	-	-	-	-	-	4	5	1
574	-	-	-	-	-	-	3	-	3
575	-	-	-	-	-	-	5	1	-
576	-	-	-	-	-	-	2	3	-
577	-	-	-	-	-	-	5	-	1
578	-	-	-	-	-	-	13	-	8
579	-	-	-	-	-	-	2	3	3
580	-	-	-	-	-	-	2	-	1
581	-	-	-	-	-	-	1	2	6
582	-	-	-	-	-	-	1	1	-
								**********	
583	-	-	-	-	-	-	-	16	10
584	-	-	-	-	-	-	-	6	17
585	-	-	-	-	-	-	-	4	2
586	-	-	-	-	-	-	-	2	1
587	-	-	-	-	-	-	-	21	1
588	-	-	-	-	-	-	-	1	1
589	-	-	-	-	-	-	-	4	1
590	-	-	-	-	-	-	-	1	2
591	-	-	-	-	-	-	-	1	1

Table 2 continues

Table 2. (continued)
Privy 2 (vessel numbers 501-602)

CM#	L1	L2	L3	L4	L5	L6	L7	L8	L9
597	-	-	-	-	-	-	-	3	4
598	-	-	-	-	-	-	-	1	6*
599	-	-	-	-	-	-	-	4	2
600	-	-	-	-	-	-	-	18	13
601	-	-	-	-	-	-	-	1	1
602	-	-	-	-	-	-	-	1	8
Total	12	43	54	8	97	69	206	137	175

* other pieces match but do not mend
---- indicates a break in crossmend interface
**** indicates a possible break in crossmend interface
▒▒▒▒ indicates common crossmend level within a deposit

probably the partially disturbed one next door at 689 (Privy 1), was abandoned after 1880, and possibly as late as 1888 or even 1891, but these later dates are speculative. The 1880 date is the terminus post quem (TPQ), or the date after which an event occurred, based on researched bottles (on mid- to late-nineteenth century sites, bottles generally provide a more accurate TPQ then ceramics, the better time marker for earlier sites; however, as discussed below, this does not appear to be the situation in the lower deposit of Privy 2 [2B], nor even in Privy 1 which was partly disturbed by modern construction). The possible 1888 date is based on numbers embossed on a bottle base that may or may not represent a year, and the 1891 date comes from one fragment of safety glass from Privy 1, Level 1, that may be intrusive, modern demolition debris--both of them questionable TPQs (a 1970s cider jug fragment from Privy 1 Level 3 was also intrusive).[3]

A major question in bottle dating based on manufacture rather than identification and research, concerns the use of 1857 as the date for the introduction of the snap-case (until its introduction, the pontil was used in the finishing process). The site's glass analyst, Joe Diamond, citing Olive Jones, suggests it could have occurred earlier (see Appendix D). This became an important issue since thirteen snap-case bottles, and two two-piece post bottom molds that employ the snap-case as a finishing technique, were recovered from deposit 2B, an obviously early deposit. One of the eighteen researched bottles from this part of the privy has a TPQ of 1850 while all the others are earlier (see Table 3). Since the 1857 date is based on

[3] This conclusion is supported by recently found archival data that documents a sewer assessment for 691 and 689 Greenwich Street in 1886 (Assessment List 1886 138:35-36). Whether this is the first assessment, or merely the first surviving one, remains unknown.

"improvements" to a snap introduced into America "about" 1850 (McKearin and Wilson 1978:14), the inclusion of snap-case bottles in this earliest deposit does not seem untoward. Indeed, the dates on the researched bottles tend to suggest an even earlier date for its introduction; again, this is not untoward considering the French had been using this technique since the 1830s (McKearin and Wilson 1978:14).

Another adjustment in bottle dating was prompted by a Tweddle's Soda/Mineral Water bottle (see Figure 65) from Privy 1 with a white bare iron pontil scar and an embossed address of 38 Courtlandt Street, the company's location from 1844 to 1848 (NY Directories 1844-1876). This lowers the 1870 to 1880 date for the bare iron pontil proposed by Munsey (1970:62) by at least twenty-two years, a revision Joe Diamond finds acceptable (Diamond 1989:personal communication). Given this information, not only do the site's bottles provide dates for the privies' abandonment, they also suggest dating refinements for at least two mid- to late-nineteenth century bottle manufacturing techniques.

It is somewhat surprising that the TPQs for researched bottles and ceramics from Privy 2's lower deposit (2B) are consistent (1850 for the bottles and 1851 for the ceramics [Table 3; also see Appendices C and D]). The mean dates of manufacture based on researched vessels[4] are also well matched: the mean ceramic date (MCD)[5] for the entire, five-level, 2B deposit is 1845.4, the mean bottle date (MBD) is 1848.2

[4] Mean dates, based on the averaged manufacture date for an item, are usually calculated on fragments. However, since the Greenwich Mews artifacts were remarkably intact, vessels rather than sherds were used to obtain these dates.

[5] Several mean ceramic dates in this section will be different from those found in Appendix C since they have subsequently been recalculated with an end date of 1880 on long-manufacture dates. This modification is based on the TPQ derived from the site's researched bottles, information that was not available when the ceramic analysis was done.

Table 3. GREENWICH MEWS Bottle and Ceramic Dates‡ from Privy 1 and Privy 2 (2A and 2B) with Possible Tenant Associations

	MBD	BTPQ	MCD	CTPQ	Possible Tenant Association
Privy 1					
L1	1869.0	1868	1854.1	1862	Isaac Seltzer; Timothy Shea; Theo. Van Cort; Moses Pierson; 3 unknowns
L2	1866.5	1853	1858.3	1858	same as above
L3	1857.3	1845	1843.6	1860s	same as above
L4	1846.0	1844	1851.2	1851	Thomas Radford; John G. Davis
L5	no ident. bot.		1845	1847	same as above
L6	no ident. bot.		no ident. cer.		same as above
L7	no ident. bot.		1837.7	1820	John G. Davis
TOTALS	1859.5	1868	1846.2	1862	
Privy 2A					
L1	1868.3	1874	1860.7	1870s	George Onstead; August Hobby; 3 unknowns
L2	1864.4	1880	1856.4	1871	same as above
L3	1861.5	1866	1858.1	1851	Daniel Williams; George Onstead; August Hobby; 1 unknown
TOTALS	1864.0	1880	1858.1	1870s	
Privy 2B					
L4	no primary crossmends or identified bottles or ceramics				
L5	1854.6	1848	1851.1	1851	2 unknowns; Harry Britten; Samuel Furman
L6	1853.8	1850	1843.9	1851	same as above
L7	1842.5	1849	1840.8	1851	same as above
L8	1827‡‡	1825‡‡	1846.2	1843	Samuel Furman
L9	1852.7	1844	1844.1	1847	same as above
TOTALS	1848.2	1850	1845.4	1851	

‡ Dates adjusted to reflect data such as an 1880 TPQ for the filling of the privy, and an 1850 date for the introduction of the snap-case.

‡‡ Date based on one artifact.

MBD=mean bottle date BTPQ=bottle terminus post quem MCD=mean ceramic date
CTPQ=ceramic terminus post quem

TPQ for each level and deposit underlined.

(this latter date uses an 1850 snap-case date as a modifier on long manufacture dates). In most cases, bottle dates from mid- to late-nineteenth century sites are later than those for ceramics, the result of the increasing availability of cheaper, disposable bottles.

The findings from the upper, A, deposit of Privy 2 are more consistent with what is usually found: here the mean bottle date (MBD) is 1864 while on ceramics it is 1858.1. These same data from Privy 1, where the upper levels are missing and some of the remaining deposit was disturbed by construction in 1945, are less conforming than the Privy 2 deposits (see Table 3). But the most important, and perhaps telling, dates are provided by the TPQ dates: as noted in the Privy 2B deposit, with the exception of Level 8, where the only identified bottle was very early, the bottle and ceramic TPQs are quite consistent while in the upper, A, deposit the bottle TPQ is higher than the ceramic TPQ. Like the mean dates, the interpretation of the TPQs from Privy 1 is less clear-cut.

The Houses and Their Occupants 1845-1884

If the original occupants of 691 and 689 Greenwich Street are any indication, the mid-nineteenth century Greenwich Mews row houses were intended as residences for middle class tradesmen.[6] The eleventh district of the 1865 Sanitary Report of the Citizens' Association, the district that included the project site, is described as a middle class enclave. For the most part, it was the home of tradesmen, clerks, mechanics "of the better class" (691 Greenwich Street's

[6] Whatever the intention, the early occupants of 687 Greenwich Street, the only site row house where a privy was not located, were working- rather than middle-class; by 1850-1851 if not before, this was a four-family dwelling (actually five family, but according to the 1850 census, the Joseph and Welsh families were related in some unexplained way [see Table 1]). It is unfortunate that no artifacts were recovered from these households to compare with those from 691 and 689.

first tenant was mistakenly described as a mechanic [see Table 4]), cartmen,[7] and so on. Others who lived at 691 and 689 Greenwich Street between 1845 and 1884 included a butcher, a mason, a clerk, a coal merchant, and milk, oyster, fish, and mahogany dealers (see Tables 4 and 5). The identified tenants of 691 and 689 Greenwich Street probably characterize the occupants of the buildings for most, if not all, of the nineteenth century, and certainly for the period when the excavated privies were in use.

The 691 and 689 buildings appear to be two of the 1,721 houses classified as "private dwellings" in the sanitary inspection report even though they were tenanted (CAR 1865:120). The report defines tenant houses as "...all those originally designed as such [258 West 10th Street and 693 Greenwich Street, both built after 1877, meet this criterion] and all others once used as private dwellings but now occupied by more than three families" (CAR 1865:120-121). Given this definition, 691 and 689 were never "tenant-houses," but private, rented dwellings. The report goes on to document 484 buildings in the district that are considered "tenant-houses," and it seems likely that 687 Greenwich Street was one of them (see footnote 6 above).

In general, the private dwellings were not usually "first class," but were mostly

> two and one-half and three-story brick dwellings [see Figures 7 and 14]...from 20 to 40 years old [in 1865]... supplied with Croton-water, most of them lighted with gas and heated by stoves; while about one-half have drains connecting with sewers. The water closets are almost always in the yard (CAR 1865:121).

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[7] For example, Peter Smults, a cartman, and therefore a member of an elite New York City work force (see Hodges 1987), bought property from Richard Amos in 1824 and lived around the corner on Christopher Street for 27 years (LD 178 1824:83; LD 587 1851:104).

Table 4. GREENWICH MEWS Nineteenth Century Occupants of 691 Greenwich Street.

Year	Name	Age	Birth	Occupation	Remarks
1845	Furman, Samuel			Merchant	Partner to John Davis, his neighbor at 689 Greenwich Street. (C, D)
1850	Furman, Samuel	37	NJ	Mechanic	Actually a dry goods merchant. Dies Dec. 1862, ag 49, at 12 W. 25th St., again next door to Davis (actually, there were intervening years when they lived near but not next to each other). (C, D, DC)
	Ann	27	NJ		
	Samuel	2	NY		
	Mary	6/12	NY		
	McCord, Margaret	25	Ire.	[servant?]	
	Forde, Ann	25	Ire.	[servant?]	
1855	Britten, Henry	54	NJ	Mahog[ony] dealer	(C, D)
	Eliza(w)	46	NYC		
	Mary(d)	25	NYC		
	Luvina(d)	19	NYC		
	Henrietta(d)	17	NYC		
	James(s)	15	NYC		
	Jennette(d)	10	NYC		
	O'Keefe, Alice	16	Ire.	Servant	
1860					Block residents not found in 1860 census.
1870	Williams, Daniel	54	NY	Butcher	Occupation given for head of household only in this census. (C, D) Daniel's residency lasted at least 11 years. (D)
	Mary(w)	35	NY		
	Daniel(s)	27	NY		
	Eva(d)	16	NY		
	Fredrick(s)	23	NY		
	Margaret(d)	20	NY		
1880	Onsted, George	67	NY	Milk dealer	691 became a two family house by 1873. (C, D) Onsted's residency lasts 8 or 9 years.
	Lidia(w)	62	NY	Keeps house	
	Margaret J.(d)	31	NY		
	L.[?] Lillie(d)	16	NY		
	Winfield(s)	18	NY	Milk dealer	
	Waterson, Emma(d)	25	NY		
	Hobby, Augustus	35	NY	Clerk	
	Clevina[?](w)	29	NY	Keeps house	
	Ida(d)	6	NY	School	
	Edna(d)	4	NY		
	Loomis, Mary(sl)	26	NY		
1890	Cook, Terrence	55			(PC) No other information given.
	Maria L.	45			
	Julia C.	24			
	Annie L.	20			
	John E.	7			
	Roy, Alexander S.	83			
	John	38			
	Frank	36			
	Arnoux, Therou[?]	58			
	Loughlin, Hannah	80			
	Eilert, Eliza	80			Eilert residency lasts at least 3 years. (D)
	Ernest F.	24			
	Harry E.	20			
	Lizzie	17			

Source: C=Census D=Directory PC=Police Census (1890 only) DC=Death Certificate

Since the privies behind 691 and 689 Greenwich Street were functioning until at least 1880 (see dating above), these houses were among those in the district not yet hooked up to sewers in 1865.

Given the turnover of residents at 691 and 689 Greenwich Street and the three main depositional events identified through ceramic cross-mends, the privy deposits of these two row houses offer a glimpse into the tastes and choices of three or more households. Based on ceramic and glass dates, it appears that at least the two lowest levels of Privy 2's Deposit B may be associated with the first occupants of 691 Greenwich Street. This was Samuel Furman, a dry goods (silk) merchant, and his family (see Table 4).

In 1845, Furman and his wife, Ann, both originally from New Jersey, moved into the newly-built row house next door to his business partner, John G. Davis (see Tables 4 and 5). A son and daughter were born to the Furmans while at this address, and when the family moved sometime late in 1850 or before May 1, 1851 (NY Directory 1850-51), the children were both under 3.

Furman and Davis moved from Greenwich Street within a year of each other and continued their partnership until just before Furman's death at the age of 49. Although there were many years when their homes were near but not next to each other (NY Directories 1845-1860), they were again neigbors when Furman died in 1862 (Death Certificate 1862; NY Directories 1862).

While the archaeology of Greenwich Mews is not the archaeology of the rich or famous, in John Davis's case it concerns someone who later, at least to some degree, became so: Davis, the first occupant of 689 Greenwich Street, continued in the silk dry-goods business with other

partners just before and then after Furman's death (NY Directory 1855). He later became the vice-president of the Merchant's Exchange Bank, warranting a laudatory obituary in the New York Times at his death in 1889 (NY Times 1889). But at the time of his residency at 689 Greenwich Street, he was a young (27 to 34 year-old), middle-class dry goods merchant and importer of silks who lived with his wife, children, and at least two servants (Federal Census 1850; see Table 5).

As noted previously, subsequent tenants in both houses included milk, fish, oyster, and mahogany dealers, as well as a coal merchant, a butcher, a clerk, and a mason; there are also eight families that remain unknown. From 1845 until 1884, household occupancies ranged from one to fifteen years (Figure 34), and possible associations with privy deposit levels is shown in Table 3. Census and other information available for each household will be found in Tables 4 and 5.

The Artifacts

In this section, selected artifacts are used to examine the general lifestyles of the site's occupants. However, food and medicine bottles, chamber pots, and other artifacts related to nutrition, health, and sanitation will be discussed in another section.

If the artifacts from the lowest levels of the privies can be associated with the Davis and Furman households--and there is no reason to doubt this association--they offer some insight into the goods available to these mid-nineteenth century importers: both households disposed of transfer-printed and other decorated wares and plain white ceramics (Figures 35 to 39), perhaps the discards of their respective moves as suggested by Meta Janowitz, the site's ceramic analyst. In Furman's case, many were plates, cups, and saucers with an identifiable

Table 5. GREENWICH NEWS Nineteenth Century Occupants of 689 Greenwich Street.

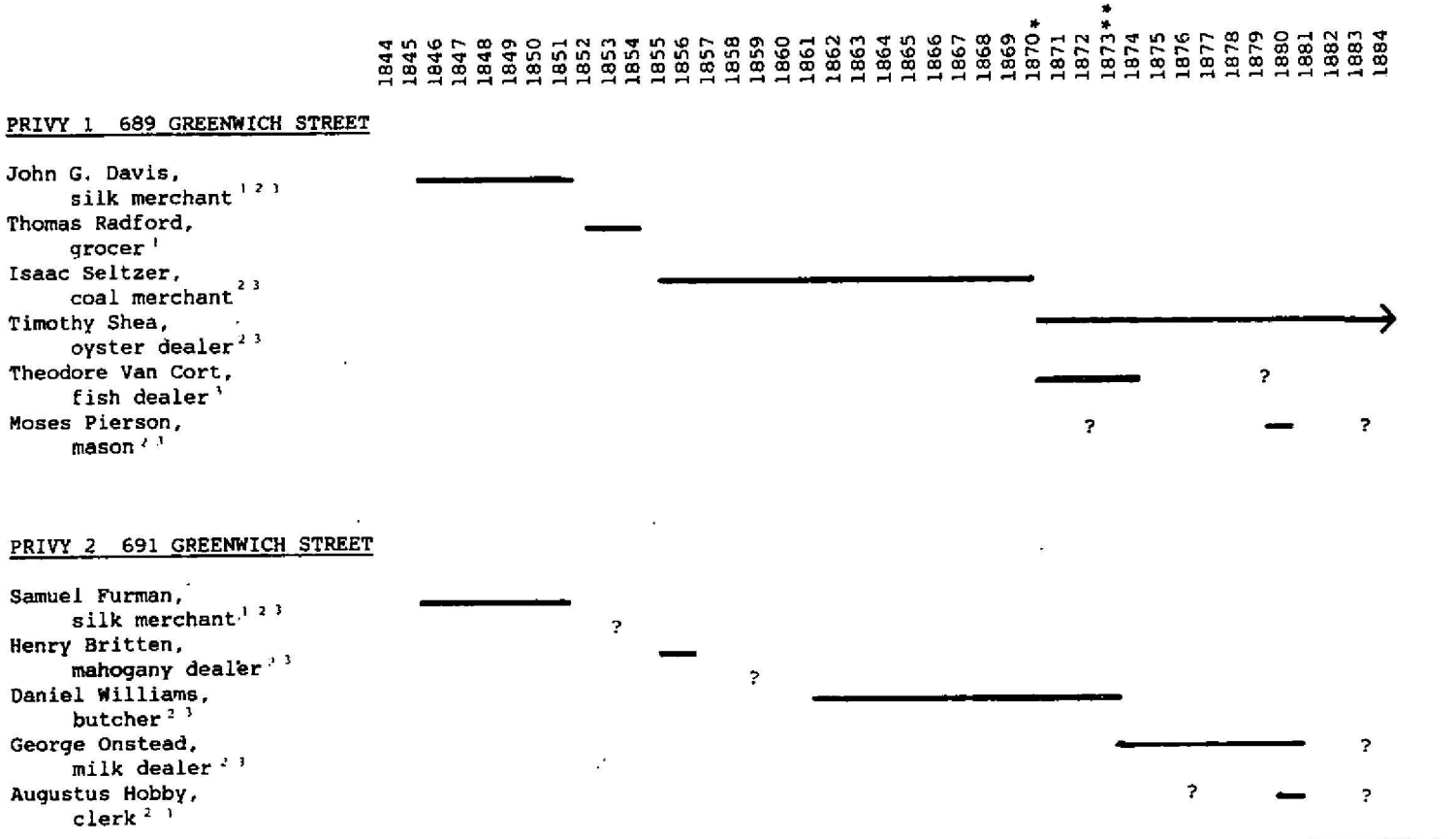
Year	Name	Age	Birth	Occupation	Remarks
1845	Davis, John G.			Merchant	Partner of neighbor Samuel Furman at 691 Greenwich St. (C, D)
1850	Davis, John	33	NY	Merchant	Davis dies April 1889, aged 73; then living at the New York Hotel on Washington Place. Possibly Ann and Nancy are sisters, but surname is spelled two ways. (C, D, DC)
	Mary A.	32	NY		
	Samuel C.	7	NY	At school	
	Julia G.	2	NY		
	Hundley, Ann	19	Ire.	[Servant?]	
	Hulay, Nancy	16	Ire.	[Servant?]	
	Harriott, Margaretta	22	NY		
1852/54	Thomas Radford			Grocer	Owner of buildings (TR); no other information available between censuses.
1855	Seltzer, Isreal[sic]	34	PA	Cole [sic] merchant	Seltzer's residency lasts for 16 years. (C, D)
	Mary(w)	34	PA		
	Rosabella(d)	3	PA		
	Vincent(s)	4/12	NYC		
	Brannigan, Bridget	35	Ire.	Servant	
	Schoner, Cath[erine](ml)	60	PA	Widow	
	Schoner, William(n)	22	PA	Clerk	
1870	Sherry[sic] Timothy	30	NY	Oyster dealer	689 became a two family house by 1870. (C, D)
	[Shea] Mary	25	NY		Shea's residency lasts 14 years. (D)
	Powers, Kate	18	NY		
	Powers, Ann	15	NY		
	VanCourt, Theodore	42	NJ	Fish dealer	
	Emma	35	NJ		
	William	18	NY		
	Fredrick	16	NY		
	Shea, Bemands[?]	20	NY	Oyster dealer	
	Mason, M.	30	NY	Silversmith	M. Mason and James Hancher possibly boarders.
	Hancher, James	35	NY	Dealer[?]	
1880	Shea, Timothy	40	NY	Oyster dealer	(C, D)
	May[sic] C.(w)	30	NY	Keeps house	
	Powers, Katie(1/2 s)	21	NY	Lacemaker[?]	
	Powers, Annie(1/2 s)	19	NY	Lacemaker[?]	
	Smith, Sarah	20	NY	Servant	
	Pierson, Moses H.	40	NY	Mason	(C, D)
	Matilda I.(w)	36	NJ	Keeps house	
	Carrie(d)	9	NY		Invalid
	Simon D.(s)	1 6/12	NY		[Twin]
	Tillie(d)	1 6/12	NY		[Twin]
	Stiles, Lottie	17	NJ	Nurse	
	Pierson, Daniel(f)	70	NJ	Mason	

continues

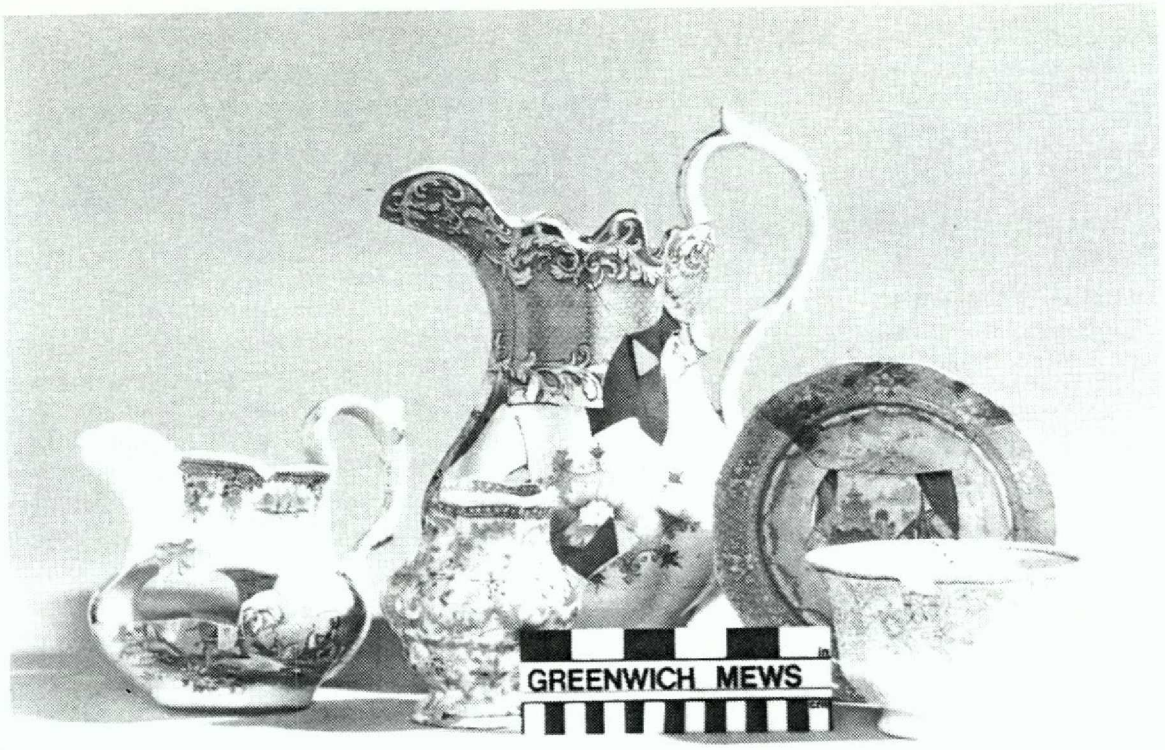
Table 5. GREENWICH MEWS Nineteenth Century Occupants of 689 Greenwich Street (continued).

Year	Name	Age	Birth	Occupation	Remarks
1890	Garvey, Johanna	55			
	Michael	66			Michael Garvey residency lasts 8 years. (PC, D)
	Evalina	23			
	Maude	14			
	Schaefer, Jackson	25			
	Griffin, John	25			
	Degraw, Frank	17			
	Bingoff, John	22			
	Brannon, Fred	22			
	Brannon, Edgar	21			
	Brannon, Mary	28			
	Casey, Patrick	45			

Key: Relationship: w=wife s=son d=daughter 1/2 s=half-sister n=nephew f=father ml=mother-in-law
Source: D=Directory T=Tax Rolls C=Census PC=Police Census (1890 only) DC=Death Certificate



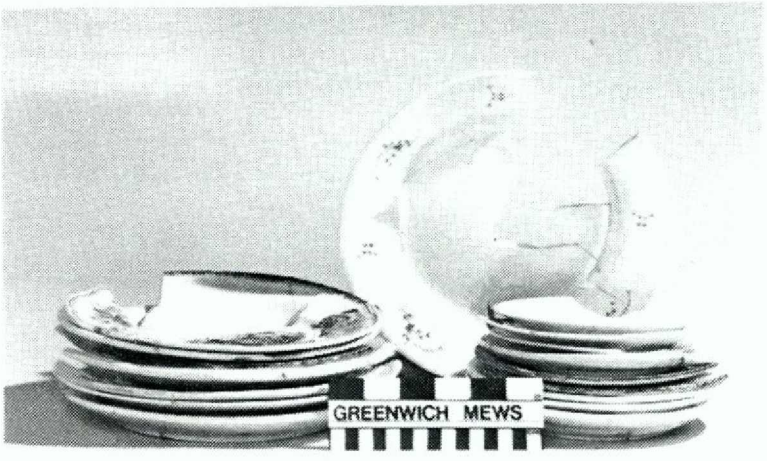
[1] Tax rolls
[2] Census
[3] New York Directories
* 689 becomes two-family by 1870
** 691 becomes two-family by 1873



35 Blue transfer printed tableware, all but the bowl in right foreground from Privy 2. Identifiable patterns include an ARCHIPELAGO plate (GM 2-5-45, upper right) and the large pitcher in the center which is a CANOVA variant (GM2-8-110).

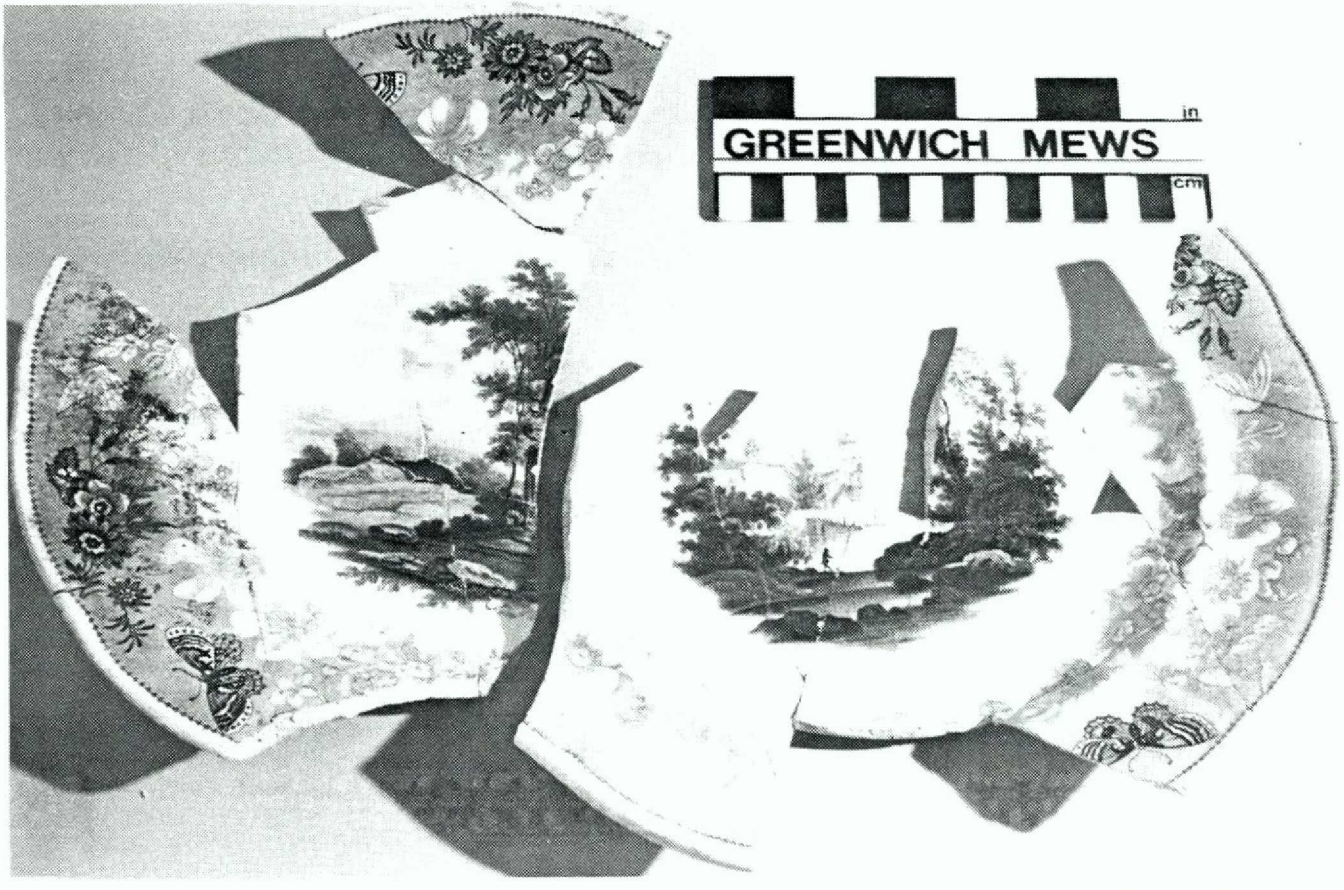
36 Blue transfer printed tableware, all from Privy 2. The dinner plate standing in the center rear (GM 2-6-66) is the TYROLEAN pattern, the cup in the center right (GM 2-8-30) and the dessert plates to the far right (GM 2-8-29, 2-8-25, 2-8-23), the BOSPHOROUS.

37 A selection of undecorated cups and saucers from both privies.



38 Assorted dinner and dessert plates from both privies. On the left are blue shell edge and brown transfer printed plates from Privy 1. Also from Privy 1 is a dinner plate decorated with a delicate hand-painted floral (GM 1-3-5, center rear).

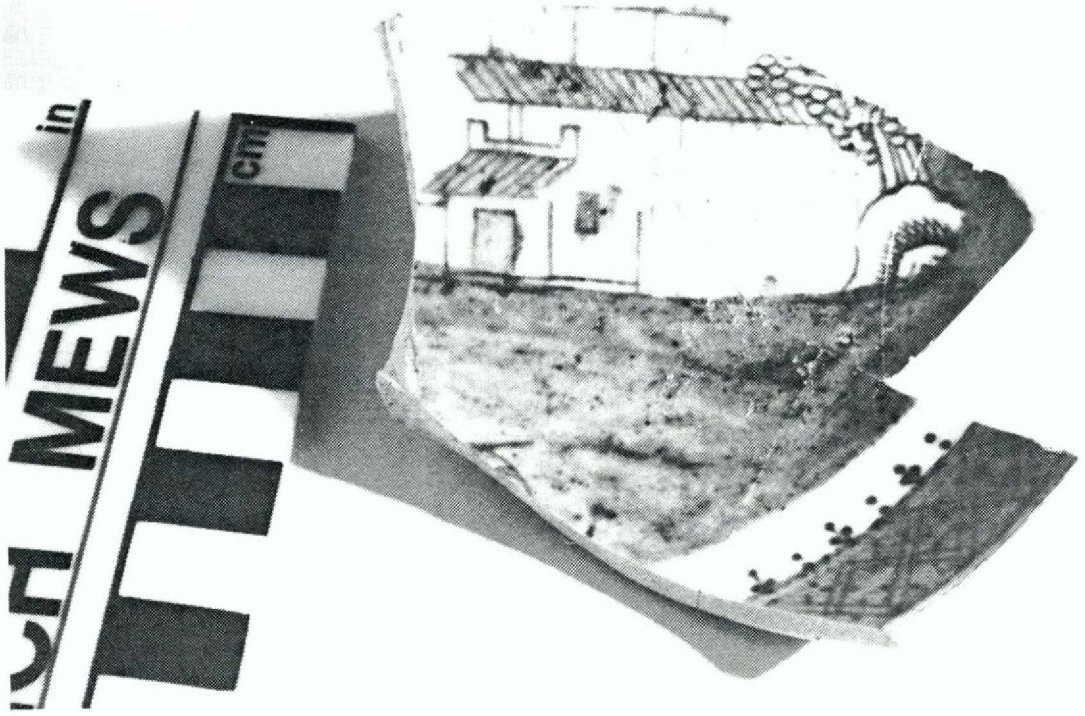
39 Color transfer print dinner plates with brown print borders from Privy 2 (GM 2-8-6 left, 2-7-163 right).



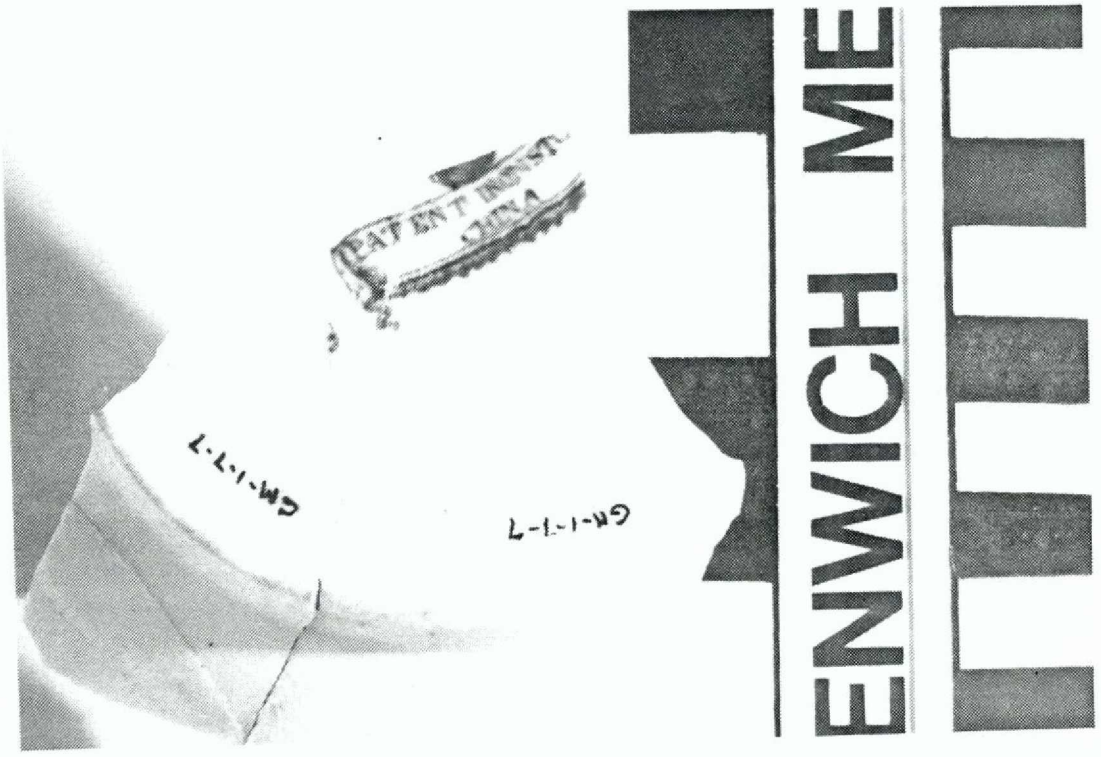
blue transfer print (the "Bosphorus" pattern) that indicate a set of dishes, or at least coordinated patterns. Based on makers' marks, all the earthenware dinner and tea wares appear imported from England (porcelains from the lowest levels of Privy 2B may have come from France while those from the upper levels of both privy deposits could conceivably be American made [see Appendix C]). The lower levels of Privy 1 are less well defined, and the researched ceramics do not appear to represent a set or sets but are instead an assortment of wares. Included in the feature's lowest level, and therefore perhaps associated with John G. Davis, is a rare example of Mason's Ironstone China (GM 1-7-7), an English-made, porcelain-like ceramic decorated with a Canton design (Figures 40 and 41).

Both privies produced curated items--glass and ceramics that often predate the deposits by decades and suggest heirlooms or family treasures. Among them was a cobalt blue, thirty-four ribbed glass salt cellar (GM 1-3-271, 272) with a blow pipe pontil and heavy use wear on the base (Figure 42; see also Appendix D). In another instance, the well-worn base of a Swaim's Panacea bottle produced in the 1820s suggest this bottle with a blow-pipe pontil (GM 2-8-147) was reused for decades (Figure 43 and Appendix D). A fine bodied redware mug, decorated with a wide blue band on the outside, a white slip interior, and gold lustre bands (GM 1-3-6; Figure 44), also came from Privy 1. Based mainly on its lustre decoration, it dates from about 1790 to 1840 and is perhaps another heirloom (see Appendix C).

In her summary, Meta Janowitz tells us that the ceramics from the site represent types available to middle-class New Yorkers in the third quarter of the nineteenth century. Although both privies showed

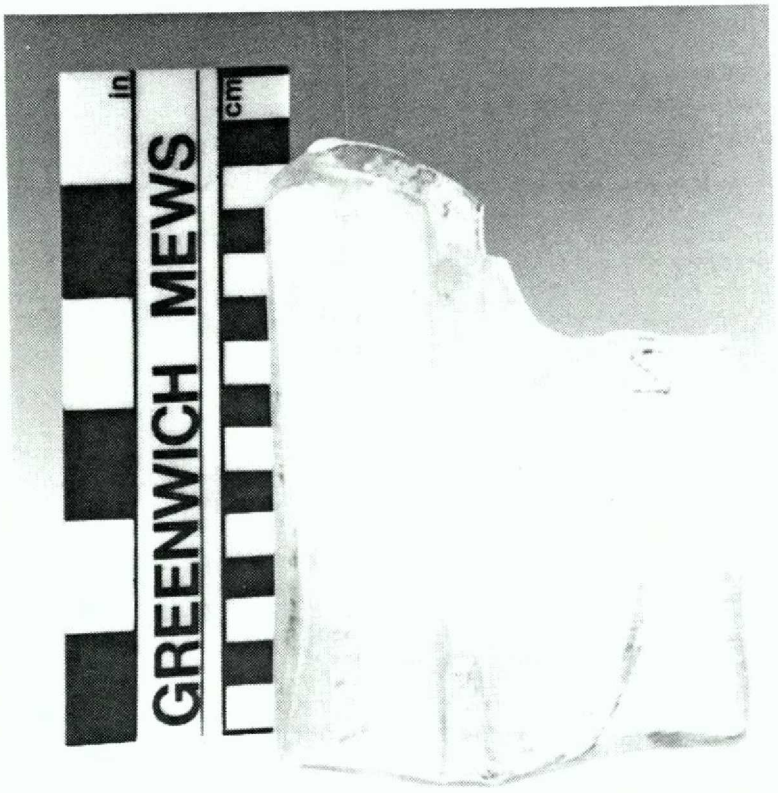


40 Fragment of Mason's ironstone plate (GM 1-7-7) from Privy 1 with hand-painted chinoiserie. This is a rare example of this early ceramic (see mark, Figure 41).

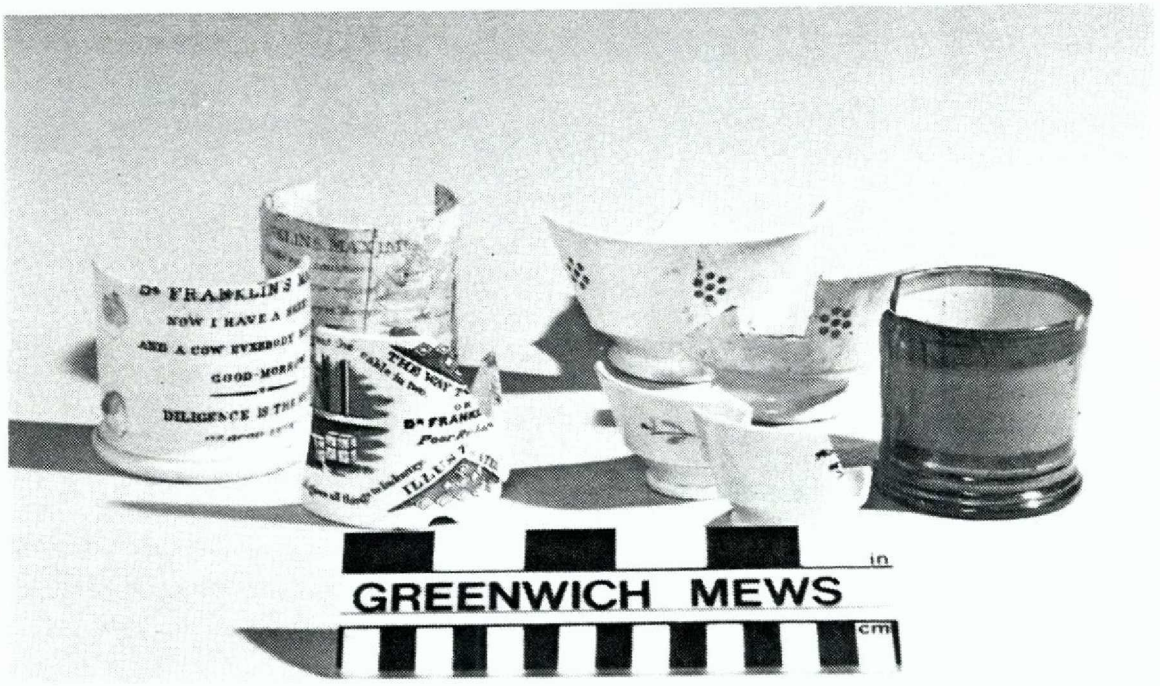


41 Printed mark on base of plate shown in Figure 40.

42 Thirty-four rib, cobalt blue glass salt cellar (GM 1-3-272), probably American-made ca. 1825. This appears to be an heirloom piece from Privy 1.



43 Bottom of a Swaim's Panacea bottle (GM 2-8-147), a Philadelphia-made patent medicine bottle dating to the 1820s. It has a blow-pipe pontil and is a rare item that predates the deposit by decades. It is possible that it came from trash associated with Samuel Furman or someone in his household.



44 Assorted mugs and cups from both privies. The three on the left are "Franklin" mugs with transfer printed maxims from Privy 2 (GM 2-7-189, 2-90-5, 2-5-76). The others are from Privy 1: on the extreme right is an example of a fine-bodied redware with lustre decoration (GM 1-3-6). This appears to be a curated item that dates between 1780 and 1840 and therefore predates the deposit.

a preponderance of blue transfer printed wares in the lower levels, they also contained undecorated whiteware and ironstone. In addition, she found that Privy 1 and Deposit B of Privy 2 have a higher proportion of tablewares compared with teawares than the later deposit in the upper part of Privy 2 (Deposit 2A; see Ceramic Table 4 in Appendix C). It is perhaps noteworthy that higher percentages of glass tablewares (mainly a profusion of tumblers[8]) and ceramic storage vessels are also found in the Privy 2B deposit (Table 6 and Ceramic Table 4 in Appendix C; also see Table 7 for a summary of identified bottles from both privies).

The differences in types of ceramic and glass vessels found in the three deposits analyzed for this report may reflect changes in social customs. This was suggested on earlier sites where an increasing ritualization of the dinner service is documented historically and archaeologically in the late-eighteenth to early-nineteenth centuries (Wall 1987). At the mid- to late-nineteenth century Greenwich Mews site, an increase in tea wares in the later deposits (see Ceramic Table 4 in Appendix C) suggests that this once elite, social event may have been adopted by the middle and working classes over time. This in turn suggests that the vessels found on archaeological sites may not only indicate economic differences, but also the cultural and technological changes that made former status goods available to lower economic households. In addition to alterations in social practices, this undoubtedly reflects the availability of goods caused by technological advances in both production and transportation.

[8] A high proportion of tumblers was also found in a contemporaneous deposit from a privy associated with a doctor's house near Washington Square (Salwen 1988:personal communication).

Table 6. GREEENWICH MEWS Summary Glass Analysis

Glass Categories	Privy 1		Privy 2A		Privy 2B		TOTAL	
	#	%	#	%	#	%	#	%
bottles	117	80.7	71	76.3	67	65.1	255	74.8
tableglass	21	14.5	15	16.1	34	33.0	70	20.5
lighting	7	4.8	4	4.3	2	1.9	13	3.8
pets	0	0.0	2	2.2	0	0.0	2	0.6
toys	0	0.0	1	1.1	0	0.0	1	0.3
TOTAL	145	100.0	93	100.0	103	100.0	341	100.0

Bottle Types (Function)	Privy 1		Privy 2A		Privy 2B		TOTAL	
	#	%	#	%	#	%	#	%
food	10	8.5	8	11.3	11	16.4	29	11.4
beverage	7	6.0	4	5.6	3	4.5	14	5.5
alcohol	24	20.5	13	18.3	12	17.9	49	19.2
medicine	41	35.0	33	46.5	33	49.3	107	42.0
cosmetic	12	10.3	5	7.0	4	6.0	21	8.2
household	5	4.3	1	1.4	1	1.5	7	2.7
unidentified	18	15.4	7	9.9	3	4.5	28	11.0
TOTAL	117	100.0	71	100.0	67	100.1	255	100.0

Table 7. GREENWICH MEWS Summary of Identified Bottles

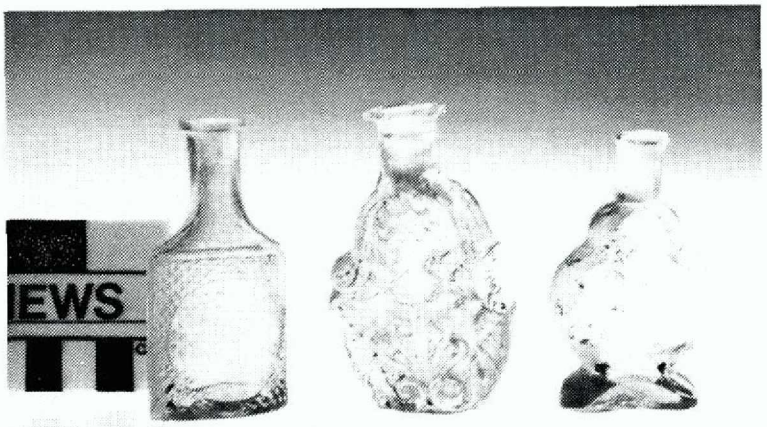
	Privy 1		Privy 2A		Privy 2B		TOTAL	
	#	%	#	%	#	%	#	%
food	10	10.1	8	12.5	11	17.2	29	12.8
beverage	7	7.1	4	6.3	3	4.7	14	6.2
alcohol	24	24.2	13	20.3	12	18.8	49	21.6
medicine	41	41.4	33	51.6	33	51.6	107	47.1
cosmetic	12	12.1	5	7.8	4	6.3	21	9.3
household	5	5.1	1	1.6	1	1.6	7	3.1
TOTAL	99	100.0	64	100.1	64	100.2	227	100.1

A profusion of cosmetic items--ceramic cold cream pots, most of them from Privy 2A (Figure 45), perfume bottles from each privy deposit (Figure 46), hair preparations, including hair-dye bottles from the upper three levels of Privy 1 (Figure 47)--all attest to a concern with appearances (while most appear to be female-related items, hair dye could have been used by a man as well as a woman). The number of hair dye bottles--six Batchelor's (the producer's name, not the targeted market) Hair Dye No. 1 and one Phalons Magic Hair Dye--prompted a search of the New York Directories to see if a hairdresser or wig maker was ever located at 689 Greenwich Street, but none were found. It appears this hair dye (Batchelor's was black, Phalons came in brown or black) was used in the home, perhaps to color the hair, a wig, or a toupee of one of the site's occupants.

Barry's Tricopherous was another hair preparation represented by three bottles in the 2B deposit [GM 2-7-38, 2-7-39, 2-9-182]). According to the New York Directories, it was produced between 1844 and 1861, and advertisements identify its maker as "Prof. Alex. C. Barry" who claimed it was the "best and cheapest article for dressing, beautifying, cleansing, curling, preserving and restoring the hair" (NY Times 1858). It was available at "druggists and perfumers," and ladies were urged to try it. A Lyons hair preparation (GM 2-5-10) represents at least one of Prof. Barry's competitors.

In addition to products to enhance one's appearance (which also included shoe polish [GM 2-3-108]), Parson's furniture polish (GM 2-7-37) was apparently used to shine the furniture, and objects to decorate the home and table were also recovered. Among them were five porcelain vases, one from Privy 1, three from the Privy 2A deposit,

45 Cold cream and ointment pots were found in both privies, but these are from Privy 2.



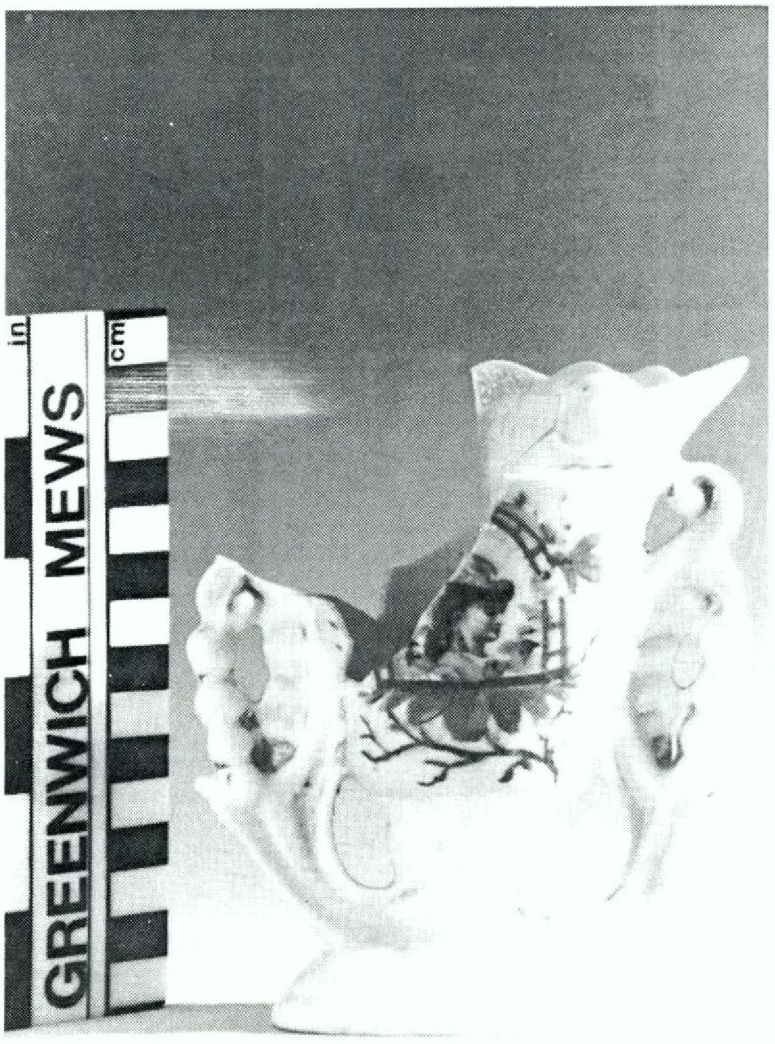
46 Cologne bottles from both privies. The one in the center is from the lowest level of Privy 2 (GM 2-9-184) and may be associated with the Samuel Furman household.

47 Hair dye bottles from Privy 1. Except for the PHALLON'S hair dye on the extreme right (GM 1-1-21), all are BATCHELOR'S HAIR DYE NO. 1 mainly from Level 3.

and one from 2B (see Appendix C). One of those from Privy 2A (GM 2-3-35) may be either French or German. Moreover, a woman's portrait decorating the vase (a transfer print enhanced by hand painting) suggests both mass production and handwork (Figure 48) and depicts a hair style and hat that date it to the 1860s or later (see Appendix C). Ceramic animal figures--a cat from Privy 1 and a dog from Privy 2--were also recovered (Figure 49), and both functional and decorative glass tableware included faceted and paneled tumblers (mainly from Deposit 2B), cruets, and candlesticks (Figures 50 and 51) in addition to a distinctive pillar molded lead glass pitcher (GM 1-2-24; see Appendix D).

Other decorative items, or perhaps personal objects would be more accurate, were the Civil War-era Ambrotypes from the upper levels of Privy 2 that were noted in the Field Section. These glass plate prints were both startling and exciting discoveries: startling because they were totally unexpected and exciting because they were so well preserved after at least 100 years in the ground. Three male portraits were still intact, although one image soon flaked away. As noted earlier, the two that survived were stabilized by Peter Mustardo (see Appendix I and Figures 52 and 53 this report). The number of photographic plates again prompted a search to determine whether 691 Greenwich Street had ever been rented as a photographer's studio, but like the hair dye bottles, these artifacts appear to have been discarded personal belongings.

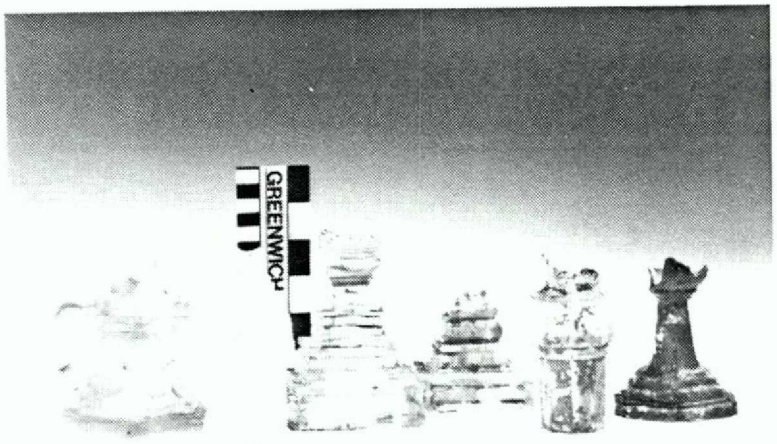
The exact function of pitchers recovered in profusion from the 2B deposit was a question since they could represent table service or vessels used for storage or hygiene (this latter category is noted under "Sanitary" in Ceramic Table 3 in Appendix C). For this analysis,



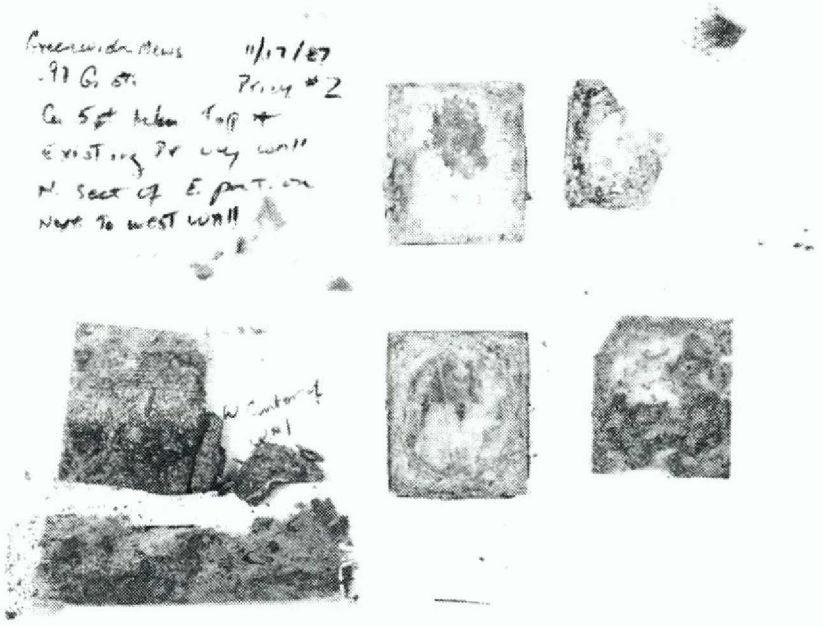
48 The transfer printed and hand-painted profile of a woman dates this porcelain vase from Privy 2 (GM 2-3-35) to sometime after 1866 when the hair and hat styles depicted were in vogue (see Appendix C).

49 Glass bird water dish on the left and the feeder next to it--as well as the marble and dog figurine are from the Privy 2A deposit; the cat figure on the extreme right is from Privy 1.

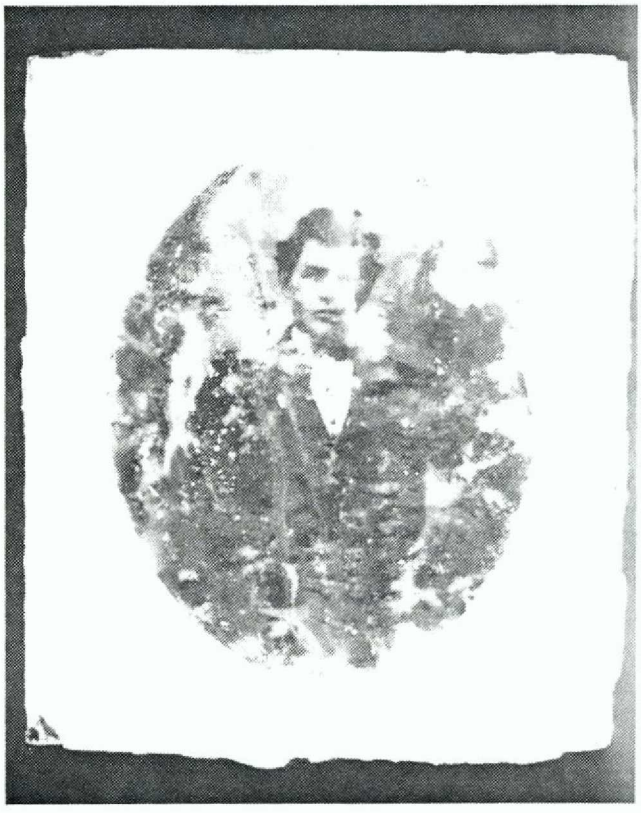
50 Assorted tumblers from Privy 2.



51 Cruets, candlesticks, and unidentified glass tableware from both privies.



52 Several examples of ambrotype plates and images recovered from Privy 2 prior to cleaning and stabilization. Bags in left hand corner contain soil with ambrotype frame fragments (photo by Peter Mustardo).



53 Ambrotype image of a young man recovered from Privy 2. This was one of many Civil-War era collodian prints, cover-glass, and frame fragments recovered from Privy 2. This photo, showing the print at approximately actual size, was taken prior to stabilization. A reverse print was required to make the image visible. (photo by Peter Mustardo).

it was decided that thin-necked pitchers were probably used to fill wash basins while those that were round and squat were tableware (see Appendix C; also Figures 54 and 35). As it turned out, of the nineteen pitchers from the site, seventeen were table pitchers: four from Privy 1 (including the pillar molded glass pitcher mentioned above that crossmended between the upper three levels), one from 2A, and twelve from 2B. Two pitchers from 2B were the only examples of the tall, thin-necked variety associated with washing. These, like the soap dishes, chamber pots, spittoons, a wash basin, and toothbrushes represent sanitary or hygiene-related items (see Figures 55 and 57) .

Household pets were minimally represented by glass bird food and water dishes from Privy 2A (Appendix D; see Figure 49). These two objects touchingly expand the concept of a mid- to late-nineteenth century household.

As noted earlier, a small assortment of metal objects was recovered. These included a watch works, a coat hook, an oil-lamp part, and two copper coins (Figure 56). One coin is a badly eroded, double-struck Indian Head penny (GM 2-3-24) that dates to about 1867, providing a TPQ that fits well with the 1866 bottle TPQ for Level 3 of Privy 2a [see Table 3]; the other (GM 2-3-21) is a discarded Civil War penny token from 1863 (Parella 1988:personal communication).

And finally, it appears the majority of imported goods from both privies came from England, a situation that existed prior to the Revolutionary War but was thought to have dissipated by the nineteenth century. This is particularly true of ceramics (for example, see Stehling 1983). In addition, as noted above, several ceramics from the

54 Pitchers from Privy 2. The one on the left has a green transfer print pattern (GM 2-5-49\0, in the center is an annular design (GM 2-7-8), and to the right is one of undecorated ironstone (GM 2- 3-96).

55 A redware spittoon on the left (GM 2-7-95) and one of porcelain on the right (GM 1-2-95).

56 A coat hook (GM 2-7-5), key (GM 2-7-41), lamp part (GM 2-3-23), watch works (GM 2-3-23), and two Civil War era single cents (in the right foreground, a token [GM 2-3-21], on the extreme right an Indian Head penny [GM 2-3-24]).

57 Buttons, bone toothbrushes, and pipes from both privies.

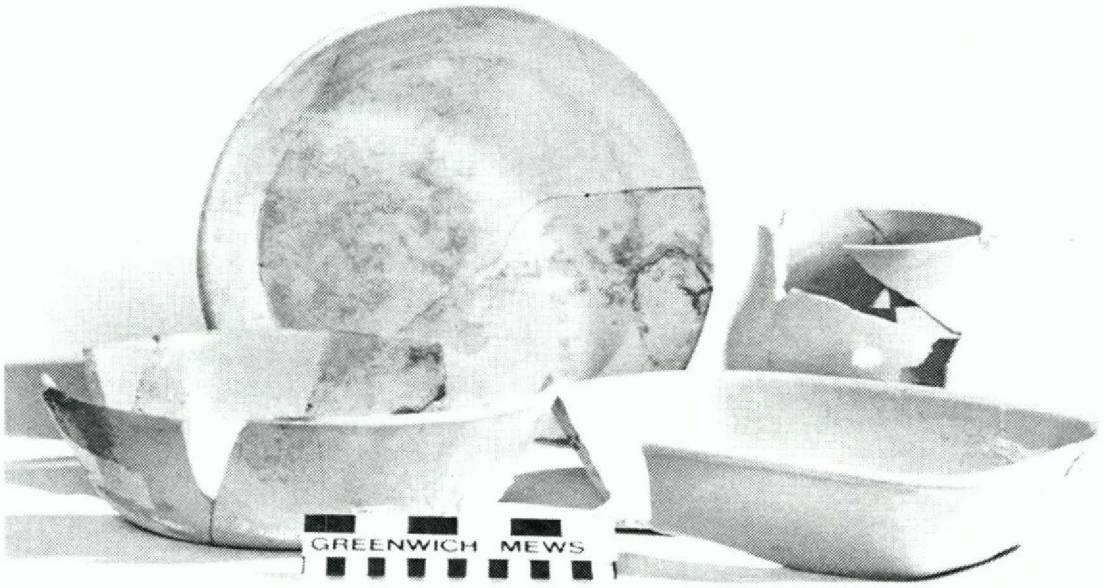
site may have come from France or Germany, and at least a few food items were imported from Europe (see below). Some of the glass tableware may also have been European, such as a red flash glass goblet stem from Czechoslavakia (GM 1-3-245, 255; see Appendix D). Medicines came from Philadelphia, Baltimore, and Massachusetts among other places; a Townsend's Sarsaparilla (considered a medicine, not a drink) was from Albany (see below). But the bulk of the bottles were filled with products manufactured in and distributed from New York City.[9]

Yellowware kitchen vessels (Figure 58) are mainly domestic if not local, while stoneware storage vessels were probably also of local origin (several stoneware potters are documented in Manhattan when the Greenwich Mews privies were in use [see Ketcham 1987:57-68]). In the case of a "D. L. Ormsby" stoneware ginger beer or mineral water bottle (GM 1-4-2; Figure 59), wherever made, it was filled and then distributed from New York City (NY Directories 1838-1875).

FOOD, DRINK, HEALTH, AND SANITATION

Artifacts from the Greenwich Mews privies provided insights into mundane concerns such as what to eat and drink, how to protect one's health, and how to cope with the detritus of daily living. These are facets of city life rarely documented in written records. Food is represented by bottles, bones, seeds, and pollen and drink solely by bottles (table pitchers tell us beverages were served, but not what these beverages were). Attitudes toward health and well being are suggested by the number and kinds of recovered patent medicine bottles, and by the way human waste was managed. These aspects of the Greenwich Mews assemblage will be discussed here.

[9] In the nineteenth century, there were no bottle manufacturers in New York City although there were several in Brooklyn (see McKearin 1948:587-613; Spillman 1989:personal communication).



58 Yellowware kitchen vessels, all from Privy 2. The pipkin (right rear, GM 2-5-85) is an unusual piece, perhaps English made.

59 Stoneware storage vessels. Ceramic stoneware bottle on the far right (GM 1-4-2), marked D. L. ORMSBY, a New York City grocer and distributor, is probably a ginger beer or mineral water bottle.

Food

As noted previously, food bottles include both domestic and foreign items;[10] among the former are locally made Durkee's sauces (GM 2-1-11, 2-10-18) and horseradish (GM 2-6-38, 2-7-55), while the latter minimally include French olives, English pickles, and another bottle, possibly English, that may have contained either olives or pickles (Appendix D; Figure 60). The French olive bottle (GM 1-5-45) is a beautiful amber color, and the English pickle bottle (GM 2-3-128) has a distinctive shape. The pickle bottle has a registration mark on its base--the coded diamond often found on English ceramics but rarely on glass--that made it possible to research the date of design and manufacture as well as its producer (entries in the Public Records Office, London, indicate it was registered to the Messrs. Crosse & Blackwell of 21 Soho Square, London, on April 2, 1849; see Figure 62).

It appears the food bottles from the site contained condiments rather than actual foodstuffs. Meat, the apparent staple of the diet, is represented by butchered animal bones. Barabara Davis, the site's faunal analyst (Appendix E), identified a majority of beef bones, mainly relatively inexpensive meat cuts that required long cooking. This could have been either soups or stews, but since only two soup plates and very few individual bowls were recovered in a very identifiable ceramic assemblage (see Ceramic Tables in Appendix C), it appears that stews rather than soups were being prepared. While this could reflect economic factors, a comparable faunal assemblage was

[10] In a paper delivered at the 1989 Joint Archaeological Congress in Baltimore, Olive Jones documented imported bottled foods in North America in the eighteenth century. It is therefore not surprising these foods were available to the occupants of the Greenwich Street row houses in the last half of the nineteenth century.

History and Archaeology of the Greenwich Mews Site
Greenwich Village, New York

CEQR No. 86-144M

Prepared for Greenwich Mews Associates

Prepared by Joan H. Geismar, Ph.D.

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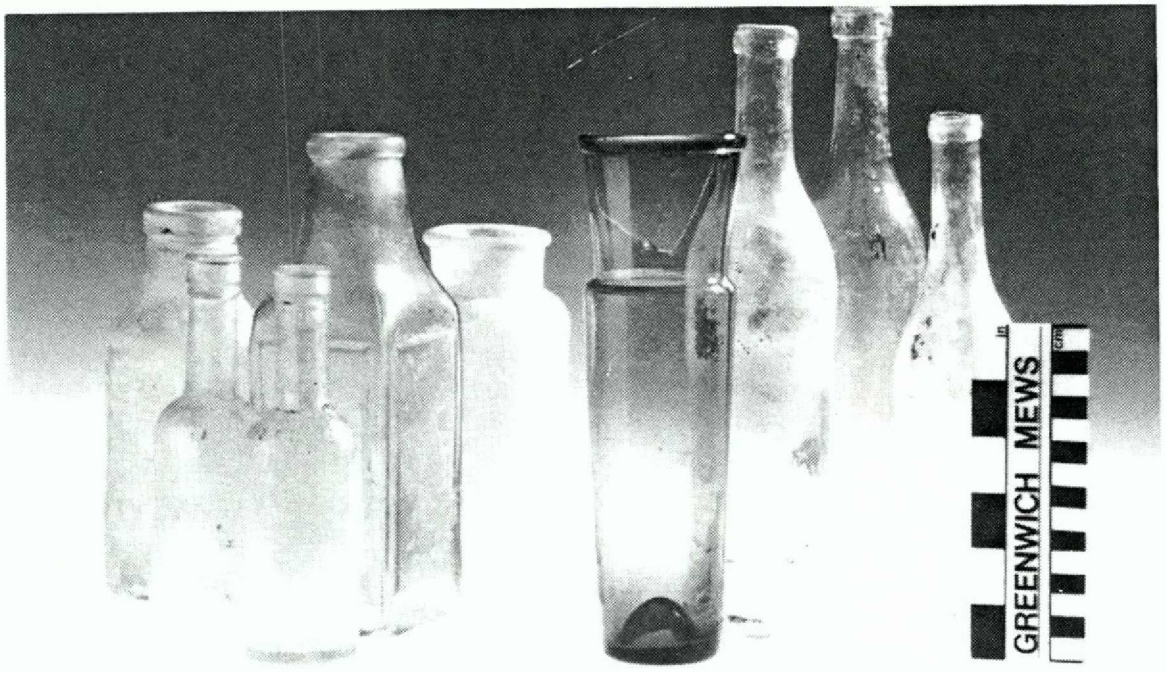
ABSTRACT

The Greenwich Mews project site, located in the Greenwich Village Historic District, was developed in the nineteenth century as a middle- or working-class enclave. Its archaeological potential did not relate to famous people or historical events, but to the urbanizing process. Since information from borings was inconclusive about site preservation, a five-day field investigation was recommended where proposed construction would impact two yard areas. These investigations, which focused on two privies remaining from three-story, tenanted row houses that once stood on the site, suggested when these private facilities were abandoned and apparently replaced by public amenities. They also provided information about sanitation and health in mid- to late-nineteenth century New York City. In addition, they generated questions about the nineteenth-century privy itself, suggesting its very nature should be rethought. In sum, this limited investigation provided valuable data about social and economic factors that concern the growth of the city and are only obtainable through archaeological investigation.



60 Food and condiment bottles from both privies. Two E. R. DURKEE sauce bottles in the left foreground (GM 2-1-11, 2-10-18) are from New York City. An amber olive jar (GM 1-5-45, center) is from France and a pickle bottle (GM 2- 3-128, fourth from left) is registered to "Messrs. Crosse & Blackwell, 21 Soho Square, London" (see Figure 62).

61 Butchered meat bones, oyster shell (left foreground), and clam (right foreground) represent the faunal material from both privies.

Class. 3. Number 59335

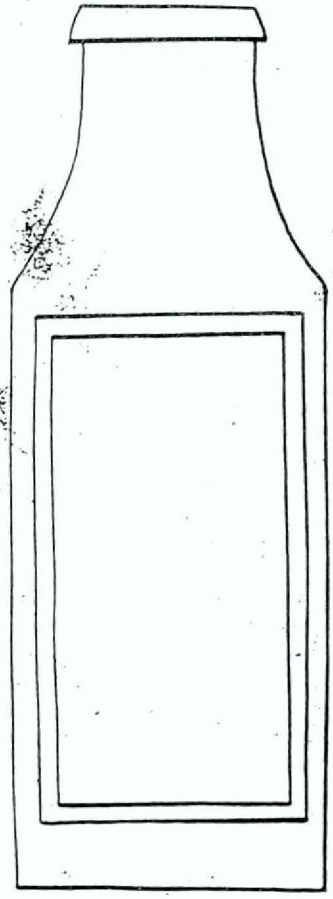
Ornamental

Pickle Bottle

Messrs Crosse & Blackwell.

21. Soho Square London

Proprietors.



found at both workers' boarding houses and a mill agent's residence from contemporaneous Lowell, Massachusetts [Landon 1987]); this situation suggests that a reevaluation of how socio-economic status is represented in a kitchen faunal collection may be in order. Landon (1987) and Henn (1985) suggest boneless cuts that could represent more expensive meats would not be present in these faunal assemblages. Moreover, Landon points out that not all who could afford to buy more expensive cuts would have chosen to do so (Landon 1987:140; 1989). Whatever the socio-economic implications of the Greenwich Mews food bones, dietary variety is suggested since fish, shellfish (mainly oysters but some clams), and fowl were apparently consumed (see Appendix E).

In her micro-floral analysis of Privy 2 deposits, Cheryl Holt identified the ubiquitous raspberry/blackberry and purselane seeds that characterize a privy deposit (Appendix F). Grape seeds from a bottle--perhaps a vagary of deposition--were recovered during washing. Karl Reinhard identified pollen from Privy 2 (Appendix G) that expands the dietary information available from the faunal and seed analyses: apparently dishes were sometimes flavored with cloves or perhaps parsley, and accompaniments included vegetables such as corn and those in the mustard family. Breads and cereals, potatoes, and perhaps peppers and several fruits, in addition to berries and grapes, were also identified (no large seeds or pits, such as peach or plum pits, were recovered, but this may be an effect of the collection method).

Beverage Bottles

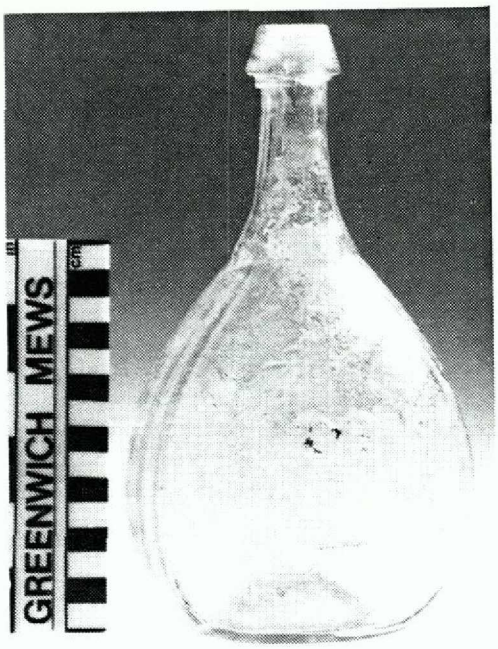
The majority of the identified beverage bottles from all three privy deposits contained alcoholic beverages (see Tables 6 and 7;

Figures 63-65). Of six categories used to analyze the site's bottles (food, beverage, alcohol, medicine, cosmetic, and household), the percentage of alcohol bottles was second only to medicines, with food running a consistent third (only in Deposit 2B were percentages of food and alcohol bottles comparable; see Tables 6 and 7 and Appendix D). Alcoholic beverages were mainly wine, beer, and porter or ale, but a case bottle (GM 2-2-103 etc.) and a quart Sheath of Grain calabash (GM 1-3-215; see Figure 63 and Appendix D) undoubtedly held stronger spirits.

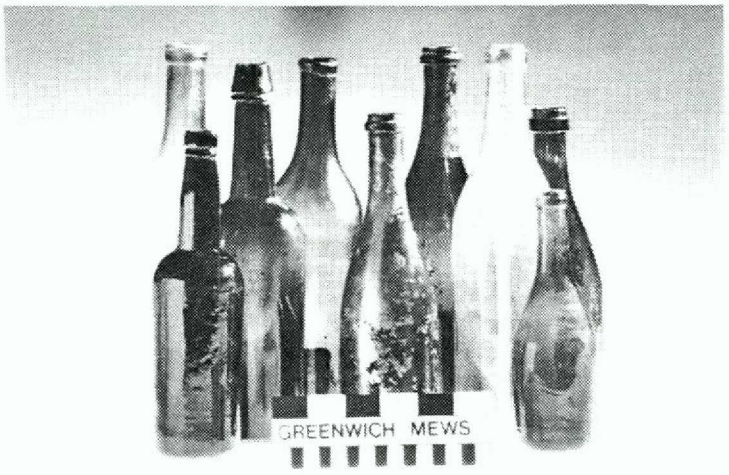
A secondary, non-alcoholic beverage was soda or mineral water distributed in the distinctive but common blob top bottle (Table 6 and Figure 65). Among the identified brands were the aforementioned Tweddles (GM 1-4-16) and others such as W. Eagles (GM 1-3-325), Matthew Johnston (GM 2-2-86), F. Klein (GM 2-298), Peter Donnelly (GM 2-2-102), Jos. Cohn (GM 2-3-115), and A. Hubener (GM 2-6-35) (a Smith's Knickerbocker Soda Water [GM 1-7-73] was also recovered, but the identity and origin of this product has not been found, and a M. B. & Co. soda/mineral water came from Privy 2, Level 10, a backhoe dirt pile not included in the deposit analysis).

Health: Medicine Bottles

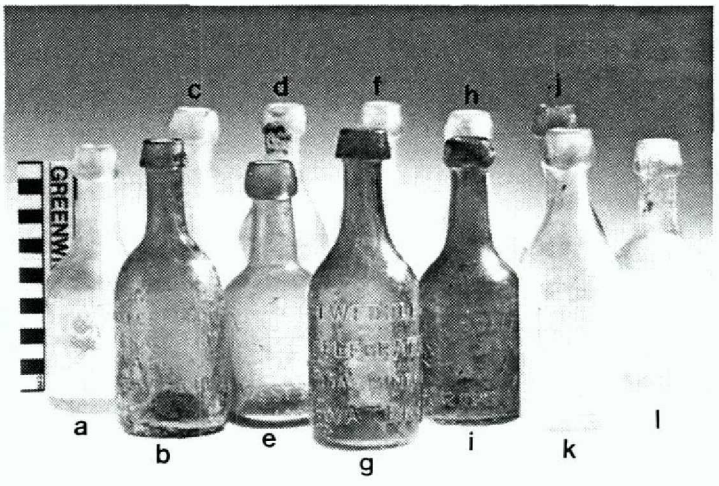
The greatest number (and percentage) of bottles were medicines, and the variety and the recurrence of brands is noteworthy: there are twenty-eight identified medicine bottles. These include five Radway's Ready Relief, or R.R.R., (one of these again from Privy 2, Level 10, the backhoe dirt pile), three C. Ellis (possibley calcined magnesia according to Howson 1987:98), two J. Burdsall, and two Townsend's Sarsaparilla (Table 8). Also noteworthy are the claims made for these medicines. In most instances, their all-purpose use makes it



63 Sheath of Wheat quart calabash from Privy 1 (GM 1-3-215) that once contained an alcoholic beverage.



64 Wine and beer bottles from both privies.



65 Soda/mineral water and porter & ale bottles from both privies. The TWEDDLES SODA/MINERAL WATER/138 COURTLANDT STREET/NEW YORK (GM 1-4-16) from Privy 1 (g). Others include 2 T&W (a, l), a SMITH'S KNIKERBOCKER (b), an RB&CO (c), a JOS. COHN (d), 2 MB&CO (e,k), a MATTHEW JOHNSON (f), an F. KLEIN (h), a PHILADELPHIA PORTER & ALE (i), and a PETER DONELLY (j).

Table 8. GREENWICH MEWS Idenitified Medicine Bottles

NAME	# OF BOTTLES	CAT. #s	ORIGIN	TPQ	USE (Selected)	HOUSEHOLD ASSOC.	SOURCE/REMARKS
Privy 1							
Swedish Bitters of Peruvian Bark (Eugene Schoenig)	1	1-1-57	Phila.	?	Stomach, for blood iron	Seltzer, Shea, Van Cort, Pierson.	No further info.
Dr. Porter's	2	1-2-34,1-3-211	New York	1853	Stomach Bitters	Same as above.	Fike 1987:177.
Dr. Hooker's	2	1-3-194,1-5-208	Mass.	Before 1867	Cough & croup	Same as above, but possibly also Radford and Davis.	Fike 1987:227, Singer 1982:65.
Udolpho Wolfe's Schiedam Aromatic Schnapps	1	1-3-205	New York	1845	Medicinal gin; Diuretic, anti-dyspepsic	Seltzer, Shea, Van Cort, Pierson.	Vegotsky nd.
Mrs. Hayes Dysentary Syrup	1	1-3-209	?	?	Dysentery	Same as above.	Info. on bottle.
TOTAL	7						
Privy 2A							
Radway's Ready Relief (RRR)	5‡	2-1-3,2-1-4, 2-1-5,2-2-8, 2-10-16‡	New York	1850	Multi-purpose	Onstead, Hobby.	Vegotsky nd., Singer 1982:74.
W. Fisher	4	2-1-13,2-2-16, 2-2-87,2-2-111	New York	1853	?	Same as above.	New York Directories.
Hyatt's AB/Double Strength Life Balsam	1	2-2-91	New York	1850‡‡	Coughs, asthma	Same as above.	Baldwin 1973: 262.
J. R. Burdsall	1	2-3-124	New York	1847?	Liniment	Same as above, also Williams.	New York Directories.
TOTAL	11						
Privy 2B							
C. Ellis	3	2-5-11,2-5-12, 2-6-30	Phila.	1837	?	Britten, Furman; 2 unknowns.	Phila. Directories.
J. R. Bursall	1	2-6-28	New York	1847?	Liniment	Same as above.	New York Directories.
Osgood's India Cholagogue	1	2-6-29	New York	1843	Cathartic for the elimination of bile	Same as above.	Fike 1987:175.
Dr. Townsend's Sarsaparilla	3?‡‡‡	2-5-21,23 2-7-43,2-9-187	Albany	1849	Consumption, scrofula, syphilis, etc.	Same as above.	Singer 1982:31, Vegotsky nd.
Schenck's Pulmonic Syrup	1	2-7-88	Phila.	1836	Cough	Same as above.	Singer 1982:75, Fike 1987:229.
Swain's Panacea	1	2-8-147	Phila.	1825	Scrofula, rheumatism, ulcerous sores, general disibility and diseases arising from blood impurities	Furman.	Singer 1982:76, Fike 1987:182.
TOTAL	10						

‡ from level 10, a backhoe pile, therefore not included in level analyses, but listed here
‡‡ based on 1850 snap-case date
‡‡‡ 2-5-21 & 23 are possibly a third bottle but only 2 included in dating (see table)

impossible to isolate the diseases being treated. An example is the Radway's Ready Relief recovered from Privy 2 (see Table 8 and Figure 67). This and three other medicines from the Greenwich Mews deposits had been carefully researched by Alan Vegotsky for the analysis of bottles from the 1870 to 1913 occupation of the Requa Site in Westchester (Vegotsky nd.). Dr. Vegotsky kindly made his findings available, and information from his unpublished report is incorporated here.

An 1865 advertisement lists "seven great blessings secured to the human race by one bottle of Radway's Ready Relief" (Singer 1982: 74). The first was immediate ease and elimination of the threat of disease. The second was its ability to cure inflammatory diseases such as "Rheumatism or Neuralgia, Cholera Morbus, Diahrroea (sic), Bilious Colic, Fever and Ague, Weakness in the Limbs, Back, Legs, Strains, Bruises, Burns, or any Pain or Infirmity." All this without "loss of time, change of diet, or the use of other medicines." The next blessing was immediate ease and cure for such diverse complaints as

> Headache, Sour Taste in the Mouth, Dizziness, Sickness at Stomach, Melancholy, Fits, Toothache, Loss of Appetite, General Debility, Coldness of the Extremities, Swollen Joints, Nervousness, Restlessness, Difficult Breathing, Asthma, Sore throat, Coughs, Colds, Influenza, Diptheria, Croup, Inflammation of the Bowels, Stomach, Kidney or Bladder...(Singer 1982:74).

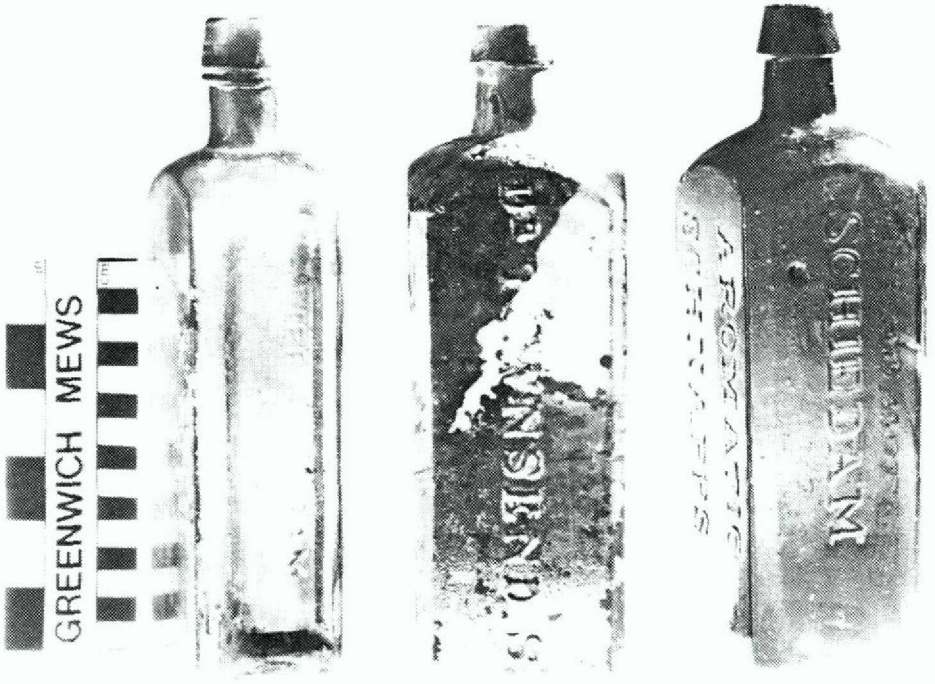
Four additional "Blessings" were described in the ad. In 1871, ads also claimed it "cured the worst pains in from one to twenty minutes" (Vegotsky nd.:38); moreover, all those who took ten to thirty drops in a glass of water three or four times a day would, among other things, escape "sudden attacks of Cholera and other pestilences." In 1866, all this could be bought for 50 cents per bottle[11] (Singer 1982:74).

[11] Vegotsy gives the 1865-1866 price for Radway's Ready Relief as 50 cents per 3 oz. bottle or 37 cents per oz. (nd.:70).

As noted above, the all-encompassing aspect of the medication makes it virtually impossible to determine what ailment was being treated by the purchasers of this medication (based on available data, this could have been someone in the household of George Onstead, August Hobby, or any of three that are unknown [see Figure 34]). What they were getting, however, is more easily determined: chemical analyses indicate it was a combination of ammonia, camphor, and oleoresin of capsicum (cayenne or red pepper) in a 27% alcohol base (Analyzed by the Bureau of Chemistry and presented in Vegotsky nd.:39).

Examples of repetitive buying were found in all deposits (see Table 8), and some medications were somewhat more specific than Radway's Ready Relief. For example, three Dr. Townsend's Sarsaparilla bottles from Levels 5, 7, and 9 of 2B (Figure 66) may have been bought to treat consumption (according to an ad, it was used treat over 8,000 cases in 1847 [Singer 1982:31]) as well as other maladies (Young 1961: 187). It may have been used by Samuel Furman, the possible occupant of 691 Greenwich Street at the time of deposition (see Table 3): Furman later died of "Phthisis," or Pulmonary Tuberculosis (Death Certificate 1860), a progressive, wasting disease (Municipal Archives List of Deaths nd.). The Schenck'c Pulmonic Syrup (GM 2-7-89) and the early Swaim's Panacea bottle (GM 2-8-147) found in the privy's lower levels--both cough treatments--may also have been bought by or for Mr. Furman.

It appears the composition of most patent medicines from this period were fairly similar, and, as has long been recognized, alcohol was a main ingredient. However, there were exceptions. Dr. Vegotsky notes that some stomach bitters were low in alcohol or even totally



66 Case bottles from both privies. On the left is a HYATT'S LIFE BALSAM (GM 2-2-97), in the center a DR. S. P. TOWNSEND'S SARSAPARILLA (GM 2-7-143), and on the left, a UDOLPHO WOLFE'S SCHIEDAM AROMATIC BITTERS (GM 1-3-205).

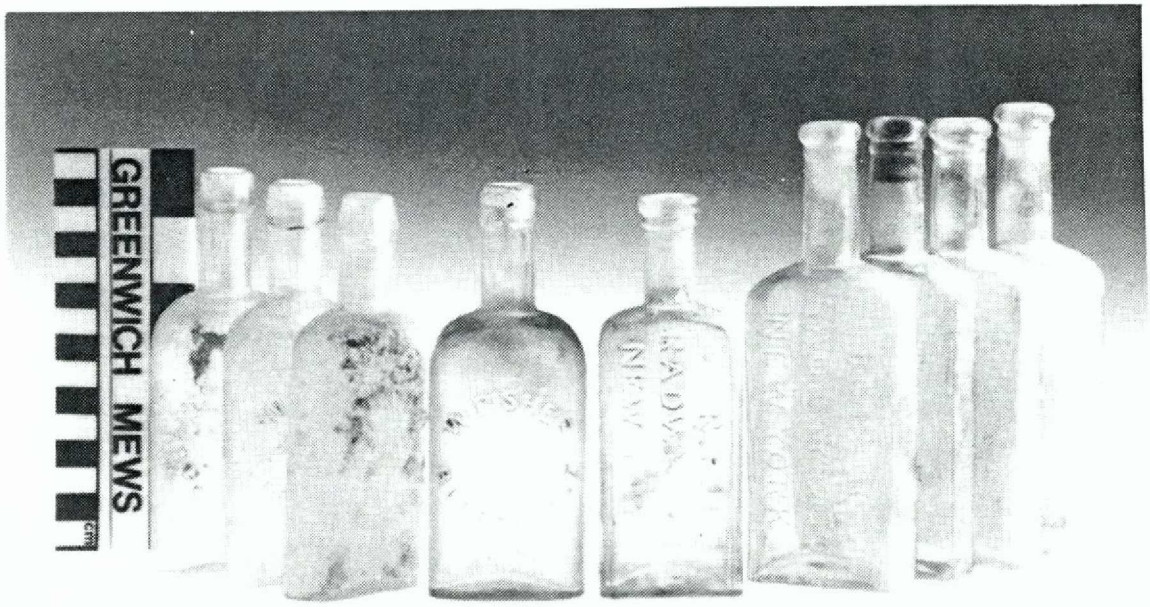
without it [Vegotsky nd:64]), but this certainly was not so of Udolpho Wolfe's Schiedam Aromatic Schnapps [GM 1-3-205; see Figure 66], a stomach bitters that was gin based. Nor was it true of Dr. Porter's, a stomach bitters containing 30% alcohol (Street 1917:32). On the other hand, Schenck's Pulmonic Syrup (GM 2-7-88), a cough medicine, surprisingly had none, and Swaim's Panacea, another cough potion, contained only 4.8% alcohol (Street 1917:225, 238). Apparently the alcohol in many of these preparations was not entirely without medicinal purpose. Vegotsky recognizes its role in extracting organic compounds from herbs and other plants as well as its efficacy as a preservative (nd:63). In addition to alcohol, many patent medicines also contained purely narcotic substances such as morphine or opium (Bond 1989), but no identified formulas from Greenwich Mews medicines were of this ilk. Of course, unidentified druggists' potions may have included these substances.

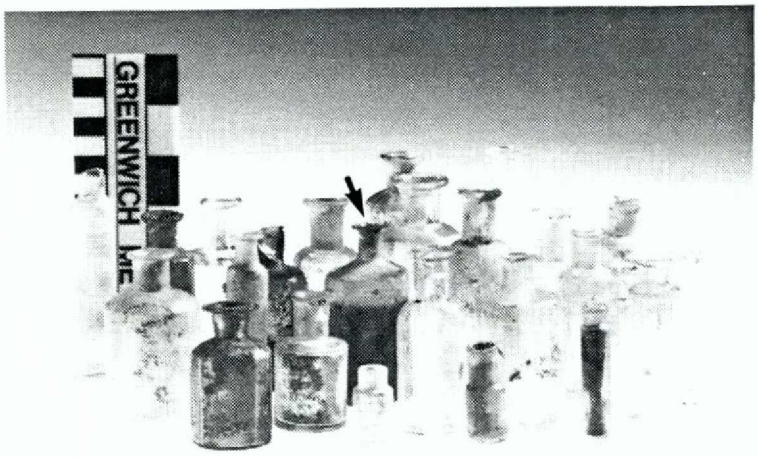
Sugar in syrup form appears to be the second most common component in these formulas, with flavorings such as anise, cinnamon, cloves, and ginger added (Vegotsky nd:63) (the alcohol-free Schenck's noted above was a sugar syrup flavored with wintergreen [Street 1917: 225]). The importance of sugar syrup may explain the contents of unmarked medicine bottles with traces of liquid sealed inside recovered from both privies (GM 1-1-61; 2-6-32). Analyzed by Dr. Leonard Fine of Columbia University (Appendix H), they contained sugar syrups, one with a strong peppermint odor (peppermint was undoubtedly another medicinal flavoring). Although Dr. Fine thought they might be kitchen-related, it appears more likely these two specimens and an assortment of unmarked vials and medicine bottles (Figure 68) con-

tained potions prepared by druggists. Apparently these were similar to patent medicines, but with a lower alcohol content (Vegotsky nd.: 77). Of course, they were probably more expensive than over the counter preparations (Vegotsky notes that the price of patent medicines remained remarkably constant throughout the nineteenth century and into the twentieth [nd.:69]).

Two medicine bottles from the Privy 2A deposit (GM 2-2-89, 2-2-90;) embossed "New York Medical/University," (Figure 69) remain unidentified. Undoubtedly from a dispensary, no medical institution with this name has been located. A possible source may be the University of the City of New York Medical Department founded in 1837 and listed in The Medical Register of New York, Brooklyn, and Vicinity for 1869-70 (Shrady 1869). Or it could be the New York Medical College listed in the New York Directories at 90 East 18th Street in the 1860s and 26th Street in the 1870s (by 1896, this became the New York University-Bellvue Hospital Medical College), but no exact association is known.

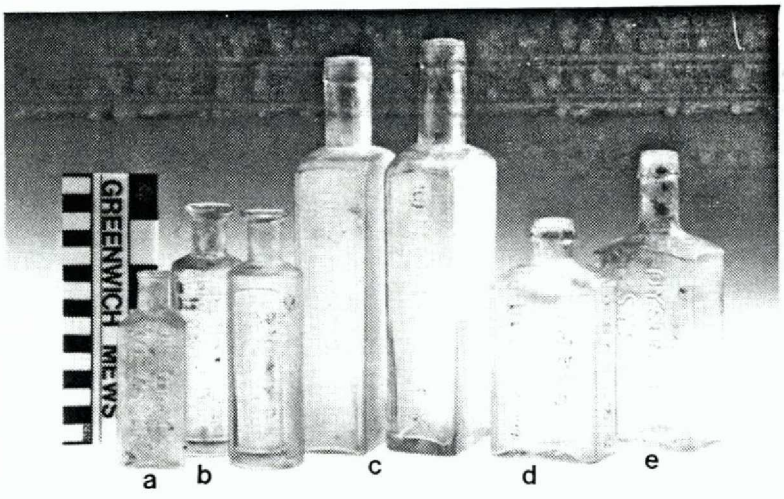
Bearing in mind that the Greenwich Mews privies represent a somewhat earlier time period than the Requa Site and an urban rather than a rural location, the medicines are remarkably comparable. Both contained all-purpose cures, at least three of them--the Radway's Ready Relief, an Osgoods India Cholagogue, and the Udolpho Wolfe's Schiedam Aromatic Schnapps (Figures 66, 67, and 69)--were the same brands. It appears that medicines at the site may reflect the brands generally available over time (many came and went quickly while others were remarkably long-lived) rather than new treatments. Of particular interest is the possibility that an ailment of a Greenwich Mews





67 On the left are four W. FISHER'S medicine bottles, on the right five RADWAY'S READY RELIEF, all from Privy 2, Deposit 2A.

68 Assorted medicine vials from both privies. Note the one in the center (arrow) from Privy 1 that still contains liquid found to bean alcohol sugar.



69 Embossed medicines, two of them (c) document NEW YORK MEDICAL UNIVERSITY which remains an enigma. The others include a DR. PORTER'S (a), two DR. HOOKER'S (b), an OSGOOD'S INDIAN CHOLAGOGUE (d), and a MRS. HAYES DYSENTERY SYRUP (e).

resident, Samuel Furman, may be documented in the bottle record. In general, however, the health of the site's occupants appears dependent on multi-purpose concoctions that may have offered a measure of relief if not a cure. It is also possible they substituted for alcohol or augmented what was imbibed as a beverage.[12]

Sanitation: The Privies

It has been established that the two Greenwich Mews privies (Privy 1 and Privy 2) were built initially as human waste receptacles for three-story, single-family, tenanted houses in 1844 or 1845. As discussed in the dating section, artifacts suggest the privies were in use until as late as 1880 even though local street sewers are documented by 1856 (Report of the Croton Aqueduct Department 1857:110, 118).[13] Based on construction and artifact dates, the contemporaneous laws affecting privy building and later filling have been examined. These include the 1833 Ordinances of the New York City Board of Health (New York City Board of Health Code 1833) which mandated that privies built south of Spring Street, and therefore south of the site (see Figure 2), were to be made only of brick or stone. They were supposed to be at least 5 ft. deep if a cesspool and 4 ft. if a privy. In addition, they were to be located 30 ft. from any public well and 2 ft. within the property line. Although the site was beyond the bounds of this law, the Greenwich Mews privies appear to comply with these directives: both were built of dry-laid, rough cobbles and were approximately 9 ft. deep (Figure 70) and both were situated well beyond 2 ft. of the property line (see Figure 23).

[12] For a discussion of medicinal practices and health care in the nineteenth century, see Howson 1987:37-74.

[13] These sewers were intended to carry street run-off, not household waste.

70 Privy 2 at end of excavation. Shelly Spritzer is at the bottom of the feature (the lower right hand corner of the picture). The view is east from the portion of the privy wall removed to gain access (photo 11/18/87).

Although privy construction followed the rules, the nature of the deposits and later filling apparently did not.

In 1860, the city's prevailing laws and ordinances prohibited covering over any full or partly full privy, or throwing any vegetable substance or garbage into any sink, privy, or cesspool (Morton 1860). The very explicit 1866 Metropolitan Department of Health Code was a variant of these and earlier directives and the basis for later ones. Consequently, it provides the laws under which the Greenwich Mews privies were maintained and ultimately filled.

As is the case with most of New York City's thirty-eight identified privies excavated to date, and other less clearly defined features that may have served this function (Geismar 1989),[14] identifiable night soil[15] was missing from both privies. However, seed and parasite analyses from Privy 2 soil samples indicate a privy deposit (see Appendices F and G). Reasons for the absence of night soil became a question, and research was initiated to find an explanation, or at least to develop an hypothesis.

One possible reason--or partial explanation--may be that lime was introduced into privies. By 1802, a municipal work force had been organized to disinfect the city's privies in this manner (MCC III 1802:96-97). The lack of night soil might be explained by this use of lime as well as ashes (as noted earlier, ash layers were found throughout the privy deposits). Dr. Leonard Fine suggests that lime

[14] I am grateful to my New York City colleagues for sharing site information: Leonard Bianchi for Ed Rutsch (60 Wall); Diane Dalal for Joel Grossman (Broad Street); Terry Klein (Barclay's Bank); Nan Rothschild (Stadt Huys) and, for her and Arnold Pickman (7 Hanover Square); the late Bert Salwen (Sullivan Street); Diana Wall (Telco).

[15] This is the dense, dark, organic material documented in prehistoric middens and expected, but usually not found, in what are interpreted as nineteenth-century urban outhouse deposits.

or other strong caustics will break down organic material into simple molecules that result in the making of soil (1989:personal communication). In his soil analyses, Karl Reinhard determined that fungal spores were notably low in the Privy 2 samples; this, too, is most likely the result of lime or some other caustic agent introduced into the deposits (Reinhard 1989:personal communication). Both lime and ashes are deodorizers and preservers that would prohibit the growth of the bacteria that create organic deposits.

Another and perhaps more important reason for the lack of night soil may be the natural forces working on a privy deposit. Dr. Fine noted there is a natural humus-making process within a privy, a process also described by Dr. Harvey Luce of the Plant Science Department of the University of Connecticut (1989:personal communication).

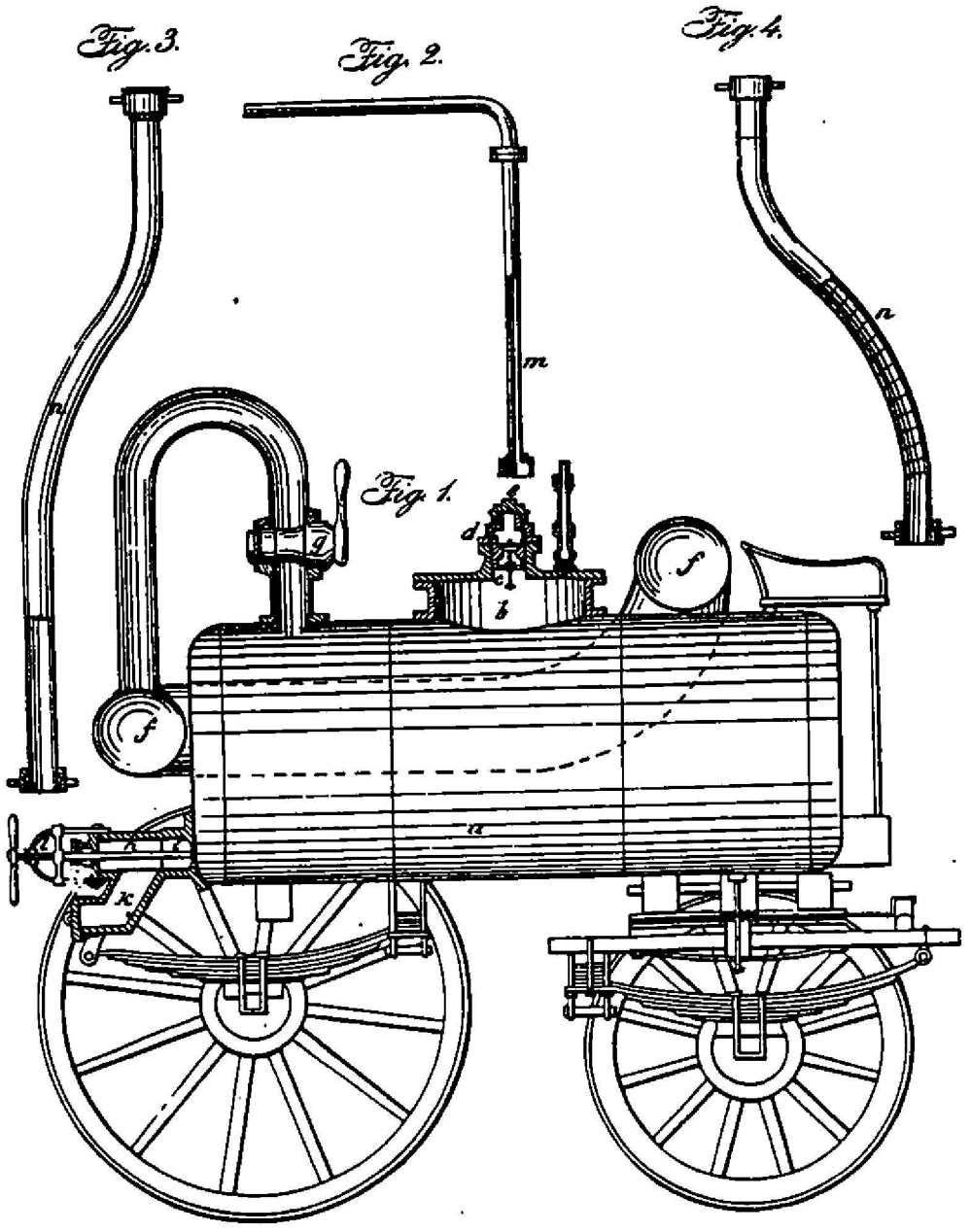
And finally, the lack of night soil is at least in part the result of periodic privy cleaning (Duffy 1968:377-378) that would eliminate or alter waste deposits but leave debris cast into the privy. Until the mid-nineteenth century, cleaning was done by scavengers or nightmen using buckets to collect the privy material and carts to take it away (e.g., Heal 1925:XLVII, XLVIII). Initially, this was to the rivers, then to scows to be dumped at sea, and, by the mid-nineteenth century, to processing plants that would make it into fertilizer (e.g., Duffy 1968:413). By 1850, a vacuum device had been patented (Datichiy 1850; Figure 71) that would change this procedure somewhat, but it undoubtedly remained extremely unpleasant both for the cleaner and the households associated with the privy being cleaned.

It is obvious these cleaning episodes would not only alter the soil deposits, but would also disturb trash thrown into the privy

F. DATICHIY.

Privy Excavator.

No. 7,834. Patented Dec. 17, 1850.



pit. This, as noted earlier, would explain some of the vertical movement of artifacts within a filled privy.

It was noted in the field that the first 3 ft. of Privy 2 were ash-laden and virtually devoid of household artifactual material (see Section on Field Investigations). This was not the case in the lower levels nor in Privy 1 where the top levels were missing. It is possible the absence of these artifacts from the top of Privy 2, and particularly the dearth of faunal material, may reflect compliance with an 1860 directive barring garbage from the privies. Or it may be that it was merely a fill used to cover and disguise the bulk of the privy deposit; no soil from these upper levels was analyzed, so it is not known if it contained privy-type seeds or parasites.

A parasite analysis of soils from Privy 2 done by Karl Reinhard isolated human whipworm egg casings from the bottom of the privy. It is perhaps relevant that several of the site's medicine bottles once held potions that purportedly treated stomach and bowel disorders (see Table 8), but this may or may not be related to the presence of human parasites. Since the egg casing was at the bottom of the privy, it is possible a member of the Furman household was afflicted with yet another disease. However, the casing could have worked its way down through the deposit and may have nothing to do with Furman's residency.

Deposit definition in Privy 2 (2A and 2B) indicates that at least one cleaning episode occurred. As noted earlier, this interpretation is based on two distinct artifact deposits identified by crossmended ceramics rather than soils which appeared relatively homogeneous--generally an ashy, gravelly fill.

The number of chamber pots recovered from both privies--ten from Privy 1, four from Privy Deposit 2A, and six from Privy Deposit

2B--and a ceramic bedpan from Privy 1 (Figures 72 to 74) indicate that some of the Greenwich Mews tenants were throwing out the baby with the bath water (see Appendix C for a description of these pots and the redware bedpan).

Based on this information, it appears that the builder-owners of the Greenwich Mews houses obeyed the rules when they caused the privies to be built. The occupants, however, flouted some of them, using the privies as garbage receptacles and often slipping household trash into the pits. For the archaeologist, it is fortuitous that rules were broken: the data not only provide chronologies that often enable us to correlate deposits with specific households, they allow us to reconstruct diet and interpret household economics.

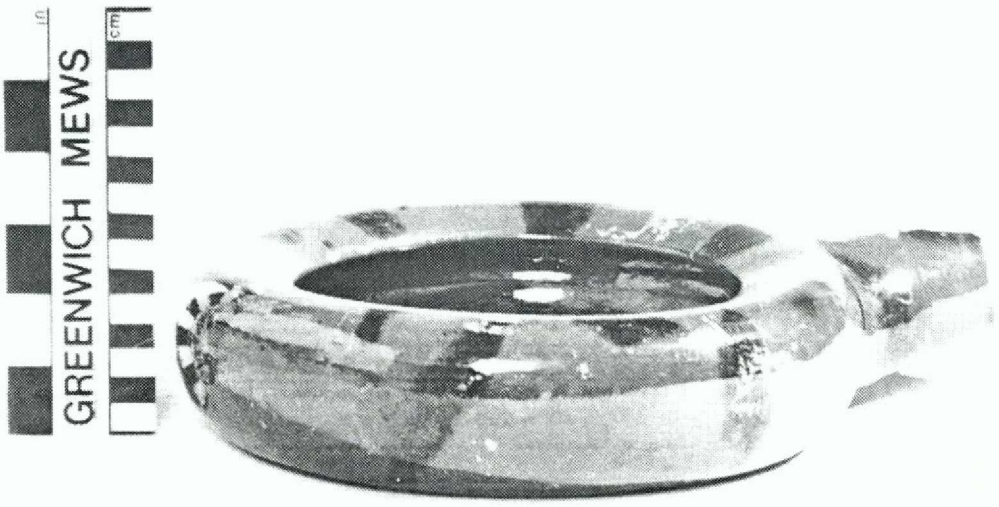
As to where is the night soil? It appears that the concept of this "classic" deposit may need rethinking. The Greenwich Mews privies were occasionally cleaned and perhaps disinfected with lime and ashes to a degree that prevented formation of this kind of deposit. While laws mandating privy cleaning prior to filling may not have been observed, the night soil-forming deposits were at least managed in the nineteenth century. In addition, the conditions within a privy may, as a rule, preclude the presence of this kind of deposit.

CONCLUSIONS

Archival research and archaeological field investigation of the Greenwich Mews Site has provided the data to address several research questions. The site's development history indicated that prehistoric deposits were not an issue, but suggested--and field work ultimately proved--that although archaeological features are fragile they are also tenacious: once again it was found that under the proper condi-

72 Undecorated chamber pots from both privies.

73 Decorated chamber pots. Shown are (left to right) an annular yellowware vessel from Privy 1 (GM 1- 4-1), a blue transfer print from Privy 2 (GM 2- 5-53, and a flow-blue pot from Privy 1 (GM 1-3-1).



74 Redware bedpan from Privy 1 (GM 1-3-155).

tions they can survive development even in an urban situation. The data from the field investigation--mainly dates from a remarkably intact assemblage of ceramics and glass--established that privies associated with row houses built between 1844 and 1845 were no longer in use by about 1880. It is therefore assumed these tenanted buildings were hooked into a municipal sewer system at this time. It also provided insights into the lifestyles of those living in the middle- and working-class enclave that was Greenwich Village in the last half of the nineteenth century. This included the assortment of transfer printed whiteware and undecorated ironstone dishes they ate from, the beef cuts requiring long cooking they ate, the fish, shell fish, and fowl that supplemented these foods, and the vegetables and herbs that augmented and flavored them. Patent medicines that were meant to treat the site's occupants, and even some of the diseases they suffered from (in this case including human whipworm), were determined. Concern with their appearance and that of their homes was indicated by artifacts related to these issues, and the increasing availablity of once-elite goods and the adoption of elite customs was suggested by increasing percentages of teawares over time.

In some cases, households were at least tentatively associated with the trash discarded in the privies; this is particularly true of the lowest levels of Privy 2B which appear associated with Samuel Furman, a silk dry-goods merchant who was the first tenant at 691 Greenwich Street.

Foreign goods that included both bottled condiments such as pickles and olives imported from France and England, and a somewhat surprising number of dishes imported from England, suggest the avail-

ability of imported goods, while medicines from Massachusetts, Albany, Philadelphia, and Rochester to name a few suggest a trade network for domestic goods. However, most bottled goods appear to be New York made and distributed.

In addition to artifactual material found in the privies, the privies themselves became artifacts that suggested the laws governing their installation were observed, while those meant to control their management were not: these deep deposits contained trash and garbage, albeit somewhat disturbed by periodic cleaning, that was not supposed to be there. Moreover, although privies were to be cleaned prior to filling, this was either partially done or not done at all or there would be no artifactual record. And finally, the privy deposits raised questions about the formation of night soil, the classic midden deposit that seems rarely to be found on nineteenth century historical urban sites. It appears the natural forces working on a privy deposit as well as the lime and ash introduced to disinfect and deodorize it, in addition to the periodic cleanings required to manage it, would hamper the formation of night soil in these features.

The intensive archival research and short field program that comprised the Greenwich Mews archaeological investigation provided a wealth of information. While there has been extensive post-field analyses, there is still much more information that could be extracted from the artifactual record. To this end, the Greenwich Mews Associates, the developer, has donated the collection to the South Street Seaport Museum which has graciously accepted it. Consequently, the artifacts will be available for additional research and, ultimately, exhibition, a fitting conclusion to a very rewarding investigation.

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NEW YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Report No D-2841-1

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 EAST 42nd STREET,NY,NY 10165

Location of Boring: CLIENT'S,AS SHOWN ON PLAN

PROJECT: GREENWICH MEWS
687 GREENWICH ST.,NY,NY

Date, start 3/25/86 Finish 3/26/86

Boring No. 1 Sheet 1 of 1

Ground Water Observations			
Date	Time	Depth	Casing at
		21.5'	25'

Casing Hammer: Wt. 300 lbs. Fall 24 in.

Sampler Hammer: Wt. 140 lbs. Fall 30 in.

Ground Elev. _____ I.D. Casing 2-1/2"

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER 6" PER _____ SAMPLER 2" O.D.	DAILY ADVANCE	DEPTH OF CASING	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 50—65%, SOME — 20—35%, LITTLE — 10—20%, TRACE — 0—10%)	DEPTH
	4	1	0.0	1.5	SS	6/7/10		0.0'	MISCELLANEOUS FILL (Brick,Sand, Gravel,Cinders) (11-65)	
	5									
	10									
	14									
5	14	2	5.0	6.5	SS	2/4/2				5
	5									
	13									
	11									
	18									
10	17	3	10.0	11.5	SS	3/12/25				10
	32									
	55							12.0'	Brown cmf SAND, trace Silt, little cmf Gravel SM (7-65)	
	65									
	65									
15	70	4	15.0	16.5	SS	37/17/22				15
	137									
	50									
	42									
	40									
20	31	5	20.0	21.5	SS	51/44/29				20
	18									
	26									
	55									
	46									
25	32	6	25.0	26.5	SS	21/16/22				25
	16									
	19									
	30									
	22									
30	18	7	30.0	31.5	SS	19/19/20				30
	18									
	37									
	52							33.0'	Brown mf SAND, trace Silt SM (7-65)	
	28									
35	40	8	35.0	36.5	SS	10/10/12				35
	21									
	30									
	33									
6"	19	9	38.5	40.0	SS	11/13/14		40.0'		
40									BOTTOM OF BORING AT 40.0'	40
45										45
50										

SS — SPLIT SPOON SAMPLE.
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

THE HALLER DRILLING COMPANY, INC.

Driller J. ROBERTS

Helper R. EVANS

YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-1

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 EAST 42nd STREET, NY, NY 10165

Location of Boring: CLIENT'S, AS SHOWN ON PLAN

PROJECT: GREENWICH MEWS
687 GREENWICH ST., NY, NY

Date, start 3/22/86 Finish 3/24/86

Boring No. 2 Sheet 1 of 1

Casing Hammer: Wt. 300 lbs. Fall 24 in.
Sampler Hammer: Wt. 140 lbs. Fall 30 in.

Ground Elev. I.D. Casing 2-1/2"

Ground Water Observations

Date	Time	Depth	Casing at
		19'10"	20'

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER PER 6" / SAMPLER O.D. 2"	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 30—50%, SOME — 20—35%, LITTLE — 10—20%, TRACE — 0—10%)	DEPTH
	3							0.0'		
	4	1	0.5	2.0	SS	5/4/6		0.5'	Concrete	
	3								MISCELLANEOUS FILL (Brick, Sand, Gravel, Cinders) (11-65)	
	5									
5	9	2	5.0	6.5	SS	9/7/6				5
	6									
	8									
	8									
	12									
10	20	3	10.0	11.5	SS	21/29/17		10.0'		10
	13								Brown mf SAND, trace Silt, trace cmf Gravel SM (7-65)	
	34									
	46									
	33									
15	45	4	15.0	16.5	SS	21/13/11				15
	21									
	15							18.0'		
	10									
	11								Brown mf SAND, trace Silt SM (7-65)	
20	15	5	20.0	21.5	SS	10/9/10				20
	16									
	14									
	15	6	23.5	25.0	SS	7/11/13				
	17									
25	18	7	25.0	26.5	SS	5/9/20				25
	12									
	15									
	19									
6"	12	8	28.5	30.0	SS	7/10/21		30.0'		
30										30
									BOTTOM OF BORING AT 30.0'	
35										35

SS — SPLIT SPOON SAMPLE
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

THE HALLER DRILLING COMPANY, INC.

HDC-1

Driller [illegible] Helper J. EVANS

YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-1

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 EAST 42nd STREET, NY, NY 10165
Location of Boring: CLIENT'S, AS SHOWN ON PLAN

PROJECT: GREENWICH MEWS
687 GREENWICH ST., NY, NY
Date, start 3/24/86 Finish 3/25/86

Boring No. 3 Sheet 1 of 1

Casing Hammer: Wt. 300 lbs. Fall 24 in.
Sampler Hammer: Wt. 140 lbs. Fall 30 in.

Ground Elev. I.D. Casing 2-1/2"

Ground Water Observations

Date	Time	Depth	Casing at
		20'	20'

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER 6" PER SAMPLER 2" O.D.	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 35—50%, SOME — 10—35%, LITTLE — 10—20%, TRACE — 0—10%)	DEPTH
	3							0.0'		
	5	1	0.5	2.0	SS	3/3/4		0.5'	Concrete	
	10								MISCELLANEOUS FILL (Brick, Sand, Gravel, Cinders) (11-65)	
	13									
5	11	2	5.0	6.5	SS	4/5/5				5
	4									
	7									
	15									
	22									
10	31	3	10.0	11.5	SS	10/14/15				10
	12									
	15									
	48									
	57							14.0'		
15	62	4	15.0	16.5	SS	20/13/10			Brown cmf SAND, trace Silt, little cmf Gravel SM (8-65)	15
	22									
	12									
	10									
	11									
20	9	5	20.0	21.5	SS	3/4/3				20
	8									
	12									
	12							23.0'		
	14									
25	16	6	25.0	26.5	SS	14/6/5			Brown mf SAND, trace Silt SM (8-65)	25
	11									
	14									
	17									
6"	10	7	28.5	30.0	SS	8/8/11				
30								30.0'		30
									BOTTOM OF BORING AT 30.0'	
35										35

SS — SPLIT SPOON SAMPLE.
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

THE HALLER DRILLING COMPANY, INC.

HDC 1

Driller J. RIGGIO Helper B. EVANS
Driller J. RIGGIO Helper B. EVANS

NEW YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

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SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-1

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 EAST 42nd STREET, NY, NY 10165

Location of Boring: CLIENT'S, AS SHOWN ON PLAN

PROJECT: GREENWICH MEWS
687 GREENWICH ST., NY, NY

Date, start 3/24/86 Finish 3/24/86

Boring No. 4 Sheet 1 of 1

Ground Water Observations

Date	Time	Depth	Casing at
		19'8"	20'

Casing Hammer
Wt. 300 lbs.
Fall 24 in.

Sampler Hammer
Wt. 140 lbs.
Fall 30 in.

Ground Elev. I.D. Casing 2-1/2"

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER PER 6" / SAMPLER O.D. 2"	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 30—50%, SOME — 20—35%, LITTLE — 10—20%, TRACE — 3—10%)	DEPTH
	1							0.0'		
	20	1	0.5	2.0	SS	10/12/17		0.5'	CONCRETE	
	9								MISCELLANEOUS FILL (Brick, Sand, Gravel, Cinders) (11-65)	
	10									
5	12	2	5.0	6.5	SS	12/7/7				5
	5									
	7									
	7									
	5									
10	6	3	10.0	11.5	SS	7/8/16				10
	8									
	24									
	42							13.0'		
	20								Brown mf SAND, trace Silt SM (7-65)	
15	11	4	15.0	16.5	SS	10/11/11				15
	3									
	4									
	12									
	15									
20	19	5	20.0	21.5	SS	13/12/14				20
	7									
	14									
	20									
	19									
25	17	6	25.0	26.5	SS	10/8/13				25
	19									
	19									
	20									
6"	13	7	28.5	30.0	SS	11/12/12		30.0'		30
30									BOTTOM OF BORING AT 30.0'	
35										35

SS — SPLIT SPOON SAMPLE.
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

THE HALLER DRILLING COMPANY, INC.

HDC-1

Driller J. RIGGIO Helper J. EVANS

NEW YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-2

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 East 42nd Street, NY,NY 10165
Location of Boring: STAKED OUT BY CLIENT

PROJECT: GREENWICH MEWS
287 GREENWICH ST.,NY,NY
Date, start 9/26/86 Finish 9/26/86

Boring No. 1 (a) Sheet 1 of 1

Casing Hammer		Sampler Hammer	
Wt.	140 lbs.	Wt.	140 lbs.
Fall	24 in.	Fall	30 in.

Ground Elev. I.D. Casing 2-1/2"

Ground Water Observations

Date	Time	Depth	Casing at
		D R Y	

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER PER 6" SAMPLER O.D. 2"	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 35—50%, SOME — 20—35%, LITTLE — 10—20%, TRACE — 0—10%)	DEPTH
								0.0'		
								0'2"	CONCRETE	
		1	2.0	4.0	SS	2/5/17/45			FILL (Brick,Sand,Cinders) (11-65)	
								4.0'	REFUSAL *	
5									BOTTOM OF BORING AT 4.0'	5
10										10
15										15
20										20
25										25
30										30
35										35

*refusal, brick (JHG)

SS — SPLIT SPOON SAMPLE.
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

THE HALLER DRILLING COMPANY, INC.

HDC 1

Driller [illegible] Helper B. EVANS

NEW YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-2

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 East 42nd Street, NY,NY 10165

Location of Boring: STAKED OUT BY CLIENT

PROJECT: GREENWICH MEWS
287 GREENWICH ST.,NY,NY

Date, start 9/26/86 Finish 9/26/86

Boring No. 2 (a) Sheet 1 of 1

Casing Hammer		Sampler Hammer	
Wt.	140 lbs.	Wt.	140 lbs.
Fall	24 in.	Fall	30 in.

Ground Elev. I.D. Casing 2-1/2"

Ground Water Observations

Date	Time	Depth	Casing at
		DRY	

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER PER 6"	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 35–50%, SOME — 20–35%, LITTLE — 10–20%, TRACE — 0–10%)	DEPTH
						SAMPLER O.D. 2"		0.0'		
								0'2"	CONCRETE	
									FILL (Brick,Cinders,Crushed Stone) (11-65)	
5		1	5.0	7.0	SS	2/3/6/2				5
		2	7.0	9.0	SS	4/5/1/2				
		3	9.0	11.0	SS	1/40/63/150				
10										10
		4	11.0	11.5	SS	240		11.0'		
									FILL (Brick and brown mf Sand) (11-65)	
15								11.5'	REFUSAL *	15
									BOTTOM OF BORING AT 11.5'	
20										20
25										25
30										30
35										35

SS — SPLIT SPOON SAMPLE.
U — UNDIS. SHELBY TUBE.
P — PISTON TYPE SAMPLE.

*refusal, brick (JHG)

THE HALLER DRILLING COMPANY, INC.

HDC 1

Driller [illegible] Helper [illegible]

NEW YORK, N.Y. WATERTOWN, MASS. E. WINDSOR, CONN. PLAINFIELD, N.J.

THE HALLER DRILLING COMPANY, INC.

SUBSURFACE INVESTIGATION

Job No.
Report No. D-2841-2

CLIENT: AMBASSADOR CONSTRUCTION COMPANY
60 East 42nd Street, NY,NY 10165
Location of Boring: STAKED OUT BY CLIENT

PROJECT: GREENWICH MEWS
287 GREENWICH ST.,NY,NY.
Date, start 9/26/86 Finish 9/26/86

Boring No. 3 (a) Sheet 1 of 1

Ground Water Observations

Date	Time	Depth	Casing at
		D R Y	

Casing Hammer		Sampler Hammer	
Wt. 140	lbs.	Wt. 140	lbs.
Fall 24	in.	Fall 30	in.

Ground Elev. I.D. Casing 2-1/2"

DEPTH	CASING BLOWS/FT.	SAMPLE NO.	DEPTH OF SAMPLE FROM	DEPTH OF SAMPLE TO	TYPE SAMPLE	BLOWS ON SAMPLER PER 6" / SAMPLER O.D. 2"	DAILY PROGRESS	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (F — FINE, M — MEDIUM, C — COARSE; AND — 35–50%, SOME — 20–35%, LITTLE — 10–20%, TRACE — 0–10%)	DEPTH
								0.0'		
								0'2"	CONCRETE	
									FILL (Brick,Cinders,Sand) (11-65)	
5										5
		1	6.0	8.0	SS	4/2/2/3				
		2	8.0	10.0	SS	1/1/1/2				
						NO RECOVERY				
10										10
		3	10.0	12.0	SS	5/4/4/5				
		4	12.0	14.0	SS	20/33/21/30		13.5'		
15		5	14.0	16.0	SS	28/30/33/45			Brown mf SAND,little Silt,little to some cmf Gravel SM (7-65)	15
		6	16.0	17'4"	SS	75/95/200/4		17'4"	REFUSAL *	
									BOTTOM OF BORING AT 17'4"	
20										20
25										25
30									*refusal, sandstone (JHG)	30
35										35

SS — SPLIT SPOON SAMPLE
U — UNDIS. SHELBY TUBE
P — PISTON TYPE SAMPLE

THE HALLER DRILLING COMPANY, INC.

HDC

Driller: J.RIGGIO Helper: J.EVANS

After washing and numbering, the ceramic artifacts from the Greenwich Mews site were crossmended as the first step in their analysis. Those which crossmended were given a vessel number indicating the highest provenience and the lowest artifact number within this provenience. Sherds which did not crossmend but which were unique (i.e. they were obviously not part of any crossmended vessel) and whose form and decoration could be identified were also analyzed as vessels. The following discussion of the ceramic assemblage is based upon identified vessels only and does not include the residual sherds.

The vessels were described in terms of ware types (whiteware, ironstone, porcelain, etc.), forms (tea cups, plates, chamber pots, etc.), decorations (transfer printed, handpainted, etc.), makers' marks, if present, and amount and location of wear. Sources used to identify and date vessels include, but are not limited to, Godden (1964), Cushion (1976), Barber (1976), Williams (1978), Miller (1980), Wetherbee (1980), Gates and Omerod (1982), Praetzellis et.al. (1983), Felton and Schultz (1983), and Leibowitz (1985).

The ceramic assemblage consists of vessels used in daily family life for eating, preparing and serving food, sanitary purposes, and household decoration. Makers' marks cluster in the middle years of the nineteenth century, and most of the ceramics are representative of those readily available to middle class New Yorkers at that time.

Based upon crossmends and general date ranges, Privy 2 can be divided into two depositional episodes (see text): the lower deposit (levels 5 through 9, designated as the B Level for the purposes of analysis) is characterized by light blue transfer printed whitewares

and porcelains with minimal decoration; the upper (levels 1 through 4, designated the A Level) contains, in contrast, plain whitewares and embossed ironstones. Privy 1 can not be divided and will be treated as one depositional unit. Ceramic Tables 1 - 3 present the ware types, decorations, and forms for each depositional unit.

PRIVY 2 LEVEL B

The lower deposit in Privy 2 has the largest assemblage with 151 vessels. MCDs* (Mean Ceramic Dates) for this deposit are 1856 for level 5, 1847 for level 6, 1842 for level 7, 1850 for level 8, and 1845 for level 9. The MCD for the entire Level B deposit is 1848. The TPQ (Terminus Post Quem) is 1851 based on a T.J. & J. Mayer registery mark, and makers' marks for Charles Meigh and Son and the Livesley, Powell Company. The majority (37%) of the vessels are tablewares made of refined earthenwares and porcelain. The next largest group (27%) is teawares. The remaining vessels are made up of food preparation and storage forms, sanitary vessels, and vases and flower pots (see Ceramc Table 1).

The transfer printed tea and table wares have a number of different patterns, most of which are light blue in color. Many of the patterns occur on more than one vessel, which may indicate they were purchased as sets, but only two identifiable patterns are present on both tea and tablewares. The "Lucerne" pattern by Joseph Clementson (Williams 1978:320) is found on nine vessels: a teacup, a breakfast cup (a large tea cup), two saucers, four plates, and a bowl base. The "Bosphorus" pattern by R, Hall and Company (Williams 1978:202) is on five vessels: a cup and four plates (Figure 36). Both patterns were most probably purchased as sets. When transfer

* Since writing this appendix, a TPQ of 1880 was established which lowers the MCD dates found here (see Talbe 3 in the body of the report [JHG]).

printed whitewares first became popular in the early nineteenth century, tea and table wares were not commonly decorated with the same patterns, but, by mid-century, it was possible for consumers to obtain matching vessels for the table and for tea or coffee drinking. The other patterns are found in smaller quantities; while not identical, many are similar in their coloring and overall appearance (Figures 35 and 36).

Two rather unusual, unmarked, plates have very fine multicolored transfer prints (Figure 39). The basic print is in light brown with other parts of the central scene applied in light green, light blue, and dark brown transfer prints with a yellow wash over parts. The rim design is in light brown with dark brown butterflies and flowers; all the prints are applied much more carefully than usual and there is little overlapping of the colors. Both plates have the same rim design with different central scenes, a common decorating technique on dinner sets. This pattern is included in Williams (1978:715), but she has not been able to attribute it to a particular potter and gives no indication in her description that the plate she illustrates is polychrome. The technique of fine polychrome transfer printing on potlids was patented by the Pratts in 1847 (Watkins 1978:267), but the Greenwich Mews plates do not resemble Pratt plates shown in the Watkins article. It is probable, however, that they are later in date than the Pratt patent.

Two small mugs transfer printed with selections from Benjamin Franklin's maxims were in this assemblage (Figure 44). Maxims from Poor Richard's Almanac illustrated with lively pictures were popular themes for children's mugs throughout the middle decades of the nineteenth century (McClinton 1978:217).

Other whitewares include three cups, two saucers and a plate with small floral sprigs handpainted in polychrome colors under the glaze (Figure 38). This style of decoration, in which the sprigs have black stems, was most popular between 1820 and 1860 and was much more common on teawares than on tablewares until after 1840 (George L. Miller, personal communication, 1986 and 1988). All of the cups are made in the angled "London" shape and one is very small. There are no other handpainted decorations on the earthenwares and only one vessel, an oval platter, has a blue shell edge.

The Level B deposit has an unusually large number of pitchers. Eight are decorated with light blue transfer prints, none of which match the other tablewares (Figure 35), one has a light green floral print (Figure 54), two are dipped/annular (Figure), two are plain whiteware with an embossed design, and one is ironstone with a paneled body (the latter are not illustrated). ("Paneled" refers to hollowware shapes which are made in angular rather than rounded forms -- for instance a ten- or twelve-sided cup or plate.) These fourteen pitchers range in size from approximately a pint to over two quarts.

The functions of pitchers are problematical since they could be used for service at the table, storage of liquids, and as containers holding water for washing. For the purposes of this analysis, it is assumed that the larger, taller, but more narrow necked vessels were used together with basins for washing and that the smaller, rounder forms were used for food storage and service. Therefore, the two tall pitchers are listed on Table C-1 under the Sanitary category.

One blue printed pitcher has a very striking pattern showing elephants, palm trees, mountains, and exotic architecture and people.

It might be a romantic rendering of Hannibal crossing the Alps or an imaginary Indian scene, but so far it has not been identified. Other blue patterns include Canova and Canova-like designs by unknown makers in several shades of blue (Figures 35 and 36).

Other forms for food serving are relatively rare: a Willow-like design and another unidentified blue transfer printed pattern on dishes ("dish" is used here to mean a vessel which is deeper than a platter but shallower than a bowl, and which is usually oval, rectangular or square), a possible tureen lid, and several blue printed sherds which might be from platters are all that could be identified. The Willow-like vessel has a gutter for a fitted cover and the design is very bright blue. Its body is relatively light weight for a whiteware, and might be better described as a transitional pearlware/whiteware (see the Privy 1 discussion). The possible tureen lid has an unusual abstact blue transfer print which seems to be imitating marble. No references to such a "faux marble" pattern have been found.

All of the identifiable marks (and probably the unidentifiable ones also) on the transfer prints are English. However, American manufacturers of earthenwares began to decorate their tablewares with transfer prints by 1840, and the process became common in the last half of the century (Denker and Denker 1985:143-146). One of the first recorded patterns was a variant of the English Canova used by the American Pottery Company of Jersey City (Denker and Denker 1985:144 and color plate 26.0). The known examples are marked, but American manufacturers often left their wares unmarked in the hope that they would be mistaken for English products; there is thus a possibility that some of the unmarked tablewares are of local

manufacture, but this is speculative.

A few plain vessels of whiteware and ironstone in tea and table forms were also recovered, including T.J. & J. Mayer and Livesley, Powell & Co. marked plates. Paneled ironstones, especially 10 and 12 sided cups, are also present. The most interesting of the embossed ironstones is a saucer in the Prize Puritan pattern registered by T.J. & J. Mayer in 1851. Wetherbee (1980:37) notes that the Mayers won a gold medal for their ironstones in 1851, and as a consequence their marks of that period often included the word "Prize". Prize Puritan, along with Boote's Octagon, (see the Privy 1 discussion), were among the early ironstone patterns registered by English potters and illustrate the late 1840's - 1850's style of fairly simple, angular designs for ironstone tablewares.

Bowls are listed on Ceramic Tables 1 - 3 as Multifunction vessels. Bowls are used for preparation, service, and storage, and are thus hard to put into functional categories. (This is not to say, of course, that plates or cups, for instance, might not be used for more than food consumption; but bowls as a group seem to be more susceptible to a multiplicity of uses.) In order to simplify the description of the ceramic assemblage, bowls made of redware and yellowware will be discussed with food preparation vessels, while those made of whiteware and ironstone will be regarded as tablewares. One light blue transfer printed bowl is in the Lucerne pattern which, as noted above, is the best represented pattern. Other bowls are decorated with a Canova variant blue print, with handpainted large scale flowers, and with a "finger painted" dipped design. Only one ironstone bowl, a small, paneled vessel marked "T. Goodfellow" was found.

Porcelains are present as cups, saucers, a tea pot, and plates. Some are plain, but many have a simple gilded band on plain and paneled bodies. As far as can be judged from visual inspection alone, most are hard paste. None of the porcelains are marked, but it is possible that they are French imports. There is also a possibility that they might have been made locally, which would have made them considerably less expensive. The Union Porcelain Works in Greenpoint, Long Island (Brooklyn) was established about 1850, but only made soft paste (artificial) porcelain until sometime after it was acquired by Thomas Smith in 1861 (Denker and Denker 1985:160, 167-168). Barber (1976[1909]:252-258) says that Smith introduced the hard paste body in 1864 after a trip to Europe. Union Porcelain Works vessels included "table services, decorative pieces, electrical insulators, and hardware trimmings" in 1901 (Barber 1976[1909]:253). The firm introduced the technique of underglaze decoration on hard paste porcelain to the United States, but also made plain and overglaze decorated wares (Barber 1976[1909]:254).

Other possible sources for locally made porcelains include the short-lived (1848 to 1856 with hard paste made after 1850) but productive Greenpoint Porcelain Works. At the New York Crystal Palace Exhibition in 1853, this firm won a First Premium medal, against European competition, for "excellence of porcelain body and gilding" (Ketchum 1987:72). Porcelain was also produced in Jersey City and Trenton, New Jersey, but the Jersey City production was limited in numbers and most of the Trenton porcelains were made in the last three decades of the century (Denker and Denker 1985:160 & 170-176).

On the other hand, one vessel is almost certainly an import. A saucer, without a recovered matching cup, is made of bone china

(soft paste porcelain) and decorated with hand painted floral sprigs, very simiar to those on the handpainted whitewares. This vessel is most probably English.

The tea and tablewares from Deposit B in Privy 2, when viewed together as they might have been used together, appear as a compatible, but not identical, set of vessels. The overall impression is of light blue and white with plain white and gilding. The transfer printed and embossed patterns, as well as the makers marks, are consistent with a circa 1845/55 date of purchase for most of the ceramics. The identifiable maker's marks are all English, but it is possible that some of the unmarked transfer printed whitewares and porcelains were made in New Jersey or New York. No very expensive wares were recovered, but this might be as indicative of disposal practices as of purchasing decisions.

The eleven food preparation vessels comprise 7% of the Deposit B assemblage. Yellowwares are the most common and include round and rectangular nappies as well as pie plates and a pipkin (Figure 58). (Terms and definitions are taken from Leibowitz 1985, pages 75-78, and 91. She defines a nappie by its flared, straight sides and absence of a lip. Nappies have taller sides than pie plates and could be used for mixing as well as baking.) One of the pie plates and the rectangular nappie are marked "Sharpe's". Godden (1964::570) places the firm in Derbyshire between 1821 and 1895. Praetzellis et.al. quote Jewitt (1883:375) as mentioning that "the firm had a large export trade to the United States" (1983:74). Another pie plate and a round nappie are marked "A. Cadmus, Congress Pottery, South Amboy, New Jersey". A number of New Jersey potteries made yellowwares, but, fortunately for dating purposes, this particuar firm had a short life

-- 1849 to 1861 (Leibowitz 1985:32-33).

There is a noticeable difference in quality between the English and New Jersey yellowwares: the English wares have finer grained, yellower, thinner bodies. The rest of the yellowwares are unmarked, but some have the finer bodies. The most complete pie plate, one of the Sharpe's vessels, has very heavy wear on its base.

The pipkin (Figure 58) is from level 5 and is an unusual form to find in yellowware. Ceramic pipkins (small vessels, usually made of redware and used for cooking over a fire) were most common in the seventeeth and eighteenth centuries, although a few have been found in early nineteenth century contexts (Louis Berger 1987). Pipkins generally have three feet, but this yellowware vessel has a flat bottom, which might indicate that it was intended for use on a coal stove or in an oven rather than over an open flame. The bottom of the vessel is very worn and slightly charred and the interior shows stir scratches. The handle is missing, but its stump is clearly at a right angle to the small, pushed-out spout. This placement would make pouring easier and would reduce the danger of spilling hot contents. The pipkin is unmarked, but its body is fine and thin. Leibowitz (1985:91) equates yellowware pipkins with "'Yankee' bean pots" and dates their American production to 1850 - 1890.

In addition to the yellowwares, a redware food preparation vessel is part of the assemblage. The style of trailed slip decoration on this redware "pie plate" (slipware pie plates are relatively flat and shallow compared to the modern conception of this type of vessel) possibly points to a Connecticut origin. The vessel is decorated with some sort of written title or name, of which only the final "y" remains, with wavy lines above and below the writing.

The decoration is unusual because it appears to be drawn in dark brown glaze or thin slip rather than the more customary white slip. This vessel is charred on its exterior surface. One of the two large brown glazed redware bowls also has a base which is blackened. This vessel has heavy wear around its rim, perhaps indicating the use of a cover, in addition to some stir wear marks in its interior.

Vessels whose primary function was food storage comprise four percent (MNV 6) of the assemblage. Four vessels are small-mouthed jars (i.e., a hollowware vessel which is taller than it is wide and whose mouth is smaller than its widest diameter): two are entirely covered with Albany slip and two have buff exteriors with Albany slip coated interiors (Figure 59). The dark brown jars are straight sided, a shape which became common after 1850, but the two buff jars have the ovoid profile and attached loop handles more characteristic of the first half of the century. One of the buff jars (Figure 59) has a cobalt slip trailed decoration, but it has not been possible to link this particular decoration to illustrated examples of the works of known stoneware potters. Stoneware was made on Manhattan Island from the eighteenth to the late nineteenth centuries, and one kiln, operating under various owners from 1846 to 1879, was as close as West Twelfth Street between Ninth and Tenth Avenues (Ketchum 1987:61-62). One vessel, however, can be assigned to a particular manufacturer with some degree of certainty. A lid, probably for a wide mouthed jar (crock) or other large hollowware, has a dark gray body with brilliant blue cobalt slip brushed in a series of wavy loops. This motif can be found on stonewares in the collections of the Museum of the City of New York made at the pottery operated by Clarkson Crolius junior and senior and appears to have been used circa 1810 to 1850.

The remaining food storage vessel is an unusual wide mouthed jar of whiteware (not illustrated). Although it is quite large (holding approximately two quarts) it has the same shape as small creamware ointment pots from the turn of the nineteenth century: absolutely straight sides and an indentation below the rim for holding the string used to tie down a paper or cloth cover. To our knowledge, this is the largest vessel of this shape excavated in New York City, and its body resembles pearlware in its color and surface texture (see Privy 1 below for a discussion of transitional pearlware/whiteware).

The Sanitary group of ceramics numbers 13 vessels and makes up 9% of the assemblage. Chamber pots are the most numerous type of vessel with five plain and one transfer printed examples. The transfer printed pot is in the "Abbeville" pattern (Figure). The plain vessels (Figure 72) could be classified as very late pearlware, based upon their body and glaze color, but, based upon their shape, they definitely date from the mid- to late nineteenth century (see Privy 1 discussion). Three vessels, two plain and one blue transfer printed, have been tentatively identified as soap dishes. (This identification is based upon their resemblance to early twentieth century forms as illustrated in Sear's catalogues.) One other blue printed vessel is probably a small cosmetic pot or possibly a toothbrush jar.

The last vessel in this category is an almost complete cuspidor with a molded decoration and a very dark Rockingham-type glaze (Figure 55). It is marked "American Pottery, Jersey City" (mark used 1833 to 1857) and was probably designed by Daniel Greatbach, a member of "a family of noted English potters ...(who) designed a large number of ornate pieces" (Barber 1976:121).

Greatbach was part of the emigration of skilled English workers who came to the United States during the first half of the nineteenth century to take advantage of the opportunities offered by new American industries.

The Household Furnishings group is made up of sixteen flowerpots. Fifteen are plain unglazed redware and one is brown glazed redware.

PRIVY 2 LEVEL A

The upper deposit in Privy 2 (levels 1 through 4, Deposit A), with only 61 vessels, is much smaller than the lower deposit (Deposit B). Deposit A also has proportionately more ironstones: one-fourth of the identifiable vessels are ironstone while less than 10% are transfer printed whitewares. The MCDs for Deposit A are 1874 for Level 1, 1866 for Level 2, and 1872 for Level 3 (Level 4 had no datable vessels). The MCD for the entire deposit is 1871.5. The TPQ is slightly problematical. A whiteware saucer has a faint mark which probably reads "Wood and Clarke." This particular firm was in business for only two years, 1871 and 1872 (Godden 1964:684). However, Godden does not illustrate or mention any impressed marks for this company and the shallowness of the impression makes its interpretation less than certain. Another whiteware vessel, a plate with faint (probably as the result of a worn mold) floral or wheat embossing, is marked "Imperial Ironstone China / Baker & Chetwynd". This firm cannot be found in any available reference. Another ambiguous mark is on a small tureen. This plain ironstone vessel has

turned-up handles similar to many ironstones from the 1860s and 1870s, as illustrated in Wetherbee 1980, and is marked "Livesely & Davis / Hanley." Once again, the mark cannot be found in available references, but the firm of Livesley, Powell & Company operated in Hanley from 1851 to 1866 (Cushion 1976:160). Therefore, it is very probable that Livesely and Davis date either before 1851 or after 1866 and, given the style of the vessel, it is most likely to be post 1866. If these post-1866 and 1871 marks are discounted, the next earliest ceramic maker's mark is a 1851 Registry Mark on a whiteware pitcher.

The tea and tablewares from Deposit A are less decorated than those from Deposit B and there is less porcelain. Most of the whitewares and ironstones are either plain or have simple embossed patterns. Beginning in the 1840s and continuing into the next two decades, the fashion in ceramics turned away from colorful transfer prints to all-white tablewares, and embossed ironstones became very popular. Deposit A therefore, even without firm dates from maker's marks, has the appearance of dating ten or twenty years after Deposit B.

Other maker's marks from Deposit A include T.& R. Boote (operating from 1842 to 1906, Godden 1964:84). This firm specialized in wares for the American market (Jewitt 1883:444-447, quoted in Praetzellis et. al 1983:12). Another English manufacturer who apparently had a sizeable trade with the United States, judging from the numbers of his wares which have been archaeologically recovered from mid-century sites, was John Wedg Wood who worked between 1841 and 1860 (Godden 1964:687, Cushion 1976:125). Although he was not related to the famous firm of Josiah Wedgwood, he obviously designed his maker's mark to be confused with genuine Wedgwood marks. His "J

WEDGWOOD" mark is on three vessels in the Privy 2 deposits (see Ceramics Tables 1 & 2). The real Wedgwood firm, however, did not use the letter "J" in their marks (Godden 1964:656-658) One saucer in Deposit A has a partially legible mark which probably reads "Wedgwood & Co.," another mark not used by the original Wedgwood firm. "Wedgwood & Co." was used by several firms, but the most likely maker of this saucer is the Wedgwood and Company operating the Unicorn and Pinnox Works after 1860 (Godden 1964:655).

Most of the tea and tablewares made of whiteware and ironstone are plain or have simple embossed designs. Most of the cups are relatively thick bodied and handleless. One thick bodied, handleless cup, however, has been decorated with a band of coppery-looking gold. This cup is unusual because such thick bodied vessels are almost always undecorated and, based on their relatively poor quality and absence of handles, were probably inexpensive. Embossed vessels include a very small teapot with an unidentifiable design similar to "Draped Leaf" styles patented in the 1860s (Wetherbee 1980:82).

There are no porcelain tablewares and only two porcelain teawares (one cup and one saucer). The cup is straight sided with a gilded band and a wide swag of bright blue. The saucer has lavender colored classical floral sprigged designs on a white body. This style on a porcelain body is known as "Chelsea ware" and was made as early as the 1830s, but, on a whiteware body, it was most common around 1840 (J.G. and D. Stradling, personal communication 1980).

The tea and tablewares from Deposit A in general are less decorated than those in Deposit B. Most of the difference can be accounted for by stylistic changes, but it is also possible that Deposit A contains relatively less expensive vessels. The scarcity of

porcelain also suggests a smaller expenditure on ceramics. The Miller Ceramic Pricing Index (Miller 1980) is an effective tool for measuring relative prices of ceramics, but, in its present state, it is not applicable to assemblages dating after the mid-1840s (Miller, personal communication 1988). When the complete Price Index is computed by Miller, it will be possible to compare the relative prices of the deposits from Privies 1 and 2, but at this time it is not feasible.

Deposit A includes only two vessels from the Food Preparation and Food Storage groups: a yellowware square nappie with a Sharpe's mark (Figure 58) and a stoneware small mouthed jar (Figure 59). There are no bowls or bottles.

The Sanitary group includes four chamber pots. One has an unidentifiable brown transfer print, two are plain (one ironstone and one whiteware), and one has a paneled body with faint embossing and leaf terminals. A large pitcher has a registry mark of 1851 and is identifiable as Boote's Octagon pattern (Figure 54). A porcelain spittoon with large handpainted flowers is quite possibly American-made (see Deposit B discussion). Deposit A has an unusually high number of small cosmetic jars. Six of the seven jars are whiteware and one is plain porcelain (Figure 45). Two of the whitewares have dark grey transfer printed tops labeling the contents as "Cold Cream" in neo-gothic style script. Both jars and one of the bases without a top are impressed "MAW 1/2". This mark probably refers to the manufacturer of the cold cream rather than to the maker of the jar. Another jar is marked "R. BEDE & Co." which, since it too cannot be located as a potter's mark, probably refers to the jar's contents. It is likely that the jars originally had paper labels glued around their middles to advertise their contents and hold tops

and bottoms together.

The Household Furnishings group has the most unusual vessels in this deposit. The eight plain redware flowerpots are not noteworthy, but the three porcelain vases are. Two of the vases are apparently a matching set made to resemble Wedgwood's Jasper ware: the exterior is unglazed with a bright blue slip as background for a white embossed neo-classical design with figures, grape leaves, and vines, with applied vines along the neck. The bases are missing so it is not known if they are marked or where they were manufactured. The other vase has an ornate shape with a combination of transfer printing, handpainting and gilding: a woman's head is outlined in transfer printing with features, hat, and background hand painted in addition to gilded highlights (Figure 48). Alice Frelinghuysen (Associate Curator of Decorative Arts at the Metropolitan Museum of Art), has identified this vase as of German or French manufacture. The styles of the woman's hair arrangement and hat date to the 1860s (Wilcox 1959). The vessel has "817" incised on the base and a red/brown handpainted wavy line. Neither of these marks can be attributed to a particular manufacturer.

PRIVY 1

The artifacts from Privy 1 could not be separated into distinct deposits and thus all of the ceramics will be discussed together. MCDs for the deposit are 1854 for level 1; 1850 for level 2; 1845 for level 3; 1859 for level 4; 1845 for level 5; 1831 for

level 7; and 1847 for the entire deposit. The TPQ for the deposit is 1858 based upon a Registry Mark. The Privy 1 deposit has a relatively wide variety of decorative motifs but a more restricted range of forms than either of the Privy 2 deposits. The majority of the 90 vessels recovered from this deposit are tea and tablewares with smaller amounts of multifunctional, sanitary and household furnishing forms, but no food preparation or food storage forms.

The tea and tablewares from Privy 1 include blue and brown transfer printed whitewares similar to those from Deposit B in Privy 2, molded ironstones in various patterns (Boote's Round and Octagon, Ceres, and unidentifiable designs), plain whitewares and ironstones, handpainted whitewares, and various porcelains (Ceramic Table 3, e.g., Figure 38). The handpainted whitewares have both polychrome and blue monochrome decorations. The polychrome decorations are small floral sprigs with black lines, as in Privy 2, and an abstract design of dots arranged to resemble a daisy or other simple flower (Figure 44). One of the blue designs is a large scale floral motif, but the others are geometric, linear designs.

Perhaps the most interesting vessel from this assemblage is an ironstone saucer handpainted with underglaze blue in a chinoiserie house and tree design (Figure 40). This saucer is marked "Masons Patent Ironstone China" and is an example of the earliest type of ironstone patented by George Mason in 1813. The particular mark on this vessel is dated circa 1820 (Cushion 1976:175). The early Mason's ironstones were made in direct imitation of Oriental porcelains and were decorated with chinoiserie underglaze blue and overglaze polychrome designs (Fisher 1978:263-266). They can be distinguished from the later, post 1840, ironstones by the fineness of their bodies

and their oriental decorations. The Privy 1 vessel has such a fine body that, at first glance, it appears to be porcelain. Early ironstone was costly and it is probable that this vessel was curated -- i.e. kept for a long time -- by its owners. It was excavated from level 7 and is largely responsible for the deceptively early MCD for this level.

Three plain vessels -- a London-shaped breakfast cup, a dish with the Royal rim shape, and a plain chamber pot -- the handpainted blue floral teapot, and the teapot lid with blue handpainting and pink lustre (Ceramic Table 3), have bodies and glazes which could be classified as late pearlware. Pearlware, first developed circa 1780, has a light-weight, usually fairly thin, body and a blue/green tinted glaze. It is almost always decorated with handpainted, transfer printed or blue and green shell edge designs. Pearlware was gradually replaced by whiteware (which has, among other characteristics, a heavier body and a clear or ice-blue tinted glaze) after 1810/1820 and the generally accepted date for the end of pearlware production (with the exception of dipped decorations) is circa 1840 (Noel Hume 1973, South 1977). However, as Miller (1980) has noted, a light-weight body continued to be made by nineteenth century potters under the name of CC (common or cream colored) ware. CC ware was often undecorated, but the blue/green tinted glaze on the Greenwich Mews vessels is unusual for CC ware. It is not unusual for outdated or old-fashioned types of ceramics to be used to make chamber pots or other similarly mundane vessels (delftware continued to be used for chamber pots and ointment jars after it had been superceded by creamware), so the pearlware chamber pots in the Privy 1 and 2 assemblages are not entirely unexpected. However, the plain London shaped cup and the Royal rim

dish are both interesting and unexpected because undecorated pearlware is quite rare and because their forms are more common in whiteware (the cup) and creamware (the platter). Given the presence of these vessels in this assemblage, it seems that transitional pearlware/whiteware continued to be made well into the nineteenth century in both decorated and plain vessels.

Another early vessel from Privy 1 which was probably curated by its owners is a small mug from level 3 (Figure 44). This mug has a fine red body, a wide blue band on the exterior, white slip covering the interior, and gold lustre bands at top and bottom (gold lustre appears gold on a dark body but is pink on a white background; therefore the exterior bands are gold and the interior ones are pink). South (1977) dates lustre decoration circa 1790 to 1840, contemporaneous with pearlware. The style of this mug, in particular the cordonning at the base, probably indicates manufacture in the earlier part of the date range.

The Privy 1 assemblage thus has four vessels -- the Mason's saucer, the blue floral teapot, the blue floral and lustre lid, and the small lustre mug -- which have relatively early dates compared to the rest of the assemblage. They might all be curated items, either by intention or by accident, or they might represent an earlier assemblage which became mixed with the majority of the privy's contents during deposition, a less likely explanation.

Three of the cups in Ceramic Table 3 are classified as "breakfast cup/slop bowl". Breakfast cups are cups shaped and decorated like teacups but larger; slop bowls are similar but are even larger. Slop bowls were a standard part of tea sets and were designed to receive the dregs left in teacups before they were refilled. They

could also be used for drinking tea, however, as illustrated in the novel Doctor Thorne by Anthony Trollop. The title character of this book, first published in 1858, is careless in his housekeeping and makes few demands on his housekeeper; "a slop-bowl full of strong tea ... in the morning ... and another slop-bowl of tea in the evening" along with simple food are all that he requires (Trollop 1858[1959]:34-35). Trollop is also informative on the subject of breakfast cups. In a later (1860) work, Framley Parsonage , he advises his readers that "Going out to tea is not a bad thing, if one can contrive to dine early, and then be allowed to sit round a big table with a tea-urn in the middle. I would, however, suggest that breakfast cups should always be provided for the gentlemen." (Trollop 1860[1960]:164-165).

The porcelain tea and tablewares are similar to those from Deposit B in Privy 2. The eight vessels include cups and saucers in paneled forms with gilded bands and handpainting (Ceramic Table 3). The one plain vessel is a fragmentary dish which was probably decorated on the missing sections. The assemblage also includes a fragmentary teapot with a Rockingham-type glaze on a dark red earthenware body. Redware teapots were common throughout the nineteenth century but were most usually covered with a black glaze.

As noted above, there are no Food Preparation or Storage vessels in Privy 1. There are, however, four small bowls and a bottle in the Multifunction group. The three small whiteware bowls have decorations similar to those on some of the teawares (Ceramic Table 3), and might have functioned as tea or tablewares. The yellowware dipped bowl might also have been used on the table, but yellowwares were more commonly used in the kitchen. This London shaped bowl

measures 7 inches wide by 3 1/2 tall and has a broad maroon band with white stripes. The bottle is plain grey salt-glazed stoneware stamped "D.L. ORMSBY" (Figure 59). The New York City Directories list a David L. Ormsby at 215 W.16th Street between 1839 and 1877. He is described at various times as a grocer, brewer, root beer maker, and soda water distributor. The excavated bottle was probably made for him by a local potter and was probably meant to be refilled. Such bottles are not frequently recovered from New York City excavations, and the association with a local brewer makes this vessel very interesting.

The Sanitary Group includes small cosmetic jars, nine chamber pots (an unusually high number), a bedpan, and a porcelain spittoon. Unlike the spittoon in Deposit B, this spittoon is undecorated but has a paneled body and scroll embossing (Figure 55). It is unmarked but it is possibly locally made (see Deposit B porcelain discussion). The nine chamber pots include four plain whitewares (one, as noted above, is pearlware/whiteware), three ironstones with various embossed bodies, one quite fancy flow blue printed ironstone in the "Tonquin" pattern by Adams (Figure 73), and a fine bodied yellowware pot (Figure) The center of the base of the yellowware vessel is missing, so it is not known if it was marked, but, based on the texture of the body and the delicate white stripes, it is probably English.

The redware bedpan is a rather unusual vessel (Figure 74). To the best of our knowledge, it is the only one of its kind excavated in New York City (and perhaps is the most complete archaeologically recovered example of this type of vessel). It has a redware body with a clear glaze and dark brown brushed on blotches. This vessel is

unmarked, as are the vast majority of redwares, and it is not possible to assign a date range, other than general nineteenth century, to its manufacture.

The remaining vessels in the Privy 1 assemblage are eleven flowerpots (nine unglazed redware and two glazed redware) and a porcelain vase. This fragmentary vase appears to be similar to the European porcelain "Lady with Hat" vase in Privy 2 Level A, but it is too fragmentary to be identified. It is made of hard paste porcelain and is decorated with handpainting and gilding.

SUMMARY

The three assemblages from the Greenwich Mews site span the middle decades of the nineteenth century. The ceramics from the lower deposit in Privy 2 (Deposit B) and the Privy 1 deposit have Mean Ceramic Dates (MCDs) of 1848 and 1847 respectively, while the upper deposit in Privy 2 (Deposit A) has a MCD of 1871.5. The two earlier deposits have relatively more transfer printed whitewares and fewer ironstones, a phenomenon consistent with general trends in mid-nineteenth century ceramic usage.

The functional groupings of the vessels exhibit some patterning. The two earlier deposits have a higher proportion of tablewares compared to teawares and similar percentages of multifunctional and furnishing/decorative vessels (Ceramic Table 4). (The relatively high percentage of furnishing/decorative vessels is due to the presence of flowerpots in all three deposits.) Deposit B has, in terms of percentages, more food preparation and storage

vessels than either of the others but fewer sanitary vessels. More comparative assemblages should help to clarify whether these observations are part of a pattern for the time period or whether they are indicative of particular depositional or behavorial activities by these particular families.

In general, the ceramics represent types available to middle class New Yorkers. With the possible exception of the European porcelain vases, none of the vessels would have been particularly expensive. There are indications, especially in Deposit B from Privy 2, that ceramics were purchased as sets.

Several vessels and groups of vessels are especially interesting: the transitional pearlware/whitewares; the potentially locally-made porcelains; the American and English yellowwares; and the unusual redware bedpan. These vessels can provide information not only about their possessors but also about the development of the ceramics industry in the nineteenth century.

Further research using the ceramic assemblages from the Greenwich Mews site could include comparison of the porcelains with pieces known to have been manufactured in New York City. The vessels should also be compared with contemporary assemblages from the metropolitan area and from other urban areas to try to define common patterns which could be recognized archaeologically. In addition, the vessels from the two privies are highly intact, attractive, and exhibit quality examples of the ceramics used by middle class New Yorkers in the mid-nineteenth century.

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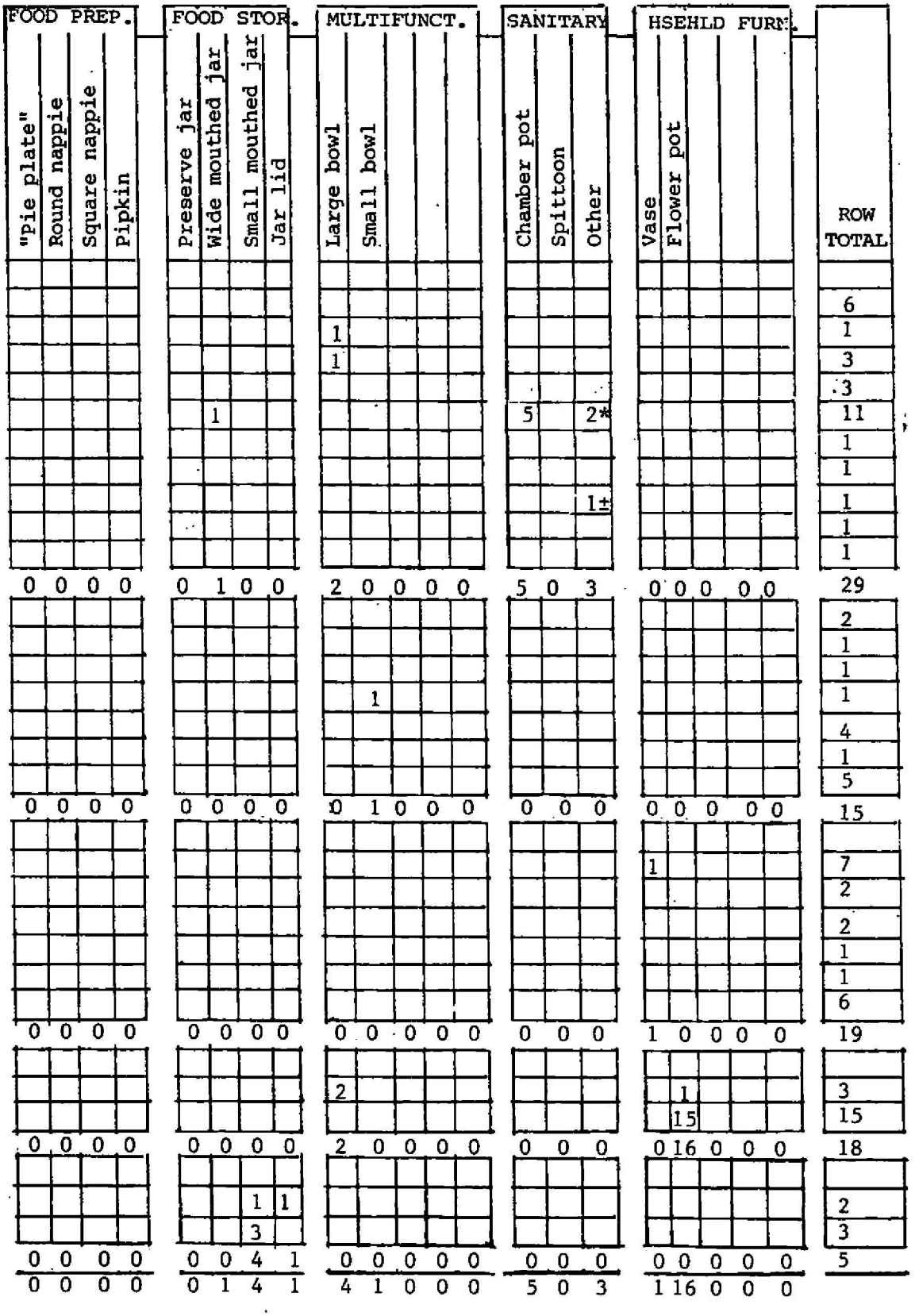
Ceramic Table 1 PRIVY 2B Levels 5 - 9

FUNCTIONAL CLASS:	TEAWARE				TABLEWARE							
Ware Type, Decoration, Manufacturer	Cup	Saucer	Breakfast cup	Tea pot	Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other	
White Earthenware - see pg. 2 for cont.												
Hand painted - floral sprigs	3	2			1							
large scale floral												
Dipped									2			
Other molded relief	1								2			
Plain - unmarked	1	1	1									
unidentifiable mark	1											
T.J. & J. Mayer					1							
Molded relief w/green transfer print												
Paneled w/blue transfer print	1											
Blue shell edge										1		
SUBTOTAL	7	3	1	0	2	0	0	0	4	1	0	
Ironstone Paneled - no makers mark	2											
Paneled - marked: J. Wedgwood									1			
C. Meigh & Son	1											
T. Goodfellow												
Other molded relief Unident. pattern	1	1			2							
Prize Puritan		1										
Plain					4		1°					
SUBTOTAL	4	2	0	0	6	0	1	0	1	0	0	
Porcelain												
Gilded band	2			1	2	1						
Gilded & paneled		2										
Paneled	2											
Hand painted (soft paste)		1										
"Chelsea" style								1				
Plain		1			5							
SUBTOTAL	4	4	0	1	7	1	0	1	0	0	0	
Redware												
Glazed												
Unglazed												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
Stoneware (salt - glazed)												
Blue decorated w/Albany slip												
Albany slip												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL	15	9	1	1	15	1	1	1	5	1	0	

* Soap dishes
± Pitcher
° Marked Livesley Powell Co.

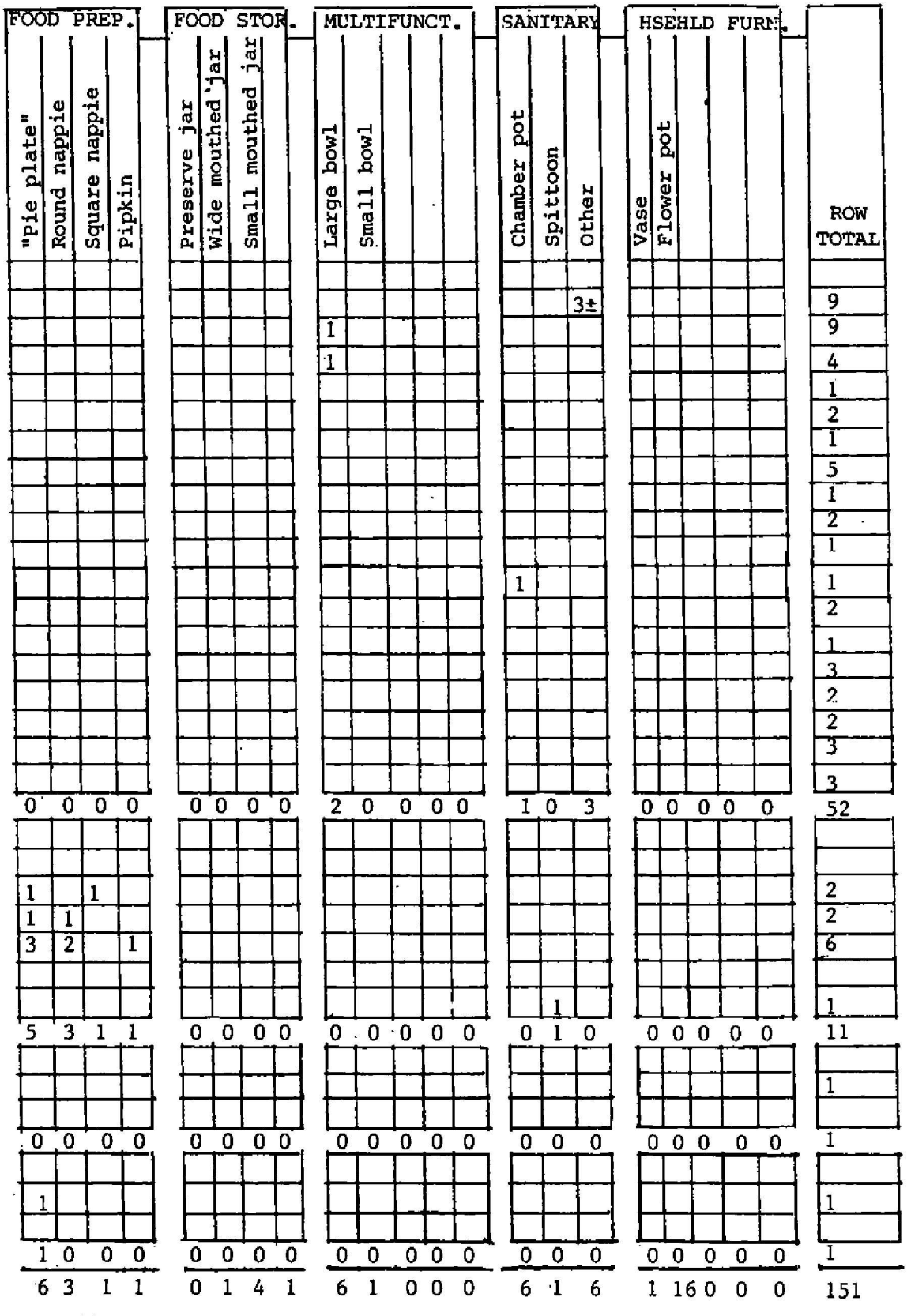

FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
Jar lid
MULTIFUNCT.
Large bowl
Small bowl
SANITARY
Chamber pot
Spittoon
Other
HSEHLD FURN.
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 1 0 0
2 0 0 0 0
5 0 3
0 0 0 0 0
29
0 0 0 0
0 0 0 0
0 1 0 0 0
0 0 0
0 0 0 0 0
15
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
1 0 0 0 0
19
0 0 0 0
0 0 0 0
2 0 0 0 0
0 0 0
0 16 0 0 0
18
0 0 0 0
0 0 4 1
0 0 0 0 0
0 0 0
0 0 0 0 0
5
0 0 0 0
0 1 4 1
4 1 0 0 0
5 0 3
1 16 0 0 0

cont'd

Ceramic Table 1 PRIVY 2 B Levels 5 - 9 (cont'd)

FUNCTIONAL CLASS:	TEAWARE				TABLEWARE							
Ware Type, Decoration, Manufacturer	Cup	Saucer	Breakfast cup	Creamer	Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other	
White Earthenware cont'd												
Transfer-printed: blue patterns unidt.	1						1	1	1		2*	
Lucerne - Clementson	1	2	1		4							
Canova - Mayer and Canova variant									3			
Archipelago - J. Ridgway						1						
Marino - Goodwin					2							
Mosaic - J. J. J.									1			
Bosphorus - R. Hall & Co.	1				4							
"Hannibal" - Adams									1			
Tyrolean - W. Ridgway					2							
Florence Rose - Ridgway, Morley, West Co.									1			
Abbeville												
Transfer printed - other colors - multi					2							
Black Canova - Mayer					1							
Flow Grey - Rhone - T.J. & J. Mayer	3											
Brown - Persian - W. Ridgway					2							
Flow Blue - Scinde - J. & G. Alcock	1	1										
Blue Willow & willow - like					2			1				
Franklin's Maxims	3											
SUBTOTAL	10	3	1	0	19	1	1	2	7	0	2	
Yellowware												
Plain												
Sharp's												
A. Cadmus - congress pottery												
Unmarked												
Rockinham type glaze												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
Other refined earthenwares												
Red body, lustre decoration w/chips				1								
SUBTOTAL	0	0	0	1	0	0	0	0	0	0	0	
Red bodied slipware												
Trailed (Norwalk?)												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	25	12	2	2	34	2	2	3	12	1	2	
CLASS TOTAL	41				56							

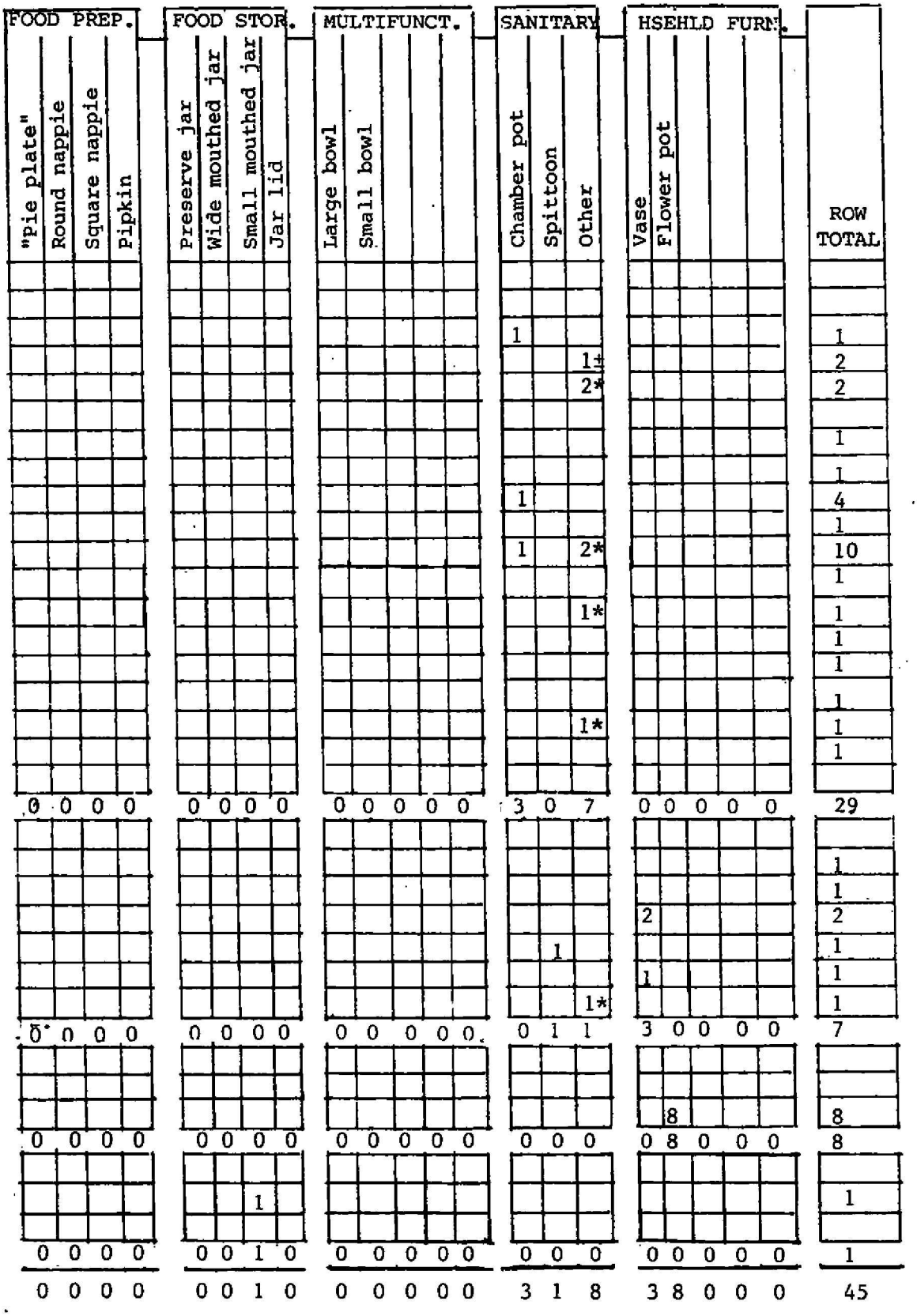
* one tureen lid, one unidentifiable form
± one pitcher, one soap dish, one cosmetic jar


FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
MULTIFUNCT.
Large bowl
Small bowl
SANITARY
Chamber pot
Spittoon
Other
HSEHLD FURN.
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 0 0 0
2 0 0 0 0
1 0 3
0 0 0 0 0
52
5 3 1 1
0 0 0 0
0 0 0 0 0
0 1 0
0 0 0 0 0
11
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
1
1 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
1
6 3 1 1
0 1 4 1
6 1 0 0 0
6 1 6
1 16 0 0 0
151
11
6
7
13
17

Ceramic Table 2 PRIVY 2A Levels 1 - 4

FUNCTIONAL CLASS:	TEAWARE				TABLEWARE							
Ware Type, Decoration, Manufacturer	Cup	Saucer	Breakfast cup	Tea pot	Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other	
White Earthenware												
Transfer - printed												
Brown - unidentifiable pattern												
Flow Grey - unidentif. pattern												1
Grey - marked M A W												
Gilded band	1											
Gilded & paneled		1										
Other molded relief		2		1								
registry mark - octagon									1			
Plain - unmarked	3	3			1							
"The Queen's Own"							1					
M A W												
Wood & Clarke (?)		1										
J. Wedgwood		1										
Wedgwood & Co. (?)		1										
R. BEDE & Co.												
T. & R. Boote & Co.		1										
SUBTOTAL	4	10	0	1	1	0	1	0	1	0	1	
Porcelain												
Gilded band w/blue swag	1											
"Chelsea" style		1										
Jasper - like												
Hand painted												
Hand painted w/trans. outline & gild												
Plain												
SUBTOTAL	1	1	0	0	0	0	0	0	0	0	0	
Redware												
Unglazed												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
Stoneware (salt - g;azed)												
Albany slip covered												
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL	5	11	0	1	1	0	1	0	1	0	1	

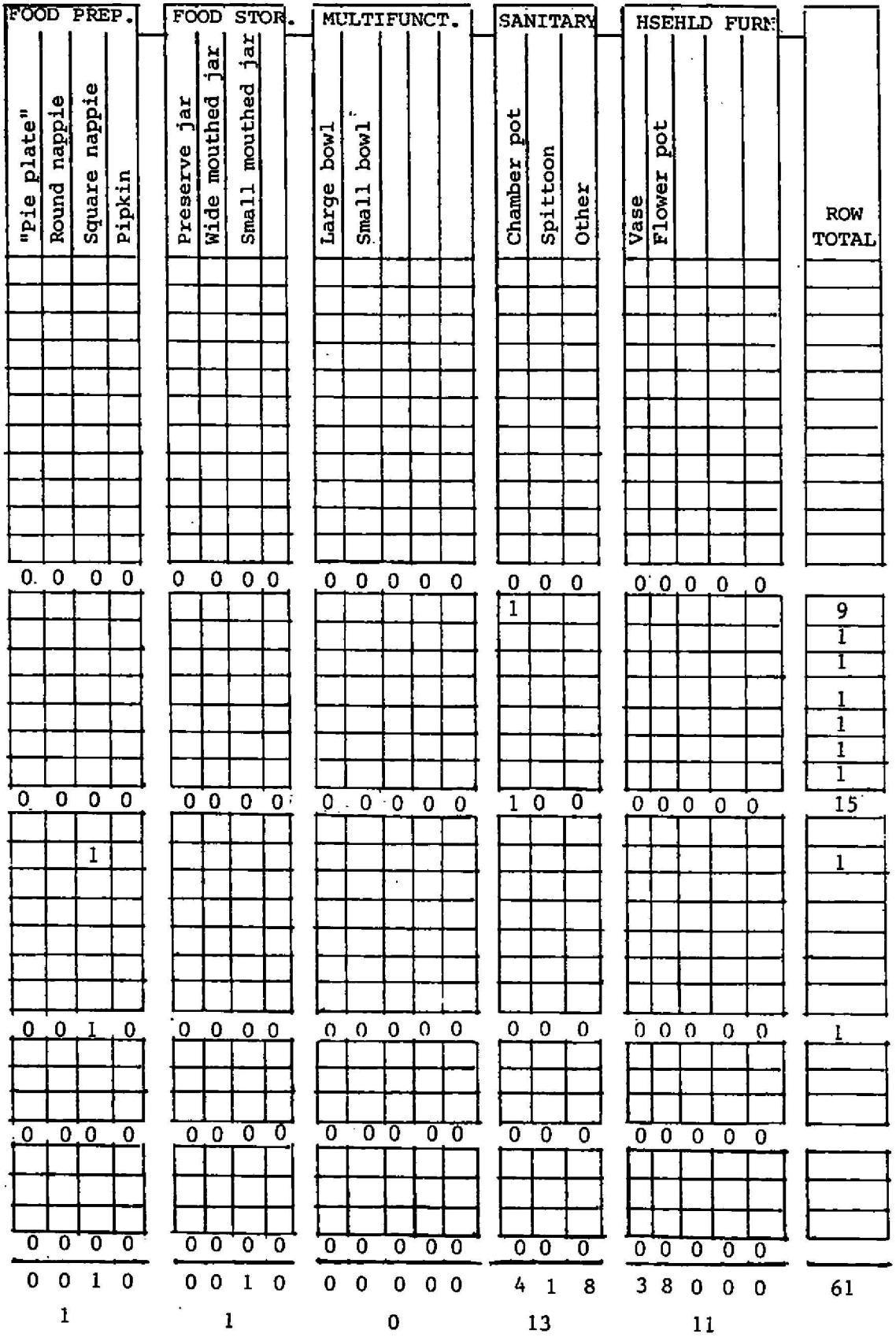
* Small cosmetic jars
± Soap dish


FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
Jar lid
MULTIFUNCT.
Large bowl
Small bowl
SANITARY
Chamber pot
Spittoon
Other
HSEHLD FURN.
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 0 0 0
0 0 0 0 0
3 0 7
0 0 0 0 0
29
0 0 0 0
0 0 0 0
0 0 0 0 0
0 1 1
3 0 0 0 0
7
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 8 0 0 0
8
0 0 0 0
0 0 1 0
0 0 0 0 0
0 0 0
0 0 0 0 0
1
0 0 0 0
0 0 1 0
0 0 0 0 0
3 1 8
3 8 0 0 0
45

cont'd

Ceramic Table 2 PRIVY 2A Levels 1 - 4 (cont'd)

FUNCTIONAL CLASS:	TEAWARE				TABLEWARE						
Ware Type, Decoration, Manufacturer	Cup	Saucer	Breakfast cup	Creamer	Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other
White Earthenware											
Transfer - printed: color											
Lucerne blue											
Hand painted											
Abstract											
Dipped											
Gilded & paneled											
Other molded relief											
Plain											
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0
Ironstone - plain - unmarked	7	1									
Plain - Livesley & Davis								1			
J. Wedgwood					1						
Jas. Edwards & Son					1						
Paneled		1									
Other molded relief - J. Wedgwood								1			
Baker & Chetwynd					1						
SUBTOTAL	7	2	0	0	3	0	0	2	0	0	0
Yellowware											
Plain - Sharpe's											
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0
Other refined earthenwares											
Red body, lustre decoration w/chips											
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	12	13	0	1	4	0	1	2	1	0	1
CLASS TOTAL	26				9						

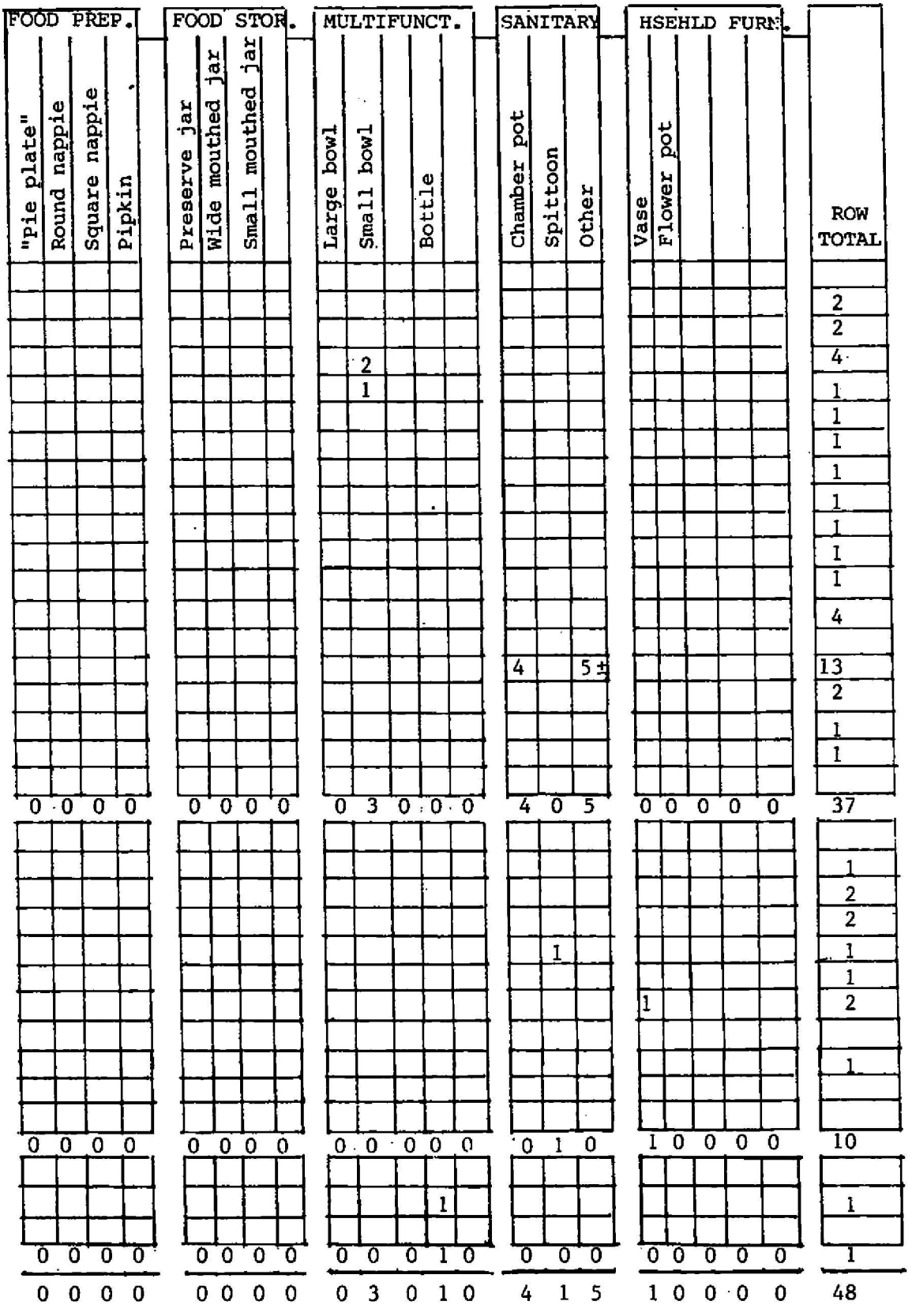

FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
MULTIFUNCT.
Large bowl
Small bowl
SANITARY
Chamber pot
Spittoon
Other
HSEHLD FURN
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
9
1
1
1
1
1
1
0 0 0 0
0 0 0 0
0 0 0 0 0
1 0 0
0 0 0 0 0
15
1
0 0 1 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
1
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
0 0 1 0
0 0 1 0
0 0 0 0 0
4 1 8
3 8 0 0 0
61
1
1
0
13
11

Ceramic Table 3 PRIVY 1 Levels 1 - 7*

FUNCTIONAL CLASS:	TEAWARE					TABLEWARE							
Ware Type, Decoration, Manufacturer	Cup	Saucer	Breakfast cup/ slop bowl	Tea pot		Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other	
White Earthenware													
Hand painted - abstract floral (dots)	2												
floral sprigs	1					1							
wide blue band & stripes	1		1										
blue geometric													
blue floral				1*									
Royal rim									1				
Scalloped rim						1							
Transfer - printed - blue		1											
brown pogoda - wood						1							
blue lombardy - heath			1										
blue floral w/lustre				1*									
Blue shell edge						3					1		
Plain - unmarked						4							
unmarked - blue/green tint			1							1			
Pearson & Hancock												1	
Paneled										1			
SUBTOTAL	4	1	3	2		10	0	0	1	2	1	1	
Porcelain													
Paneled w/gilded band	1												
Paneled w/gilded band & hand painting		2											
Paneled	1					1							
Other molded relief - scroll													
leaf	1												
Hand painted & gilded		1											
Plain									1				
SUBTOTAL	3	3	0	0		1	0	0	1	0	0	0	
Stoneware (salt - glazed)													
Plain - D. L. Ormsby													
SUBTOTAL	0	0	0	0		0	0	0	0	0	0	0	
SUBTOTAL	7	4	3	2		11	0	0	2	2	1	1	

* Mid - nineteenth century pearlware/whiteware see text

± Small cosmetic jars

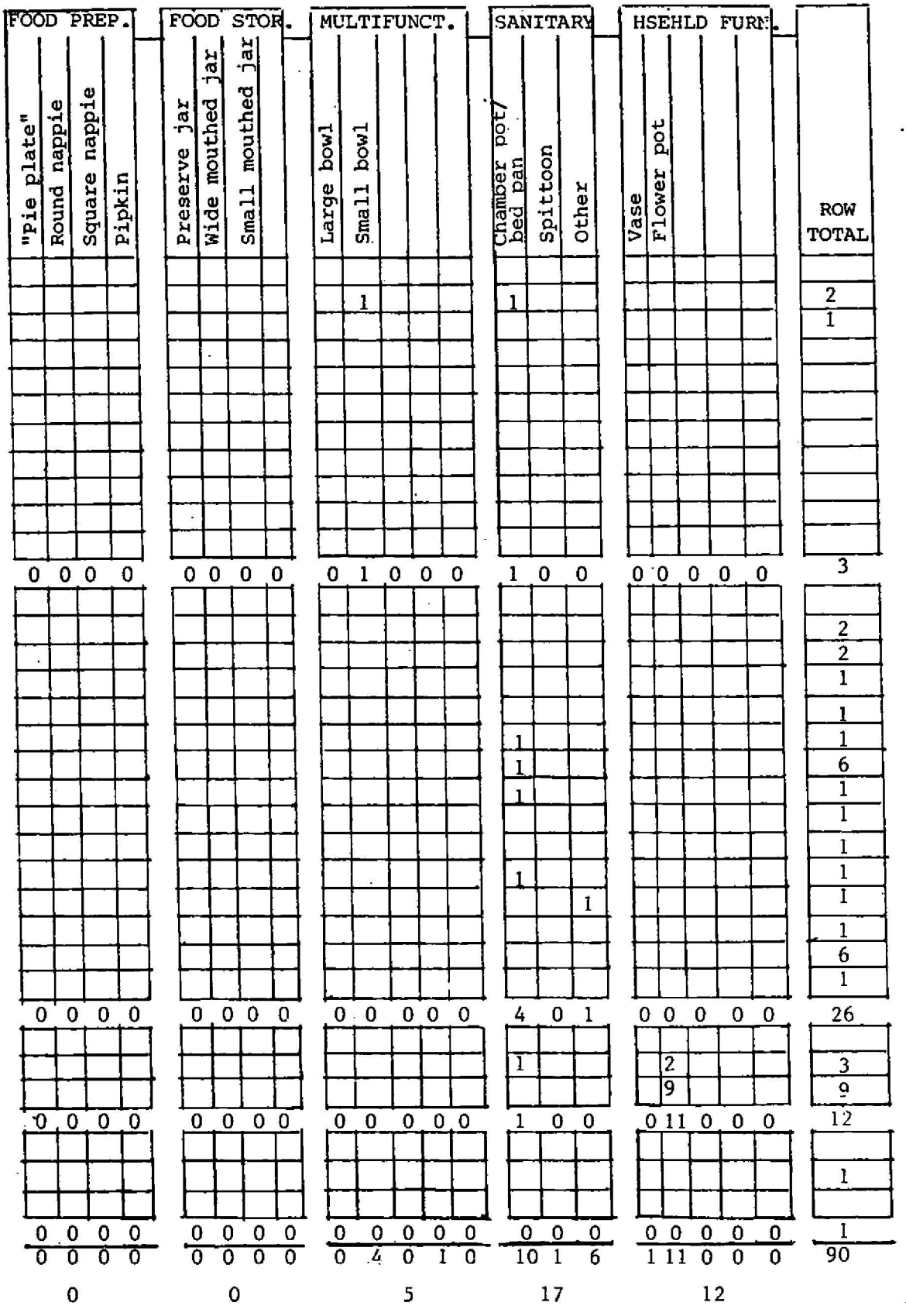

FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
MULTIFUNCT.
Large bowl
Small bowl
Bottle
SANITARY
Chamber pot
Spittoon
Other
HSEHLD FURN.
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 0 0 0
0 3 0 0 0
4 0 5
0 0 0 0 0
37
0 0 0 0
0 0 0 0
0 0 0 0 0
0 1 0
1 0 0 0 0
10
0 0 0 0
0 0 0 0
0 0 0 1 0
0 0 0
0 0 0 0 0
1
0 0 0 0
0 0 0 0
0 3 0 1 0
4 1 5
1 0 0 0 0
48

cont'd

Ceramic Table 3 PRIVY 1 Levels 1 - 7* (cont'd)

FUNCTIONAL CLASS:	TEAWARE				TABLEWARE						
Ware Type, Decoration, Manufacturer	Cup	Saucer	Small mug	Tea pot	Plate	Soup plate	Small plate (<6")	Dish	Pitcher	Platter	Other
Yellowware											
Dipped											
Rockingham - type glaze				1							
SUBTOTAL	0	0	0	1	0	0	0	0	0	0	0
Ironstone											
Paneled - round - T. & R. Boote	1	1									
Octagon - T. & R. Boote										2	
unidentified - T. & R. Boote					1						
Other molded refief - Ceres - Pearson		1									
illegible pattern - T. & R. Boote											
unidentifiable - unmarked	2	1			1				1		
Gothic - unmarked											
Mason's patented - blue Chinoiserie		1									
Transfer printed - unident. flow blue	1										
Tonquin - Adams											
Aleppo - Clementson & Young											
Chelsea style											1
Plain - unmarked		1			2						3
Hope & Carter		1									
SUBTOTAL	4	6	0	0	4	0	0	0	1	2	4
Redware											
Glazed											
Unglazed											
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0
Other refined earthenware											
Red bodied lustre decorated				1							
SUBTOTAL	0	0	1	0	0	0	0	0	0	0	0
COLUMN TOTAL	11	10	4	3	15	0	0	2	3	3	5
CLASS TOTAL	28				28						

° London - shape wash basin or large bowl


FOOD PREP.
"Pie plate"
Round nappie
Square nappie
Pipkin
FOOD STOR.
Preserve jar
Wide mouthed jar
Small mouthed jar
MULTIFUNCT.
Large bowl
Small bowl
SANITARY
Chamber pot/ bed pan
Spittoon
Other
HSEHLD FURN.
Vase
Flower pot
ROW TOTAL
0 0 0 0
0 0 0 0
0 1 0 0 0
1 0 0
0 0 0 0 0
3
0 0 0 0
0 0 0 0
0 0 0 0 0
4 0 1
0 0 0 0 0
26
0 0 0 0
0 0 0 0
0 0 0 0 0
1 0 0
0 11 0 0 0
12
0 0 0 0
0 0 0 0
0 0 0 0 0
0 0 0
0 0 0 0 0
1
0 0 0 0
0 0 0 0
0 4 0 1 0
10 1 6
1 11 0 0 0
90
0
0
5
17
12

GREENWICH MEWS Ceramic Table 4

	Teawares		Tablewares		Food Preparation		Food Storage		Multi-functional		Sanitary		Furnishings		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Privy 1	28	31	28	31	0	0	0	0	5	6	17	19	12	13	90	100
Privy 2 Deposit A	26	43	9	15	1	1.5	1	1.5	0	0	13	21	11	18	61	100
Privy 2 Deposit B	41	27	56	37	11	7	6	4	7	5	13	9	17	11	151	100

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INTRODUCTION

The following is a summary of the methods of analysis of the glassware from two features from the Greenwich Mews site. The analysis was undertaken to provide several kinds of information. These include (1) contextual information regarding cross-mending of artifacts between strata, (2) functional designations, and (3) dating the glass artifacts by stylistic and technologically diagnostic attributes as well as consulting directory listings. In addition, several rare or uncommon glass objects were researched to provide additional information.

The glass includes a wide variety of functional categories (see Glass Tables 1-3). Within the heading "Bottle Glass" are medicine vials, wine/liquor bottles, unmarked medicinals, hair dyes (cosmetic), bitters, soda or mineral waters, stout/porter, champagne, ink, olive oil, an historical flask, perfume/cologne, schnapps, paint, foods (general), pickle/olive bottles, etc.

The "Table Glass" designation includes cruets, castors, salt cellars, pitchers, tumblers, handled tumblers, a "candle holder," flashed table glass, pressed glass, dishes and bowls, and wine glasses.

The "Lighting" category includes lamp globes, fonts and base fragments. A pet category is represented, as is a toy category. Other glass included mirror fragments and window glass. The latter is made up of both safety glass and plain aqua/clear window glass fragments.

In general the glass from the features displays several diagnostic attributes that make dating quite precise. The first is

the use of the blow pipe as a pontil. This leaves a ring of sharp glass on the base of the vessel. Its date range is antiquity to c.1857/65. In 1857 the snap-case generally replaced the pontil rod in the United States as a means of holding the bottle during finishing. It normally leaves no mark on the base. The utilization of the snap-case as a terminus post quem (TPQ) seems to be problematical at this point (Jones 1986:102-106) due to questions regarding its introduction to specific countries and certain areas of the glass industry. For convenience sake, with caveats in mind, it is assumed that 1857 is still a relatively reliable date [see footnote 1].

The presence of both snap-case and pontil marked bottles from the various strata imply that the deposits date c. 1857[1] to approximately 1865. Since the snap was introduced to the United States in 1857, bottles lacking a pontil post date 1857 (except in France where the snap was used earlier). Bottles bearing pontil marks in a c.1857+ context may have been blown before 1857, or they may have been blown using the pontil rod depending on the habits of the individual glassblower/craftsman (See also Jones 1986:104).

One table glass piece from Privy 1 appears to markedly predate the deposit. It may be an heirloom, or may have been used infrequently enough to extend its use life 20 to 30 years beyond its manufacture. The specimen was a cobalt blue 34 ribbed saltcellar.

PRIVY 1

Privy 1 consists of a deposit containing 14.5% table glass and 80.7% bottle glass. The rest (4.8%) is accounted for by lighting

[1] Since writing this, it has become apparent that 1850 is a better date for the introduction of the snap-case than 1857. Consequently, 1850 is used in the body of the report and for determining glass mean dates although the 1857 date is referred to in this appendix (JHG).

(see MNV list). Overall the feature is comparatively uniform with respect to datable artifacts. One exception is a fragment of safetyglass which probably post dates 1891. This is thought to be intrusive and was found in Level 1. (Alternatively, this could be the approximate terminus ante quem for the fill-in date of the top of the feature). Similarly a clear machine made cider jug fragment was found in Level 3. This was not tabulated as feature material and not included on the MNV list.

Dating

The feature appears to date c.1857 to c.1865 based on the number of bottles utilizing a snap-case as a holding device during the finishing process. On datable bottles that require a wider range, for example 1-3-215, a Calabash, the date of 1845-1874 still provides a mean of 1859.5 Fragments of an older vessel (1-3-272) are probably heirlooms or part of a table service that has a longer use life.

The following glass items were researched for dating purposes, although only bottle dates were used to determine the mean glass dates given in the body of the report:

1-1-21 Hair dye embossed "Phalons Magic Hair Dye." The firm of Phalon and Son Perfumers N.Y. was established in 1859. (Fike 1978:176) (Figure 47).

1-1-57 Aqua panel embossed "Swedish Bitters of Peruvian Bark." Probably the front panel of a "Eugene Schoenings's Swedish Bitters of Peruvian Park Phila" (See Ring 1980:442). Eugene Schoening is listed in the Philadelphia directories from 1868-69.

1-2-24 A colorless lead glass pillar molded pitcher. Finished pontil scar. Similar in design to a pitcher illustrated in

Innes (1976, Plate 190, no.1) dating c.1835-1870. Also see Shadel Spillman 1982 #84 for a similar example dated 1860-1870. [This item, like 1-3-272, was not used to calculate the glass mean dates found in the report although it is included in those given in this appendix.]

1-2-34 Medicine embossed "Dr. Porter New York." Apparently this bottle contained a bitters prepared by Dr. Porter, the descendant of Mr. Zadoc Porter who invented the mixture. Early bottles post-date 1853. The medicine continued into the early twentieth century (Ring 1980:384).

1-3-186 "Batchelor's Hair Dye No. 1." Aquamarine. Snap-case base. Batchelor is listed in the New York Directories after 1837 (Figure 47).

1-3-190 (See 1-3-186)

1-3-192 (See 1-3-186)

1-3-194 Medicine embossed "Dr. Hookers Cough and Croup Syrup." Aqua, blowpipe pontil scar. Fike (1987:227) cites an 1867 advertisement, but it is possible that the medicine antedates this.

1-3-195 (See 1-3-186)

1-3-201 (See 1-3-186)

1-3-205 "Udolpho Wolphes Schiedam Aromatic Schnapps." Olive green, quart. Sand pontil scar. Udolpho Wolfe is listed from 1845-46 on 63 Front St., and 1878-79 on Beaver St. in the New York Directories. Probably c.1845-1865 (Figure 66).

1-3-215 Aqua quart Calabash GXIII-42 Sheaf of Grain with crossed rake and pitchfork and 8-petal ornament on reverse. Blowpipe pontil scar. Attributed to Mckearin and Wilson to the Glasshouse of Sheets and Duffy, Philadelphia, PA. c.1845-1874 (1978: 662-3, 131-2, 492) (Figure 63).

1-3-216 An aqua cologne with rolled finish and blowpipe pontil scar (Figure 46). Similar to colognes dating c. 1830-1860 in McKearin and Wilson (1978:plates 108, 109).

1-3-272 Salt cellar. Cobalt blue with 34 vertical ribs and blowpipe pontil scar. Circa 1790-1830 (?) (Figure 42). [see 1-2-24 re dating.]

1-3-325 Soda water embossed "W. Eagles Superior Soda or Mineral Waters" "W.E" on reverse. Iron pontil scar. Listed in the New York Directories from 1844/45 to 1884/85.

1-4-16 Soda water bottle embossed "Tweddles Celebrated Soda or Mineral Waters/38 Courtlandt Street," white bare-iron pontil, cobalt (Figure 65). Listed at this address in the New York Directories from 1844/45 to 1848/49 although the white bare-iron pontil scar is dated to 1870/1880 according to Munsey 1970:48 [see report section, Artifacts and What They Tell Us].

(Except for a Smith's Knickerbocker Soda Water [1-7-73], which has remained an enigma, there are no identifiable bottles in levels 5, 6, or 7 of Privy 1).

PRIVY 2

Privy 2 consists of a two-part deposit (Levels 1-4 and 5-9). Deposit A (1-4) contains 76.3% bottle glass, 16.1% table glass, 4.3% lighting or lamp related vessels, 2.2% related to pets and 1 (1.1%) toys (a marble). Deposit B (5-9) comprises 65.1% bottle glass, 33.% table glass, and 1.9% lighting (neither pets nor toys are represented). Overall there appears to be substantially more table glass in Deposit B of Privy 2 than in Privy 1 or even Deposit A of Privy 2. This is caused by the large number of tumblers and wine glass fragments in this lower deposit.

Two vessels from Deposit A of Privy 2 imply the occupants had birds as pets. Artifact 2-2-117, a "seed box" (see Innes and Shadel Spillman 1981:24, bottom) is illustrated in the 1859/60 M'Kee and Brothers catalog. They are listed as $1.65 a dozen (Innes and Shadel Spillman 1981:12). The second vessel is a seed box or waterer embossed on the base "American Cage Works N.Y." (an attempt to research this item was unsuccessful) (Figure 49).

Dating

Not surprisingly, the lower deposit of Privy 2 (Deposit B) appears to predate the upper deposit (A). Deposit A of Privy 2 probably dates from about 1861 to 1880. An 1880 date for a soda or mineral water (2-2-86) embossed "Matthew Johnston N.Y," listed in the New York Directories from 1880-1881, provides a TPQ for the Deposit A artifacts. The large number of snap-case base bottles found throughout the feature, as well as researched bottles with TPQs of 1874 and possibly 1888, date this level to the 1870s and 1880s. In Deposit B (Levels 5-9), several bottles appear to be much older. Two wine bottles (2-7-45) and 2-7-46) probably date c.1800-1830. A patent medicine (2-8-147), probably a Swaim's Panacea, is also much older than the deposit. Munsey dates this bottle between 1825-1829 (1970:66) although its style may have persisted. (See also Young 1961:56-66). In general, this deeper deposit appears to date from the 1840s to 1850 or 1851 based on researched bottles.

The following glass fragments and bottles were researched to determine dating:

2-1-1 "XX Porter and Ale T&W 12 Reade St. N.Y." Listed in New York Directories as 1861 (Figure 65).

2-1-2 Food bottle, probably pickle or olive. Greenish aquamarine glass. Probably English. Base embossed "CB 1888" which may or may not be a manufacture date.

2-1-3 Aqua medicine embossed "R.R.R. Radway & Co. New York/Entd-Acor.../ Act of Congress." Company operated from 1848 to c.1942 (Fike 1987:74). Dated by use of snap-case as post-1857 (Figure 67).

2-1-4 (See 2-1-3)

2-1-5 (See 2-1-3)

2-1-11 "E.R. Durkee & Co. Worcestershire Sauce." Aqua. Post-1874 (Figure 60).

2-1-13 Medicine embossed "W. Fisher 311 Bleeker St. N.Y." New York Directories 1853-70 (Figure 67).

2-2-86 Soda or mineral water embossed "Matthew Johnston New York." "J" on reverse and base. New York Directories 1880-81.

2-2-86 (See 2-1-13).

2-2-87 (See 2-1-13).

2-2-88 (See 2-1-3)

2-2-91 Medicine embossed "Hyatts / AB Double Balsam / N.Y" (Figure 66). Amber. Firm operated from 1840-c.1930 (Fike 1987:25). Probably post-1857 based on use of snap-case on base.

2-2-98 Soda/mineral water embossed "F. Klein 2214 6th St. N.Y." "F.K." on reverse. New York Directories 1864-68.

2-2-102 Soda/mineral water embossed "...ETER Donnelly 1861 N.Y." Snap-case, blob top.

2-2-111 (See 2-1-13)

2-3-107 "XX Porter and Ale T&W 139 Franklin St. N.Y." (Figure 65). New York Directories 1866-1868.

2-3-110 Porter or Ale embossed "R.B. & Co. 146 Jay St. Brooklyn, N.Y." "XX" on reverse (Figure 65). Aquamarine with blob top. Brooklyn Directories 1865-1868.

2-3-115 Soda/mineral water. Embossed "Jos. Cohn 337 8th St. N.Y." New York Directories 1857-1866.

2-3-118 "Philadelphia XXX Porter and Ale M. B. & Co. 145 West 35th St. N.Y." New York Directories 1861-1873 (Figure 65)

2-3-124 Medicine embossed "J.R. Birdsall's / Arnica Liniment / New York." Aqua, octagonal. Snap-case base. Copyright 1849 (Fike 1987:124). New York Directories 1845-1859.

2-3-128 Pickle bottle. Quart. Greenish aqua. Registry mark on base translates to "April 2, 1849, Messrs. Crosse & Blackwell, 21 Soho Square, London." (Office of Public Records, London). (Figures 61 and 62).

B (Levels 5-9)

2-5-10 Medicine embossed "Lyons / for the Hair / New York." Blowpipe pontil scar. Post 1848-1930 (Fike 1987:124).

2-5-11 and 2-5-12 Aquamarine medicine embossed "C. Ellis Philada." Philadelphia Directories 1837-1862.

2-5-21,23 Fragments of "Dr. Townsend's" that mend (see 2-7-43 for discussion).

2-6-28 (See 2-3-124) (1845-1859).

2-6-29 Medicine embossed "Osgoods/India Cholagague/New York" (Figure 69). Blowpipe pontil scar. Aqua. Charles Osgood is listed in the New York Directories at John St. in 1843, Maiden Lane in 1847, Water St. in 1851, and Pearl St. in 1855-1856.

2-6-30 (See 2-5-12).

2-6-31 Wine, olive green embossed "Patent" on shoulder. "Whitney Glassworks" on base. Dated ca. 1850-1860 through 1880 (McKearin and Wilson 1978:188).

2-6-35 Mineral water embossed "Mineral Waters" with monogram "H." Aquamarine. Iron pontil. A. Hubener 97 and 99 West 24th St. New York. New York Directories 1852-57.

2-6-55 Clear whiskey flask with strap sides. Double ring finish (see Fike 1987:8). This bottle appears to be a later c.1890s fragment which may be intrusive.

2-7-37 Furniture polish embossed "Parsons New York Polishing Cream for Furniture & C." Aquamarine. Blowpipe pontil scar. New York Directories 1841-1861.

2-7-38 Medicine embossed "Barry's/Tricopherous for the Skin and Hair / New York." Blowpipe pontil scar. Post-1851 (Fike 1987:122). New York Directories 1844-61.

2-7-39 (See 2-7-38)

2-7-40 Perfume/cologne embossed "Delluc & Co. Pharmaceutists New York." Clear. Finished pontil scar. New York Directories 1849/50 to 1863/64(?).

2-7-43 Medicine embossed "Dr. Townsend's Sarsaparilla Albany, N.Y." (Figure 66). Sand pontil. Olive green. Listed in New York Directories 1839/46. Dr. S.P. Townsend was first listed in Albany in 1841. Townsend manufactured his sarsaparilla at 64, 66, and 68 Bleeker Street, Albany. In 1843 S.P. Townsend was no longer listed in the directories, but his family took over the business (Schneidmuller 1979). Fike (1987:220) notes that after the business

had gone through several owners, embossed bottles were discontinued in 1870, so a probable date for this bottle is 1841-1870 (Figure 66).

2-7-45 and 2-7-46 Two wine/liquor bottles. Deep kickup, sand pontil, very heavy wear, significant basal sag, double collared finish. C.1800-1830. These were probably wine bottles holding older or vintage wines. Alternatively, the very heavy basal wear could be evidence of reuse (Figure 64).

2-7-57 to 2-7-64 These are Townsend's Sarsaparilla fragments that probably mend with 2-5-23 and were not counted in the mean dates.

2-7-89 Medicine. Panelled with blowpipe pontil scar. Embossed "_ _ _ _monic." Probably a "Schenck's Pulmonic Syrup." Post-1836, probably 1839-1850 (Fike 1987:229).

2-8-147 Medicine, rectangular, aqua. Embossed, "Genuine /__IM'S Panacea/Philada." Large blowpipe pontil scar. Early Swaim's Panacea c.1825-29 (?) (see Munsey 1970:66, and illustration on page 71; see also Baldwin 1973:471-472 for additional discussion). Apparently only three examples of this bottle are known (Figure 43).

2-9-182 (See 2-7-38)

2-9-184 Perfume/cologne (Figure 46). Aqua, blowpipe pontil scar. Similar to Rococo scroll cologne in McKearnin and Wilson (1978:369-397, plate 109, no.8) c.1830s to 1860s.

2-9-187 (See 2-7-43).

Glass Table 1 Privy 1 (levels 1-7)

Glass Categories (number of vessels per level)	L1	L2	L3	L4	L5	L6	L7	TOTALS #	TOTALS %
bottles	14	7	59	4	22	0	11	117	80.7
tableglass	1	2	12	2	3	0	1	21	14.5
lighting	2	0	3	0	0	0	2	7	4.8
pets	0	0	0	0	0	0	0	0	0.0
toys	0	0	0	0	0	0	0	0	0.0
TOTAL	17	9	74	6	25	0	14	145	100.0

Identified Bottles (number per level)	L1	L2	L3	L4	L5	L6	L7	TOTALS #	TOTALS %
food	2	0	4	0	4	0	0	10	8.5
beverage	0	0	3	1	2	0	2	7	6.0
alcohol	2	3	14	1	2	0	2	24	20.5
medicine	4	2	20	1	11	0	3	41	35.0
cosmetic	2	0	9	0	1	0	0	12	10.3
household	0	1	3	1	0	0	0	5	4.3
unidentified	4	1	6	0	4	0	3	18	15.4
TOTAL	14	7	59	4	22	0	11	117	100.0

Glass Table 2 Privy 2 A (Levels 1-4)

Glass Categories (number per level)	L1	L2	L3	L4	TOTALS #	TOTALS %
bottles	15	32	24	0	71	76.3
tableglass	3	5	7	0	15	16.1
lighting	0	3	1	0	4	4.3
pets	0	2	0	0	2	2.2
toys	1	0	0	0	1	1.1
TOTAL	19	42	32	0	93	100.0

Identified Bottles (numbers per level)	L1	L2	L3	L4	TOTALS #	TOTALS %
food	5	1	2	0	6	11.3
beverage	0	3	1	0	4	5.6
alcohol	1	8	4	0	13	18.3
medicine	6	15	12	0	33	46.5
cosmetic	0	2	3	0	5	7.0
household	0	0	1	0	1	1.4
unidentified	3	3	1	0	7	9.9
TOTAL	15	32	24	0	69	100.0

Glass Table 3 Privy 2 B (Levels 5-9)

Glass Categories (number per level)	L5	L6	L7	L8	L9	TOTALS #	TOTALS %
bottles	6	25	29	1	6	67	65.1
tableglass	4	5	13	3	9	34	33.0
lighting	0	1	0	0	1	2	1.9
pets	0	0	0	0	0	0	0.0
toys	0	0	0	0	0	0	0.0
TOTAL	10	31	42	4	16	103	100.0

Identified Bottles (number per level)	L5	L6	L7	L8	L9	TOTALS #	TOTALS %
food	0	3	7	0	1	11	16.4
beverage	0	1	2	0	0	3	4.5
alcohol	2	5	5	0	0	12	17.9
medicine	3	15	10	1	4	33	49.3
cosmetic	1	1	1	0	1	4	6.0
household	0	0	1	0	0	1	1.5
unidentified	0	0	3	0	0	3	4.5
TOTAL	6	25	29	1	6	67	100.1

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FAUNAL ANALYSIS

A small collection of 19th century faunal remains was recovered during excavations of two privies at the Greenwich Mews site at West 10th Street, New York City. While the sample size is modest (194 bones in all) comparison with other 19th century assemblages should furnish information about urban diet and food preparation in the mid- to late 1800's.

Systematic recovery of faunal remains was not possible due to field conditions and time pressures. Privy 1 contained the higher concentration of faunal material at this site, according to the excavators, and a sample of 58 bones and fragments was collected. Oyster shell was also present and a sample taken. The upper levels of Privy 2 contained less dense deposits of bone than Privy 1. A total sample of 136 specimens was taken from Privy 2, as well as samples of oyster shell and Mercenaria mercenaria (quahog or cherry-stone clam) shell, mainly from the deepest levels.

The majority of the collection is comprised of the more visible and durable bones of large and robust species: cow, pig, sheep/goat, turkey and chicken. Smaller skeletal elements of these species, remains of more delicately-boned species, and fragmentary specimens are few. This is not surprising because the remains of the more fragile small mammals and birds - if present - and the smaller and

less durable skeletal elements of the larger species tend to be under-represented in any small archaeological collection (Binford and Bertram 1977). In fact, the smaller the collection, the more under-represented the species diversity will be. Even using a one-quarter-inch mesh screen, Payne (1972) has demonstrated that the smaller elements of the larger species and all of the elements of the smaller species may be lost. Since the Greenwich Mews specimens were derived from a hand-picked proceedure and screens were not used, it is a credit to the sharp sight of the excavators that small fish remains and the bones of Mus musculus (housemouse) were included. The high proportion of specimens which could be identified to species level (58%) may be in part a factor of visual selection of the sample, since small fragmentary bone may have escaped attention.

METHODOLOGY AND QUANITIFICATION

Each specimen was identified to the most precise possible taxon, in most cases to species level, using the comparative faunal collection of the Bioarchaeological Laboratory, Department of Anthropology at Hunter College, CUNY, and the author's private collection. Reference was made to relevant faunal manuals: Amorosi (1988), Boessneck (1969), Gilbert (1980), Morris (1975) and Schmidt (1972). Fragmentary specimens not identifiable to a more precise taxonomic level were identified by class, superclass and phylum -in this report Mammalia, Aves, Pices and Mollusca - and grouped according to

relative size. Mammal remains not identified beyond class level were categorized either as large mammal - approximately the size of cow, and medium mammal - similar in size to pig or sheep/goat. One unidentified bone fragment was classified as Aves (bird) and belonged to an individual larger than the domestic chicken. Since no other mammalian species similar in size to the cow was identified, it is probable that all the large mammal fragments are in fact cow. No distinctions were made between Ovis/Capra (sheep/goat) as it is impossible differentiate between the two species without the aid of a large comparative collection (Boessneck).

Because of the sample size, a conservative approach must be taken in applying quantitative measures to this collection. The most basic level of quantification is the ordinal count of the total number of bones present (TNB) and the number of identified species per taxon (NISP) (Grayson 1984). The total number of bones in an assemblage is affected by a variety of taphonomic factors which remove bone from the deposit at varying rates. Predepositional processes such as butchering, cooking, burning, and sorting of waste elements for different purposes (Binford 1981a) prevent much material from appearing in the archaeological record. Post-depositional events such as weathering, animal disturbances, and differential preservation of skeletal elements, as well as removal of small and immature bones by dogs and other scavengers, may change the composition of the deposit, so that certain species and certain

elements will be under-represented. Even under carefully controlled collection conditions, small fragile animals tend to be under-represented, as the bones of small-sized species, as well as smaller bone elements of all animals have a lower recovery rate (Thomas 1969, 1972; Payne 1975).

For such reasons, the proportion of species and number of elements may become skewed. This skewing can create new patterning in a small data set, while use of higher statistical levels gives a spurious impression of precision (Grayson 1984; McGovern 1985). Further quantitative manipulation such as Minimum Number of Individuals (MNI)(a quantitative method based on the principle of paired elements and the assumption that the whole animal was originally present at the site) is clearly not appropriate for the present study. In the market economy of 19th century cities, large numbers of animals were butchered in the meat markets and individual "cuts" of meat were often sold to householders who did not have the facilities or the need to store whole butchered animals. It is safer to assume that every bone present belongs to a different animal, and that only a portion of the total number of individuals ever present is represented archaeologically. This report will therefore be of most use as a descriptive account of the kinds of meat animals utilized at Greenwich Mews and the manner in which they were butchered for consumption.

SPECIES

Bos taurus (domestic cow) predominates in the triad of domestic mammals (66%), with Sus scrofa (pig) (14%) and Ovis/Capra (sheep/goat) (20%) a less significant second and third on the list. (See Table 1 for distribution of species in Privies 1 and 2).

Of the 32 bones of Aves (bird) 21 were Galliformes (chickens and turkeys). 14 were identified as Gallus gallus (domestic chicken) and 8 of Meleagris gallopavo (domestic turkey). It is of interest that the turkey bones appear to be of a taller, more rangy variety than the contemporary specimen used for comparison, and belonged to a larger, though not necessarily meatier birds.

The four bones of Mus musculus (housemouse) may have belonged to one individual as they were found in close association. Rodent gnawing was also seen on a pig femur and two tibia in Privy 1, and a pig tibia in Privy 2; these bones may have been especially attractive to rodents if they were ham bones with residues of salt.

Of 45 Pices vertebrae, ribs and fin ray supports, three vertebrae were identified to the family Gadidae (cod or ling) while the rest were of small unidentified fish.

Samples of Crassostrea virginica (common oyster) were taken from both privies, and were plentiful according to the excavators'

observations. Samples of Mercenaria mercenaria (quahog or cherrystone clam) and one large Busycon sp. (whelk) shell were taken from Privy 2.

AGEING

The bones of Bos taurus (cow) have the appearance of mature, though not old, animals, 3½ - 4+ years in those specimens where age could be determined by epiphyseal fusion. This is somewhat past the age at which the highest quality beef is slaughtered; as Lyman (1977) remarks of the beef rations at Fort Walla Walla in 1904, beef past four years old is fibrous and coarser than younger beef, but cheaper in price. Also, there may have been greater tolerance for variations in age and condition of beef before the meat-packing industry put mass-produced and age-controlled beef in the reach of all Americans. In the first half of the 19th century, Virginia cookbook author Mary Randolph (1824) suggested three to five years as the appropriate age for slaughter.It should be remembered that some cattle were used as draught animals prior to being butchered. Mrs. Curtis, writing for the housewife who did her own cooking in 1909, did not eschew older beef, but advised that "when sinews are abundant and the flesh has a coarse-grained appearance ... it should be subjected to slow cooking, such as braising, pot roasting or simmering... for the housewife anxious to have a small income provide the best food possible, there are any number of pieces that make a savory dish, only they must be cooked in the way which best fits them " (Curtis 1909:100).

There was evidence of variation in age and condition at the time of slaughter at Greenwich Mews. In Privy 1 there was a small immature cow tibia, as well as an astragalus with a bone lesion suggesting some type of viral or bacterial disease, which may have been associated with foul stabling conditions. In Privy 2 there was a

thoracic vertebra of a small individual, as well as a proximal radius from a mature individual.

Most of the Sus scrofa (pig) bone was small, in most cases, in comparison to contemporary specimens, and juvenile where age determination was possible. Privy 1 yielded two small immature pig femurs with epiphyses unfused. In domestic pig the femoral epiphyses are fused by 3½ years, but in size these specimens were from younger animals, as were a tibia in Privy 1 and another in Privy 2.

Of Ovis/Capra (sheep/goat) bones, when an estimate of age could be made, most appeared to have reached maturity (3 - 3½ years). In Privy 2 there was a distal humerus with thin walls, suggestive of calcium resorbtion in an individual of advanced age. Also in Privy 2 was a small immature caprine femur. The distal end of this bone was sawn and darkly charred as might be the shank end of a roast leg of lamb.

BUTCHERY AND FUNCTION

Table 2 illustrates the frequency of the various skeletal elements for Bos, Sus and Ovis/Capra. Some patterning is evident; for example, low meat-bearing elements such as cranium, carples and tarsals, and other butcher's waste were virtually absent and may never have been present at this site. The collection appears to represent kitchen refuse; primary butcher's waste was deposited elsewhere (see Russell and Amorosi 1987).

All purposefully altered bone was cut with a meat saw, probably a coarse-toothed saw,which left visible toothmarks on the cut surfaces. Beef animals were treated differently from sheep/goat and pig. Cow was most frequently represented by sawn segments of bone ranging from 2 to 5 inches in length, while the sheep/goat and

pig elements were relatively intact. All the major meat-bearing elements of the cow were present, while pig was represented only by the hind-limbs, and sheep/goat by hind-limbs, one humerus, and the superior ends of the ribs.

Axe or cleaver marks were not observed. Some of the bones, mostly the lower leg, or shank elements of all three domesticates bore cut marks where meat was removed from the bone with a sharp knife.

Comparison was made, of each butcher-sawn specimen, to Lyman's (1977) illustrations of common turn-of the century butchering marks, in order to establish the likely function of the various cuts. Reference was also made to meat-cutting diagrams provided by the National Livestock and Meat Board(in Meyer 1964 and Michael Stevens Associates 1973).

For cow, various portions of the animal were segmented to produce cuts which could be braised or cooked in liquid, or pan-fried or pan-broiled (see Figure 1). Even the large roasts associated with the pelvis/proximal tibia(rump or round roast), or with the scapula(shoulder-arm or cross-rib pot roast),are intended for stove-top cooking in a tightly-covered casserole, rather than baking or roasting in the oven. Steaks associated with the short-loin - thoracic vertebrae and upper rib (T-bone, Porterhouse and rib steak)-and the pelvis (sirloin steak) are usually pan-fried. Round steak or round roast derived from the femur is braised, as are heel of round or hind shank from the lower tibia, and short ribs of beef, from the short plate or lower ribs. Chuck is cut from the neck (perhaps represented by an atlas in Privy 2) and could be ground at home by the thrifty housewife and pan-fried as Hamburg steak (Curtis 1909). Additionally, neck bones and fore-shank from the radius/ulna were utilized for enriching soups. All the observed cuts of beef were suitable for stove-top cooking. and there was no burning or charring suggestive of roasting or

broiling on any beef bones.

The pig remains appear to be of small hams, of which the distal tibia had been sawn off to remove the foot (Figure 2). In one case the distal femur was saw-cut to produce a half-ham. No charring or burning was apparant.

The sheep/goat remains show a similar pattern with the small intact femur and the tibia cut at the distal end, as would be for a leg of lamb (Figure 3). Leg of lamb may be cooked by braising, though one lower tibia end is clearly burned as in roasting. In addition, the sheep/goat ribs suggest rib chops which are generally braised or pan fried. The single mutton shank in Privy 2 would probably be tenderized by long, slow simmering, perhaps in combination with beans or other vegetables.

The bones of turkey, chicken and chicken species show no butchery marks and it cannot be determined whether whole birds were utilized, although this seems most likely,or in what manner they may have been cooked.

RELATIVE RETAIL VALUES

With the expansion of the market economy after the Civil War, urban purchasers were able to choose their meats by individual butchery units, or cuts, making selections according to their taste and means and needs. It is possible - by relating the skeletal part and type of cut, to 19th century retail values - to make some inferences about purchasing patterns of the consumers. This approach has been explored by several authors (see for example Landon 1987; Shulz and Gust 1983).

For the major domesticates, the various cuts can be ranked according to average retail prices of the time. In general, the more expensive cuts of meat lie nearest the backbone and pelvis, with cost descending toward the hoof; hence the expression "eating high on the hog."

Figures 1 - 3 show the ranked retail values for beef, lamb and pork, following Shulz and Gust, and Landon. A ranking of 1 denotes the most expensive cut, such as sirloin of beef, while a ranking of 9 represents one of the least expensive, such as the fore- or hind-shank of beef.

Detailed attention was given to the Greenwich Mews collection with respect to the type of cut represented and probable cooking method. With respect to most of the large bone fragments the type of cut seemed clear. Beef rib segments did present some problems as to what cut they represented. For example, eight of the beef rib segments from Privy 1 were proximal ends and it is not clear whether these are from the more costly rib cut or the chuck cut. Eight additional rib sections in Privy 1 are mid-section segments, associated with the economical cross-rib or short-rib cut. The single thoracic vertebra segment probably represents T-bone steak, a high-priced cut. In Privy 1 are four bovine pelvis segments associated with sirloin steak and one with rump steak.

In Privy 2, five of the beef rib sections were proximal ends, from either rib or chuck cut, and seven appeared to be mid-section cuts. Four of these center-cut ribs bore matching parallel, incomplete saw cuts (Cat.#GM-2-9-2 through 5) and appeared to be part of a single purchase of contiguous ribs from one animal. Again, in Privy 2, three thoracic vertebra segments suggest T-bone steaks.

As Table 2 illustrates, retail values for the Greenwich Mews collection ran the full gamut from cheap to expensive, with the average price per cut falling in the middle range.

COOKERY AND FAUNAL PATTERNING

Some general observations can be made about cookery and faunal

patterning without drawing unwarranted conclusions about foodways at the Greenwich Mews site. These observations may be useful in comparing this to other late 19th century urban sites.

To begin with, meat was a very important part of the 19th century diet in America. While midday dinner was typically the heaviest and most elaborate meal of the day, meat was frequently served at breakfast and supper as well. A "lack of differentiation of appropriateness of certain foods for different meals" in the 19th century is noted by Landon(1987a:22)and well documented historically. Similar dishes were served morning, noon and night. For example in the fall of 1898, breakfast for pensioners at Sailor's Snug Harbor, Staten Island, included pork chops, beef stew and corned beef hash, in addition to substantial dinners of meat, fowl and fish (Morgan 1987). Cookbooks of the time recommended hashes, stews and mince meats as an economical use of left-overs and scraps at breakfast. Harland(1875), for one, advised that beef stew served with potatos and cornbread makes an inexpensive breakfast which may be served often. Re-serving of leftovers as sequential meals also minimizes the possibility of spoilage which may occur when cooked foods are stored without refrigeration.

Based on the faunal evidence, cookery at Greenwich Mews seems to have centered around various cuts of beef, not all of the first quality or highest price. These were butchered for stovetop cooking. Units of suitable size were cut for the soup- or stew-pot or tightly covered Dutch oven, to be slowly simmered or braised in liquid until they reached the desired degree of tenderness. Pansized steaks such as the T-bone could be seared in a hot skillet and fried quickly so as not to dry or toughen the meat, or better yet, grilled over hot coals (Harland 1875). Steaks could also be covered and braised until tender.

For Sunday dinner or special occasions, a ham or leg of lamb may

have provided a treat. These could also be boiled (Curtis 1909) rather than oven-roasted, and Harland asserts that leg of lamb is best boiled, either fresh or after it has been salted and preserved as mutton ham. The Borden family of Fall River, Massachusetts dined on boiled leg of mutton one sulty summer night in 1892 and breakfasted the next morning on mutton stew and mutton chops, as the outdoor temperature climbed above 90 degrees. Apparantly they were prepared to continue eating the still-unrefrigerated meat at yet another meal when the notorious murders intervened (Lincoln 1986).

Choice of meats, and the way in which they are cooked, is a complex matter based on a multitude of variables including individual preference, ethnic tradition, family size, life style and life cycle, and ultimately upon cost, availability and other economic factors. Small families, for example, may find it impractical to cook whole hams, turkeys and standing rib roasts; the use of stew meat and individual chops and steaks allows adjustment for the number of diners. Overcrowding and lack of full kitchen facilities may operate in favor of quick-fried or boiled foods; such was the case in industrial 19th century London, where entire working class families lived in a single room and cooked over the same coal grate which provided heat. Cost of fuel may be a consideration; not only do the more economical cuts of meat tend to require long slow simmering, but stovetop cooking,in which a controlled heat is applied directly under the pot, is itself more economical than maintaining a 300-400 degree oven heat for several hours. Cuisines that developed in deforested parts of the world, such as China, Ireland and Italy make the most of limited fuel supplies, and do not rely heavily on home baking. At Greenwich Mews the fuel for cooking would have been coal in an iron stove; later this stove would likely have been converted to a gas range when gas lines were brought into the neighborhood. Whichever fuel was used, roasting does not appear to have been a daily practice.

In terms of preference and availability, beef and oysters were the most popular sources of animal protein in the Northeast. Nationwide, pork consumption outranked beef in the 19th century, but New Yorkers and Northeasterners as a group did not share the country's appetite for pork. The development of beef ranching on the Great Plains, the growth of railway networks in the West after the Civil War, and the introduction of the refrigerator car in 1882 insured that fresh beef was the meat most often on the New Yorker's table (Harris 1985). Oysters were so plentiful on the Eastern seaboard that from colonial times through the 19th century they were known as the food of the poor. Oyster cellars, oyster houses or saloons, and curbside stands abounded. At home oysters were often cooked together with other meats (Harland 1975 etc.).

Of the domestic meats, lamb and mutton were historically the least liked in the United States, and there was little sheep-raising outside of New England. New Yorkers in the late 18th and early 19th centuries did not eschew lamb, however, and investigations at 175 Water Street in New York City (Biddick 1983) give evidence that lamb and mutton were eaten in quantities nearly equal to beef.

When pork was eaten, it was usually salt-cured, and fresh pork was served young, under six months old. The "best classes" were becoming prejudiced against fresh pork altogether, according to Harland, due to fear of disease and also to awareness that pigs were often raised in unsanitary conditions and fed on garbage, and even on cattle-droppings containing partially digested corn (Harris 1985). "Do not eat mature pork unsalted," warns Harland (1875:128-129).

INTERSITE COMPARISONS

Privy 1 was treated as a single unit, due to ceramic evidence of mixing throughout the deposit. In Privy 2, levels 1 - 3 (Deposit A) relate to a later occupation, while levels 5 - 9 (Deposit B) relate to earlier occupation.

Beef bones predominate in Privy 1, as well as in Deposits A and B in Privy 2. Proportionately, the Privy 1 sample contains the most pork bones, while the sample from Deposit B in Privy 2 contains the most lamb bones.Bones of fish and fowl were collected only from Deposit B of Privy 2. Deposit A of Privy 2 is represented by a total of seven specimens; the excavator relates that a smaller sample was collected from this unit and that there was also less faunal material seen in all but the lowest levels of this unit.

Again, the sample size limits the amount of statistical meaning which can be derived from the preceeding comparisons. The eleven lamb bones in the lower Privy 2 (Deposit B), six ribs (six chops) two femurs and two tibias (a minimum of two legs of lamb) do inform us of the likelihood of three or more mid- to luxury-priced meals for a large family. The only evidence of a cheap cut of lamb is the foreshank of mutton from Deposit A of Privy 2. Indeed, it is easy to speculate in particular terms about the six or more dinners (or were they breakfasts or suppers?) represented by the seven bones recovered from Deposit A of Privy 2. Faunal evidence from these levels suggests that in addition to economy cuts such as the shank of mutton and a foreshank of beef, the popular and moderately-priced cafe round (Lyman 1987) and a rib steak were served. The small pig tibia may be from a fresh young ham, a seasonal delicacy. Two metatarsals from a mature pig were probably discarded from another ham, since hind-trotters were generally not eaten.

Privy 1 and Deposit B, Privy 2 show a similar mix of low, moderate and high-priced cuts of meat. References to ranked retail values in Table 2 show that cuts of beef from Privy 1 average somewhat higher in value than from Privy 2 (rank 3.6 for Privy 1 and 4.75 for lower Privy 2.) But it is risky to infer social and economic status from small urban collections: Landon (1987b) observes that based on faunal evidence alone, a collection from a well-to-do agent's house in Lowell, Massachusetts might have been

interpreted as representing a household of slightly lower socio-economic status than remains from three boarding houses of the same era.

Butchering practices seems to have been similar throughout the collection, with most bone sawn into small (2 - 5 inch segments).

CONCLUSION

Two privy features at the Greenwich Mews site offer information about urban foodways in the late 19th century. Faunal remains from Privy 1, and two discrete levels of Privy 2, appear to be primary kitchen refuse from a minimum of three documented households. Low-meat-bearing elements - butcher's waste - are essentially absent. Meat was apparantly purchased by the retail cut, according to the wants and means of the inhabitants. This purchasing pattern is characteristic of the urban subsistence pattern described by Henry (1987) and found at other New York City sites (e.g. Biddick 1983).

Biddick's report provides some interesting comparisons with the Greenwich Mews site, which may relate to change over time. In contrast with the somewhat earlier 175 Water Street, where beef and lamb appear in nearly equal quantities, there is much greater emphasis on beef at Greenwich Mews. Preference for beef in New York City and New England was on the increase after the Civil War, while lamb consumption declined. And by the 1850's, beef out-sold pork by a ratio of 2.5 to 1 in New York City (Harris 1985:109 - 129). These observations are substantiated by the 175 Water Street and Greenwich Mews fauna, and similar patterns should be watched for in comparable urban sites in the Northeast.

As at 175 Water Street, pork remains at Greenwich Mews have a young age profile. However, the even distribution of skeletal remains at 175 Water Street suggests that these animals were prepared as whole roast piglet. Pig at Greenwich Mews was represented

mainly by hindlimb elements, suggestive of small, possibly fresh hams. Biddick reports some evidence of larger carcass units (sides of beef?) wich may have been butchered at home. There is no evidence of home butchery at Greenwich Mews.

Traces of domestic fowl were seen at Greenwich Mews including chicken and turkey, as well as fish and shellfish. No evidence of wild game food was seen, and there was little species diversity, facts which may be a product of the small sample size. Low frequency of wild foods is cited by Henry as characteristically urban. However, over time, urban and rural consumers probably have tended to utilize a narrower range of meat sources, as the nation has moved toward mass market production. By way of example, it is doubtful whether many modern Americans could identify more than a few of the more than thirty-five species of edible fish which were familiar to the 17th century diner (Davis 1986).

All purposefully modified bone at Greenwich Mews was segmented by the butcher's saw. Typically these cuts were suitable for soups and stews, and for pan-frying, rather than roasting or baking. (However,it should be noted that the ceramic collection from this site includes few soup plates or individual serving bowls.)

Whole ham and leg of lamb also were part of the diet; in the 19th century these meats also were often prepared by boiling. Meat purchases were of varying retail value, and in age ranged from young ham to old mutton. Average retail purchases seem to have been in the middle range for each excavation unit. Based on this limited sample, the Greenwich Mews fauna is suggestive of a nutritious, varied, and on the whole, economical diet, in keeping with the means and status of small businessmen and their families.

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Table 1. Composition of Faunal Assemblage at Greenwich Mews (Privies 1 and 2).

	PRIVY 1				PRIVY 2									
					Deposit A			Deposit B						
SPECIES	GM1-1	GM1-3	GM1-7	GM1 TOTAL	GM2-1	GM2-2	GM2-3	GM2-5	GM2-6	GM2-7	GM2-8	GM2-9	GM2 TOTAL	PROJECT TOTAL
Bos taurus (cow)	1	26	2	29	2		1		8	2	2	12	27	56
Sus scrofa (pig)		7		7	1	2			1			1	5	12
Ovis/Capra (sheep/goat)		2		2	1				6	4		4	15	17
Large mammal		3		3				1		1	1		3	6
Medium mammal		1		1					2				2	3
Unidentified mammal		13		13				3				3	6	19
Mus musculus (mouse)											4		4	4
Meleagris gallopavo (turkey)		2		2				1		4		1	6	8
Gallus gallus (chicken)									1	1	5	7	14	14
Gallus sp. (chicken fam.)									1	2	2	1	6	6
Aves (bird)		1		1							3		3	4
Gadidae (cod or ling)											3		3	3
Pices (fish)											14	28	42	42
TOTAL	1	52	2	58	4	2	1	5	19	14	34	57	136	194 *

*does not include 42 shells and shell fragments

Table 2. Element distribution of the mammalian domesticates in Privies 1 and 2 (Deposits A and B), Greenwich Mews Site.

PRIVY 1	scapula	humerus	radius	ulna	vertebra	rib	femur	fibula/ tibia	pelvis	meta- tarsal	astra- galus
Cow	2		1	1	2	16		1	5		1
Pig			1				3	3			
Sheep/Goat						1	1				
PRIVY 2 (Deposit A)											
Cow		1				1	1				
Pig								1		2	
Sheep/Goat		1									
PRIVY 2 (Deposit B)											
Cow	1		1		7	15	1	1			
Pig								3			
Sheep/Goat						10	2	2			

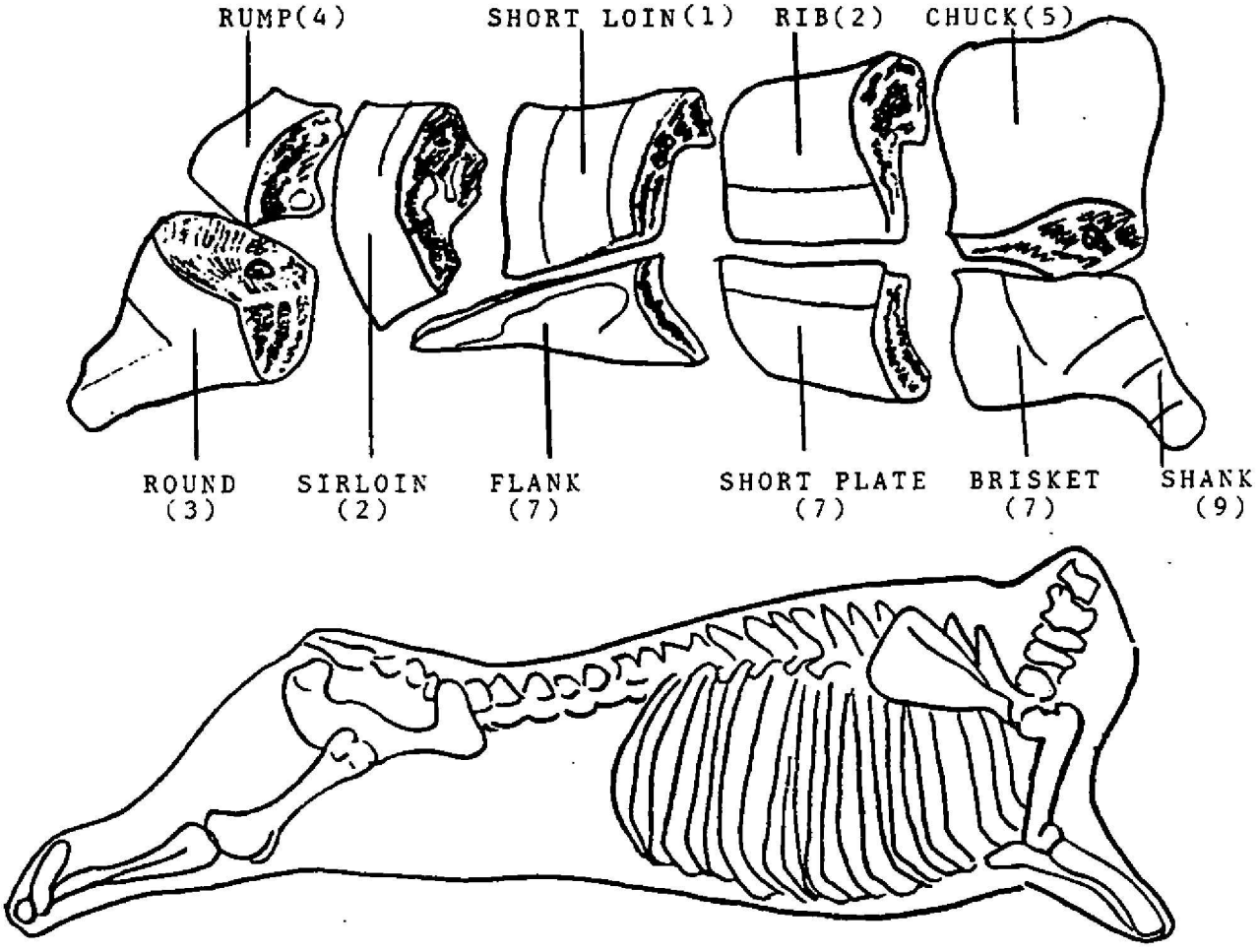

Figure 1. Butchery Chart for Beef. (Plate derived from National Livestock and Meat Board in Meyer 1964, and in Michael Stevens Associates 1973.)

Relative meat values ranked according to late 19th century retail prices. (From Shulz and Gust 1983:48.)

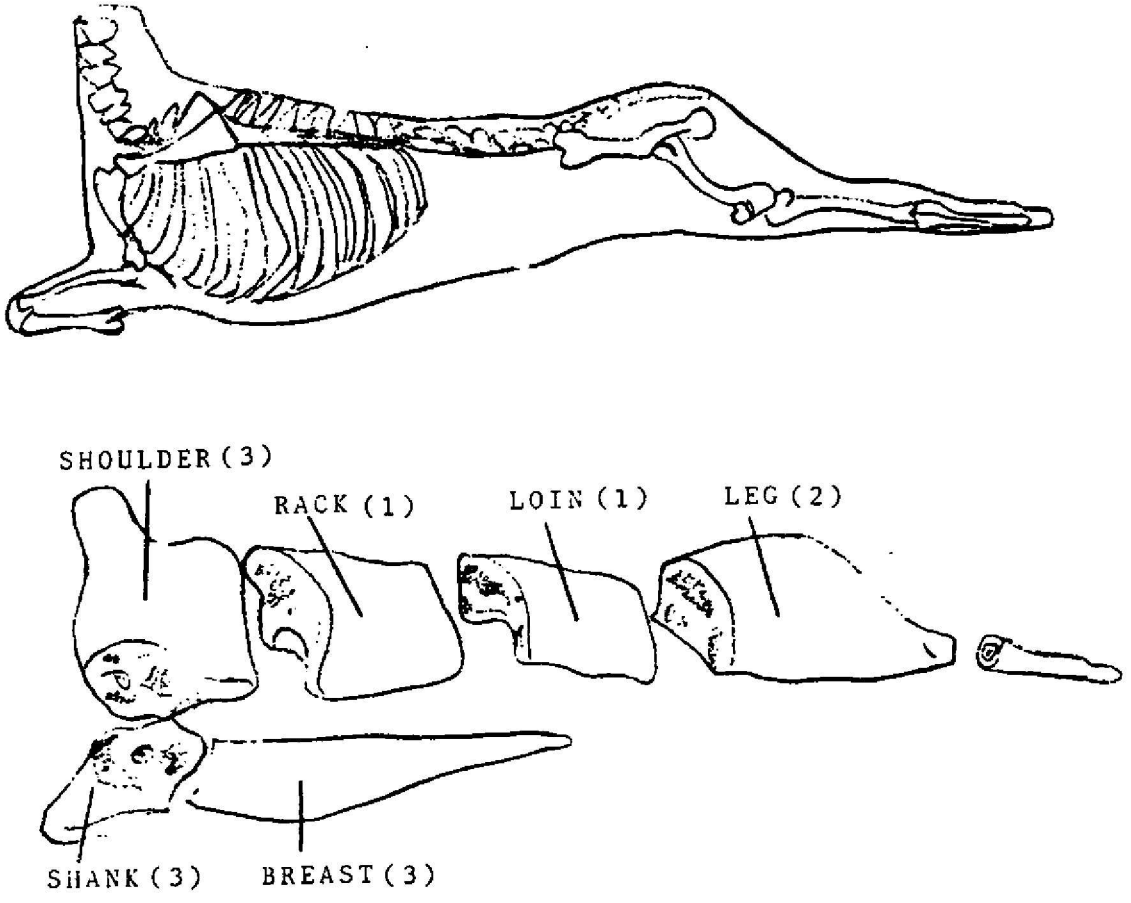

Figure 2. Butchery Chart for Lamb. (Plate derived from National Livestock and Meat Board in Meyer 1964, and in Michael Stevens Associates 1973.)

Relative meat values ranked according to late 19th century retail prices. (From Shulz and Gust 1983:48.)

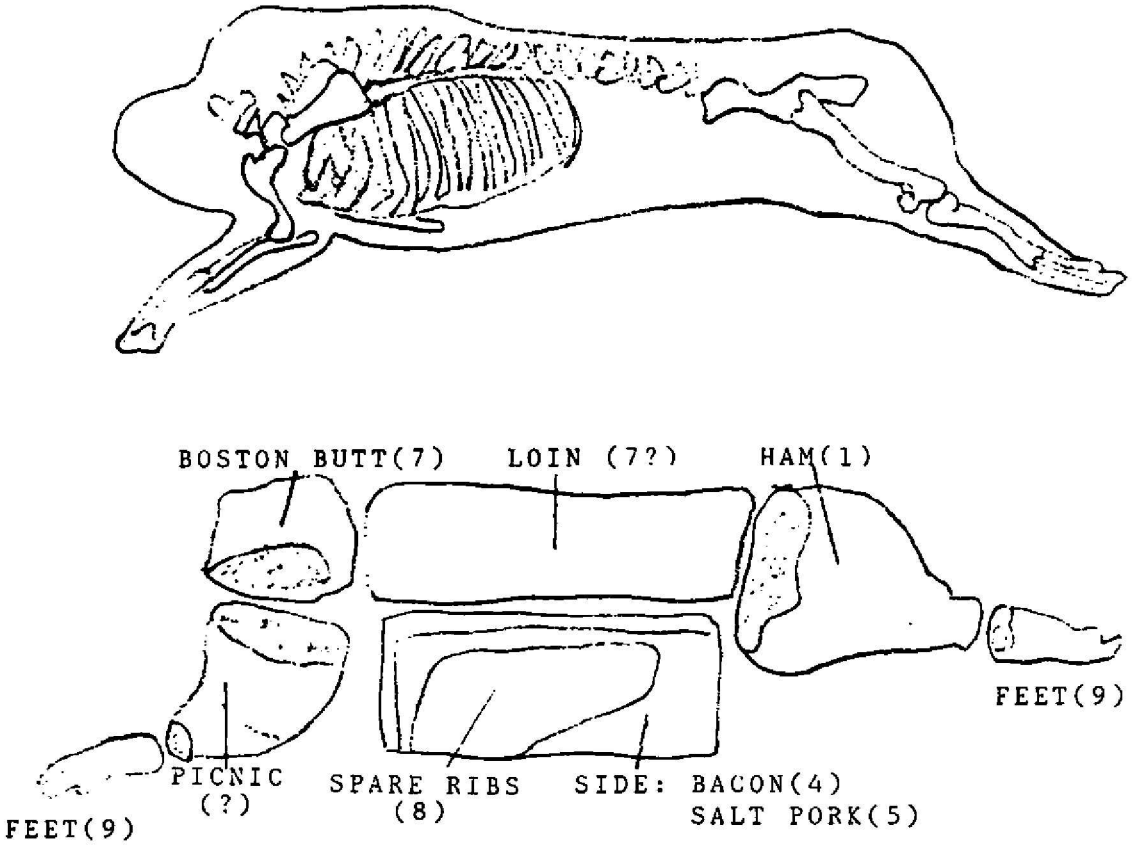

Figure 3. Butchery Chart for Pork. (Plate derived from National Livestock and Meat Board in Meyer 1964, and in Michael Stevens Associates 1973.)

Relative meat values ranked according to late 19th century retail prices. (From Shulz and Gust 1983:48.)

ANALYSIS OF FLOTATION SAMPLES
GREENWICH MEWS

METHODOLOGY

Eight flotation samples were selected for analysis. Material was sampled from two privies. Four samples were obtained from Privy 1 and four samples were obtained from Privy 2. All samples were examined with a binocular dissecting microscope. Each sample was systematically scanned and floral and faunal material was removed, identified, counted and placed in a labeled vial.

A poppy seed recovery test was used to test effectiveness and consistency of flotation procedures. Poppy seeds range in size from .7 mm to 1.4 mm and are an appropriate sized seed to test the effectiveness of micro seed recovery. One hundred poppy seeds were added to one sample prior to flotation. The recovery rate is a measure of seed loss, damage and inter sample contamination. No contamination was noted and recovered control seeds were not fragmented. Control seed recovery rate was 31%.

Each floral specimen was given a count value of one. Seed fragments are noted in the text but received a count value of one. Material was identified to the species level where possible. Confirmation of species was aided by the use of an extensive type collection of floral material and cross checking floral identification manuals (Fernald 1970; Gunn 1970; Mohlenbrock 1980,1981; Cox 1985; Renfrew 1973; Martin and Barkley 1961; Peterson 1977; Lawrence and Fitzsimons 1985).

VARIABLES AFFECTING SEED PRESERVATION

Privy Environment

Floral specimens recovered from a privy are not subject to the same set of variables as specimens recovered from open site contexts. In open sites, modern seeds can become embedded in historic soils by plowing, root holes, drying cracks, downwashing, earthworms and other burrowing animals (Keepax 1977:224).

Privy environments were generally enclosed and somewhat protected from seed rain, major rodent disturbances, erosion and root action. However, privies are subject to a different set of disturbance processes. Periodic cleaning episodes resulted in data removal. "Nightsoil" from residential privies was sometimes sold as agricultural fertilizer (Roberts and Barrett 1984:108) thereby resulting in removal of data. Another practice was to pour lime into privies. Lime can have adverse affects on preservation of floral materials. Despite the disturbance processes particular to a privy environment, preservation of floral materials within a privy environment can be extraordinary.

Given normal soil conditions, seeds will either fulfill their reproductive function or will decay (Minnis 1981:147; Quick 1961:94-99). The dormancy period for most plants is rarely over one hundred years (Harrington 1972). Therefore, the way that a seed enters the archaeological record is by short circuiting that reproductive function, i.e. by charring. However, historic sites yield floral specimens which have circumvented decay because of privy environments. The privy environment is another way for the reproductive strategy of a seed to be short circuited. The privy environment retards decomposition of seed material thereby enabling specimens to survive.

Differential Seed Production/Dispersion/Preservation

Those floral remnants which provide information about historic diet are the durable, inedible portions of plant food such as seeds, pits, hulls, drupes,cobs, nutshell. Even in the best of circumstances, these remnants

are a small and disproportionate reflection of the past subsistence as all plants do not have potentially preservable inedible portions.

Other variables critical to floral analysis are variation in seed frequencies and variation in preservation qualities. A single raspberry can contain 100 seeds whereas a peach or cherry contains only 1 pit. Further, a peach pit is quite dense and durable and is more likely to be preserved than seeds which have a more fragile seed coat. In attempting to identify commonly eaten plant foods, absolute frequency values can be misleading.

RESULTS

Table 1 gives the frequency distribution of recovered seeds for Privy 1 and Privy 2. A total of 430 seed specimens were recovered from Privy 1 and a total of 57 seed specimens were recovered from Privy 2. Four fish scale fragments were also recovered from Privy 1. Figure 1 illustrates the distribution recovered specimens from Privy 1 and Figure 2 illustrates the distribution of recovered specimens from Privy 2.

Table 2 summarizes the general characteristics of each recovered specimen type and depicts whether or not it is considered poisonous, medicinal, edible, a flower, a tree, and if it is a plant native to America.

Discussion of Plant Types

Lamb's Quarters (*Chenopodium ssp.*) is an annual introduced from Europe (Cox 1985:198). A single plant can produce 75,000 seeds and the seeds can remain dormant for years. *Chenopodium* is a seed type which is "opportunistic" and will invade and flourish in fields, waste spaces or any bare ground that becomes available. *Chenopodiums* have high growth rates and produce large numbers of seeds which enables them to establish themselves quickly on bare soil. In the spring, weedy genera are available for high calcium greens and are prolific seed bearers in the late autumn. The young leaves and stem tips can be cooked as greens and were thought to be superior to spinach (Cox 1985:198). Only one seed was recovered from Privy 1.

Pigweed (*Amaranthus ssp.*) is an annual which is an important food plant for birds and mammals. The seeds are very durable and can remain viable

TABLE 1 FLOTATION SPECIMENS GREENWICH MEWS

SPECIMEN	PRIVY 1	PRIVY 2
Mulberry	8	16
Pigweed	1	0
Lambsquarters	1	0
Purslane	1	0
Raspberry/blackberry	386	41
Grape	33	0
fish scales	4	0
TOTAL	434	57

FIGURE 1 DISTRIBUTION OF SPECIMENS FROM PRIVY 1

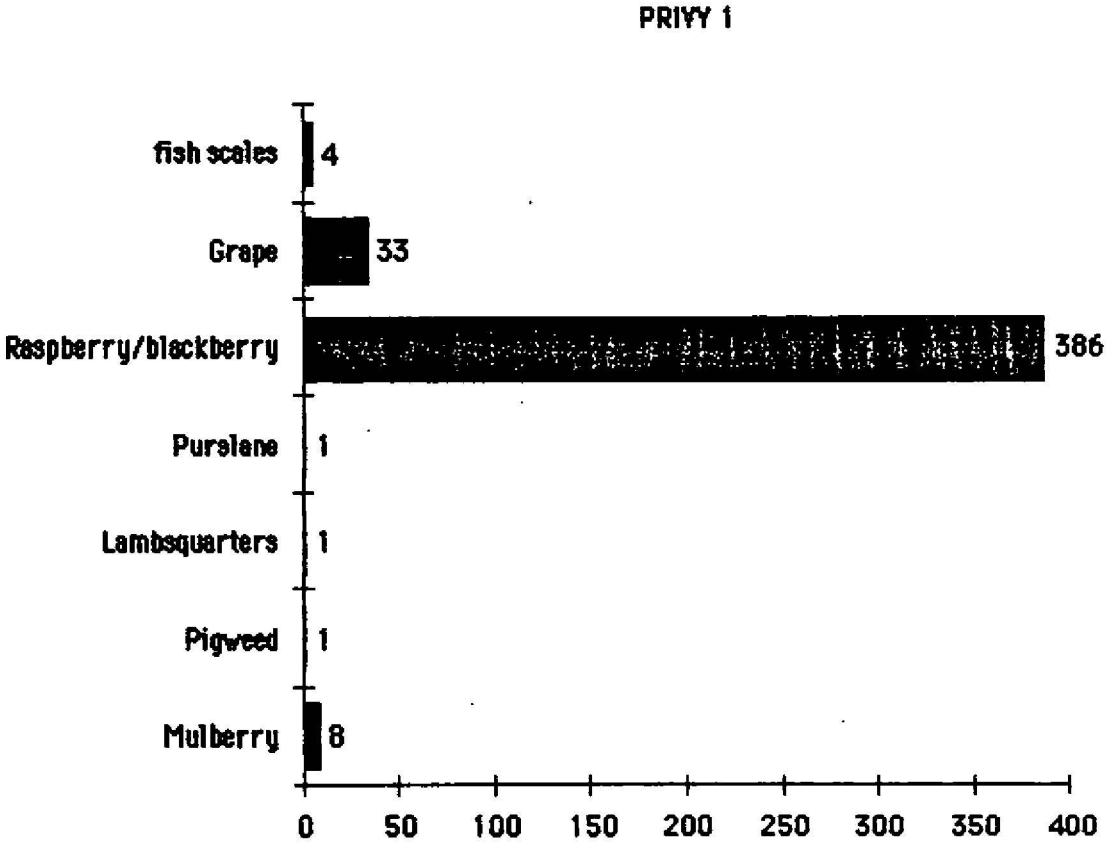

FIGURE 2 DISTRIBUTION OF SPECIMENS FROM PRIVY 2

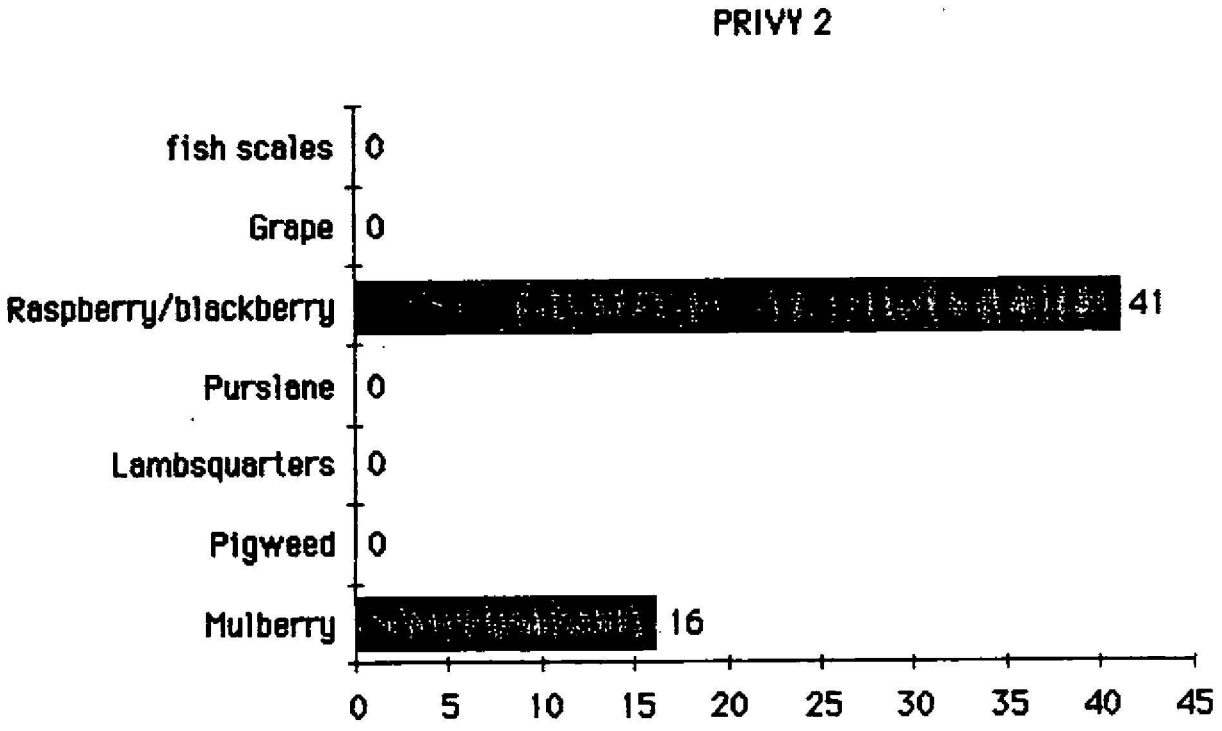

TABLE 2 SPECIMEN INDEX

SPECIMEN NAME		CHARACTERISTICS				
							
BOTANICAL	COMMON					
Amaranthus ssp.	Pigweed	X	X			X
Chenopodium ssp.	Lambsquarters		X			NO
Morus ssp.	Mulberry	X	X		X	?
Portulaca oleracea	Purslane	X	X			NO
Rubus ssp.	Raspberry/Blackberry	X	X			X
Vitis ssp.	Grape	X	X			?

KEY TO BOTANICAL CHARACTERISTICS

 poisonous

 medicinal

 edible

 flower/ornamental

 tree

 native to United States

after passing the digestive tracts of horses, cattle, sheep, swine as well as man. The durable seeds have remained germinable after storage for 40 years in the soil (Cox 1985:133). The greens can be cooked or used fresh. The seeds can be ground into a flour. An infusion made from the dried leaves was thought to be useful for mouth and throat irritations and for diarrhea. One seed was recovered from Privy 1.

Purslane (*Portulaca oleracea*) is a native of India which was adopted by Europeans as a choice source of greens. Purslane was brought to America with the first settlers and was a favored potherb and salad green. Purslane could also be dried and stored for year-round use and the seeds could be ground and used as flour (Cox 1985). The juice of the plant was used for coughs and applied externally for skin irritations and sores. The crushed seeds were boiled in wine and given to children as worm medicine. The seeds are eaten by several species of songbirds and both seeds and vegetation are eaten by small mammals. Today, Purslane has escaped cultivation and is considered a serious weed pest in cultivated areas. One seed was recovered from Privy 1.

The European grape (*Vitis ssp.*) cannot be produced successfully in eastern America, a fact that European colonists took three hundred years to discover. Varieties of several native species of grapes are readily grown but those of *Vitis vinifera*, the true European grape quickly die in America unless grafted on the roots off some native species. Even in grafted vines, fungus diseases play havoc with the foliage, so that as one of the early experimenters said "a sickness takes hold of the vines and they die" (Hedrick 1950:40). Of all horticultural plants, more work was done on breeding the grape than any other. Twelve whole grape pips and 21 pip fragments were recovered from the soil adhering to a bottle recovered from Privy 1.

Early settlers were happy to encounter wild Mulberry (*Morus ssp.*) trees because they were accustomed to the English Mulberry which had delicious berries, and was utilized as a dye; but more importantly was crucial to the silk industry. However, it was not until the eighteenth century that attempts were made to plant the mulberry in a way most suitable for silkworm cultivation (Leighton 1976). The planting of mulberry trees was encouraged; however silk production never gained the popularity of tobacco cultivation. Mulberry seeds were recovered from both Privy 1 (8 seeds) and Privy 2 (16 seeds).

Raspberry and blackberry seeds are quite similar in appearance (*Rubus ssp.*) and for purposes of this analysis the category raspberry/blackberry was created. Botanists conservatively estimate two hundred different species of blackberries and raspberries. Raspberry/blackberry shrubs produce multi-seeded fruit. The hard seeds can pass through the digestive system of birds and man without harm. They can thrive in poor soils, along fencerows, in clearings, in open woods and in thick brush. The berries grow most plentifully in the eastern United States. Improved varieties have been developed by cultivation but the wild fruit is still eaten in the largest proportion (Root 1980:34).

Raspberry/blackberry seeds constituted the largest component of the recovered floral specimens. A total of 386 seeds were recovered from Privy 1 and 41 seeds were recovered from Privy 2.

DISCUSSION

All of the recovered floral specimens are characterized by their ability to sustain physical integrity after passing through the digestive tract. All specimens are from plants edible by man and all specimens are from plant types popular in the mid to late 1800's.

Peppers, raspberries, blackberries, cucumber, cantaloupe,elderberry, figs and strawberries have small seeds which are eaten along with the fruit. It is not uncommon to find high frequencies of such small seeds in nightsoil deposits because of their presence in fecal material. It is also not uncommon to find fish scale fragments in privy deposits. Watermelon, squash, and grape seeds can be swallowed but are generally large enough to be extracted from the fruit prior to eating.

Any or all of the recovered specimens could have been cultivated at the site area. Further, urban markets provided a wider variety of greens and fruits in the late 1800's and any or all of the recovered greens or fruit could have been purchased. Urbanization promoted the practice of home gardening in several ways. Urban centers allowed specialized enterprises such as nurseries and seedhouses to develop and thrive (Tice 1984:30). Cities also

provided transportation facilities which linked nurseries to domestic and foreign markets. Later, the establishment of municipal water supplies in the 1830's further promoted home gardening by providing a sufficient, reliable water source (Tice 1984:34). The consequence was that home gardening was more extensively applied in urban areas and a wider variety of fruits and vegetables were available in urban markets.

No identifiable nightsoil was present within the excavated privies. However, the recovered floral specimens are characteristic of privy deposits. The floral data suggests that remnants of privy deposition are still recognizable within the archaeological context.

FLOTATION SPECIMEN CATALOG GREENWICH MEWS

CATALOG #	SAMPLE SIZE	LOCATION	SPECIMEN	COMMON NAME	#
GM 1-3-324		adhering to bottle interior	Vitis ssp.	grape	20
GM 1-3-324		adhering to bottle interior	Rubus ssp.	raspberry/blackberry	2
GM 1-4-18	1/2 CUP	Privy 1	Rubus ssp.	raspberry/blackberry	167
GM 1-4-18	1/2 CUP	Privy 1	Fish undet	small scale frags	4
GM 1-4-18	1/2 CUP	Privy 1	Morus ssp.	mulberry	2
GM 1-4-18	1/2 CUP	Privy 1	Amaranthus ssp.	pigweed/wild beet	1
GM 1-4-19	1/2 CUP	Privy 1	Chenopodium ssp.	lambsquarters	1
GM 1-4-19	1/2 CUP	Privy 1	Portulaca oleracea	purslane	1
GM 1-4-19	1/2 CUP	Privy 1	Rubus ssp.	raspberry/blackberry	60
GM 1-4-19	1/2 CUP	Privy 1	Morus ssp.	mulberry	1
GM 1-5-39		adhering to bottle interior	Morus ssp.	mulberry	5
GM 1-5-39		adhering to bottle interior	Vitis ssp.	grape	13
GM 1-5-39		adhering to bottle interior	Rubus ssp.	raspberry/blackberry	157
GM 2-2-134		adhering to bottle interior	Insect	egg casings (fly?)	
GM 2-7-276		adhering to artifacts	Morus ssp.	mulberry	5
GM 2-7-276		adhering to artifacts	Rubus ssp.	raspberry/blackberry	22
GM 2-9-N	1/2 CUP	Privy 2 north	Morus ssp.	mulberry	4
GM 2-9-N	1/2 CUP	Privy 2 north	Rubus ssp.	raspberry/blackberry	8
GM 2-9-S	1/2 CUP	Privy 2 south	Rubus ssp.	raspberry/blackberry	11
GM 2-9-S	1/2 CUP	Privy 2 south	Morus ssp.	mulberry	7

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GREENWICH MEWS APPENDIX Parasite and Pollen Analyses
(Karl Reinhard)

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ABSTRACT

Analysis of latrine soils from the Greenwich Mews excavation reveals several details of diet and disease. Analysis of eggs from intestinal parasites demonstrates that the people who used the latrine were probably infected with whipworm, Trichuris trichiura. Notable in its absence is evidence of infection with the giant intestinal roundworm of man, Ascaris lumbricoides, which usually accompanies whipworm infection. Whipworm is a fecal borne parasite and its presence signals possible infections with fecal borne bacteria and protozoa. Analysis of seeds shows that the inhabitants consumed foods which incorporated raspberry and grape seeds. Pollen analysis indicates that the diet included cultivated grains, including corn. Pollen analysis also provides evidence of spice consumption. Cloves was clearly used as a seasoning by the inhabitants.

INTRODUCTION

The analysis of human fecal remains provides archaeologists with important data relevant to diet, paleoecology, and parasitism. Usually, analyses are conducted with coprolites (dried or mineralized feces). However, there has been recent interest in studying soils from latrines in both Europe (Jones 1985; Herrmann 1986, 1987) and the Americas (Mrozowski 1984; Reinhard et al. 1986).

In the Northeast, latrine soil analysis has been applied with great success in the analysis of Queen Anne Square, Newport, Rhode Island (Mrozowski 1981, 1983; Reinhard et al. 1986). The analysis of three latrines from Queen Anne Square provided an unusually lucid picture of parasitism and subsistence among both rich and poor households during the Revolutionary War Period. Differences in subsistence between rich and poor households may have had a pronounced effect on the parasitism of the households (Reinhard et al. 1986). The analytical techniques developed for the Queen Anne Square soils were thought to be applicable to soils from Greenwich Mews, Greenwich Village, New York.

MATERIALS AND METHODS

Three soil samples were submitted for analysis from the Greenwich Mews latrine excavation. Soil sample 1 was brushed from a leather artifact found in the latrine matrix. Soil sample 2 was collected near the bottom of the cultural deposit. Soil sample 3 was collected from the interface of the cultural deposits and sterile substrate.

The main purpose of study was the extraction of pollen and parasite eggs. To this end, quantitative techniques were applied for the recovery of microscopic remains. Macrofloral remains were recovered as a by-

product of soil processing for microscopic remains and therefore are not presented in quantitative terms.

Fifty milliliters of soil were measured from each soil sample and weighed. To this subsample, one Lycopodium tablet was added containing 11,200 plus or minus 400 spores. The spores are added for the purpose of quantification. The ratio of pollen and parasite eggs to the number of spores is calculated. Using this ratio, the approximate numbers of eggs and pollen grains were calculated per gram of soil. The importance of using quantitative techniques in parasitological examination of latrine soils has been emphasized by several authors (Jones 1982; Herrmann 1986; Reinhard et al. 1988). The utilization of Lycopodium spore for parasitological examination is recent innovation.

The measured soil samples were disaggregated with hydrochloric acid and distilled water. The mixtures of acid, water and soil were screened through a 200 micrometer mesh screen to remove macroscopic debris. The macroscopic debris were dried and later examined for seeds and other remains. The sediments that passed through the screen were concentrated by centrifugation and then washed several times with distilled water. The concentrated sediments were then treated in 72% hydrofluoric acid for 24 hours. This process removes silicates that otherwise complicate microscopic analysis. Once the sediments were removed from hydrofluoric acid they were washed several times in distilled water and floated in 77% zinc bromide (specific gravity 1.9) to remove heavy organics. Previous experimentation has shown that parasite eggs resist the chemical processing described above.

After flotation in zinc bromide, the sediments were subsampled and examined for parasite eggs. The eggs were measured with a calibrated ocular micrometer to allow for differentiation of genera.

Once the parasite examination was completed, the remaining soils were further treated to extract pollen. Further chemical processing involved acetolysis in which the sediments were treated with hot acetolysis solution of nine parts acetic anhydride to one part sulfuric acid. This stage dissolves cellulose, hemicellulose, and chitin. The shells of nematode parasite eggs consist of chitin so this stage of extraction destroys the eggs. Finally the sediments were treated in 5% potassium hydroxide for 30 seconds and transferred into vials. The sediments in the vials were then used to make microscopic preparations.

The pollen and seeds were identified based on textual references and the pollen reference collections on file with the Palynology Laboratory, Department of Anthropology, Texas A&M University.

Pollen analysis indicated the presence of pollen derived from spices. To verify the spice origin of this pollen, pollen was extracted from eight modern spices; poppy seed, celery seed, dill seed, dill weed, sage, cloves, mustard and rosemary. One half gram samples of each spice were weighed and a Lycopodium spore tablet was added to each sample. The samples were then sonicated to loosen microscopic debris and soaked on 5% potassium hydroxide. They were then screened through a 200 micrometer mesh screen and acetolated.

RESULTS

A preliminary examination of the soil samples showed that only soil sample 1 consisted of humic soil. Sample 2 consisted largely of coarse sand and sample 3 consisted of sand mixed with gravel.

Parasitological analysis revealed only one species of intestinal parasite, and egg per gram of soil counts indicate that this species was not very abundant. The measurements of the eggs are comparable with those for Trichuris trichiura or Trichuris suis. T. trichiura is a human specific species and T. suis is a swine specific species. Because the eggs are in association with a latrine, it is probably safe to infer that the eggs are of T. trichiura. Lycopodium tracer spores were used to calculate the numbers of eggs per gram of soil. In samples 1 and 2, 20 eggs per gram of soil are present. In sample 3, 10 eggs per gram are present. The shells of the eggs are well preserved, but the embryos within the eggs have decomposed. The low concentrations of eggs in the soils suggest that either parasitism was low or that the eggs were washed out of the coarse soil matrix as noted by other researchers (Reinhard et al. 1988).

Seeds were recovered from sample 1, but samples 2 and 3 appeared to be sterile. Two grape seeds (Vitus) and 9 raspberry seeds (Rubus) were found. Also present in sample 1 was an abundance of hair and plant fibers. Under microscopic examination, the hair appears to be cut.

Varying amounts of pollen were recovered from the soils. As in the parasitological analysis, Lycopodium spores were used to determine the amount of pollen per gram of soil. Sample 1 contained approximately 7,900 pollen grains per gram of soil while samples 2 and 3 contained only 400 grains per gram. This suggests that pollen filtered down into the levels represented by samples 2 and 3, probably from the upper level represented by sample 1. Microscopic remains could easily wash into the coarse matrix of samples 2 and 3, but macroscopic remains could not. This explains the

presence of microscopic remains in the lower samples and the absence of large remains such as seeds.

Many pollen taxa were recovered from the soils (Table 1). The pollen spectrum of the individual soil samples is dominated by wind pollinated, herbaceous plants. These include, low spined plants in the family Asteraceae, Cheno Am plants of the families Chenopodiaceae and Amaranthaceae, and pollen of small grasses. There is however a surprising number of insect pollinated taxa (Table 2). Because insect pollinated plants produce small amounts of pollen and this pollen rarely is dispersed in wind currents, the presence of such types indicates introduction of pollen by human activity (Reinhard et al 1986). These pollen data are discussed in the Discussion section below.

Pollen was recovered from several of the spice modern samples. Cloves contains approximately 224,000 pollen grains per gram. Dill seed contains 17,700 pollen grains per gram. Dill weed contains several pollen types including Apiacea, grass, willow, high spine Asteraceae, Cheno Am and pine, but only 700 pollen grains per gram are present of which about 300 are derived from dill. Celery seed contains approximately 90,000 pollen grains per gram, all derived from the celery plant. Rosemary contains about 1,100 grains per gram but only about 600 of those are derived from Rosemary. The other pollen recovered from the Rosemary sample comes from wind pollinated species. Poppy seed contains no poppy pollen, although grains from wind pollinated taxa are present in small amounts. Sage contains an abundance of pollen from wind pollinated taxa, but no pollen from the sage plant.

DISCUSSION

Parasitology

The eggs of whipworm (Trichuris) are present in low amounts in the soil samples. The absence of Ascaris eggs in the soils is interesting since Ascaris and Trichuris have similar life cycles and are frequently found together in human populations in modern times. The eggs of these two genera are almost invariably recovered together in historic latrine soils both in Europe and North America (Herrmann 1986; Reinhard et al. 1986, 1988). The absence of Ascaris suggests that either vermifugic medicines were used that reduced Ascaris parasitism in Greenwich Village or that differential preservation allowed for the recovery of Trichuris eggs but not Ascaris eggs. Considering the excellent preservation of the parasite eggs, and microscopic remains in general, differential preservation seems to be an unlikely factor.

The low number of eggs in the soils could result from three factors working together or separately. First of all, parasite eggs seem to be restricted in vertical stratigraphic distribution (Herrmann 1986; Reinhard et al. 1986, 1987, 1988). In German medieval latrines, eggs are more common in upper levels of latrines. In latrines from Newport, Rhode Island, the eggs were largely restricted to the lowest levels of the privy. In the prehistoric Amerindian latrine soils excavated from Elden Pueblo, Arizona, the eggs were concentrated in the upper levels. In the case of the Greenwich Mews site, the restricted sampling of the latrine levels may have missed the levels in which parasite eggs were most abundant. Secondly, water percolation may have dispersed the eggs to different levels and reduced the total number of eggs found in any given

level. Finally, there may have simply been very little parasitism at the site.

Support can be found for the last two factors. Eggs were found in the lower levels which were devoid of macroscopic organic remains. This suggests that downward water movement did indeed displace eggs. The lack of Ascaris eggs suggests that parasitism was limited at the site with respect to species diversity. If diversity was limited, it is not too unlikely that over-all parasitism was reduced, there-by resulting in low egg per gram counts.

The fact that fecal borne parasites were present at all indicates that the people inhabiting the site were susceptible to other fecal borne diseases. These diseases would include bacillary dysentery, amoebic dysentery, typhoid fever, and cholera.

Palynology

Pollen can be introduced into archaeological contexts through environmental "pollen rain", processing of food plants, or in feces. Pollen is introduced into feces by the consumption of flowers (such as broccoli) or with seeds. Pollen, once introduced into the digestive system, passes through the digestive tract in recognizable form. Although the cytoplasm is digested out of the pollen grains, the pollen grains themselves are not harmed by digestive acids or enzymes. Consequently, dietary pollen is commonly found in latrines (Reinhard et al. 1986).

A composite table was derived from all three counts and is presented in Table 1. A low arboreal to non-arboreal ratio (1:9) is evident in the pollen counts. This indicates that the local area surrounding the site was largely deforested. However, the percentage of Cheno Am pollen, which is an indicator of ground disturbance due to habitation, is relatively

low. Cheno Am plants commonly grow on trash mounds, plowed ground, dirt mounds, paths, alleys, etc. Consequently, it appears that although trees were not especially common in the area, there was a relatively stable environment with little building, land clearing, or other environmentally disruptive activities.

Of the arboreal taxa recovered, only one stands out as unusual for the New York area, sweetgum (Liquidambar). Liquidambar grows most commonly in rich, moist soils of the southeastern United States and reaches its northernmost range in southern New York. It is often planted as a ornamental tree or for shade. It is possible that the tree was planted for these reasons around Greenwich Mews. Other tree pollen includes several potential food sources such as chestnuts (Castenea), pecans (Carya), and hackberries (Celtis).

The other major environmental types besides arboreal and Cheno Am taxa are small grasses which make up 20% to 35% of the counts and low spine Asteracea which make up 13% to nearly 15% of the pollen recovered from the three samples.

Economic and dietary types are represented in the counts. Pollen of the family Myrtaceae was recovered from all samples in low amounts. However, this family of plants is restricted to the tropics and can not grow in the New York area. Consequently, it is clear that the pollen was introduced in some trade commodity. Furthermore, the pollen was present in clumps of up to 20 grains per clump (in the pollen counts, clumps are counted as single grains). The presence of such large clumps generally indicates that flowers were consumed. The only plant in the family Myrtaceae from which flowers are eaten is cloves (Syzygium aromaticum). Currently cloves are grown on Madagascar and in Tanzania. Acetylation of

modern samples of cloves produced identical pollen to that found in the latrine and clumps of pollen identical to the clumps mentioned above. It is clear then that the Myrtaceae pollen was introduced into the site by consumption of plant materials obtained through long distance trade with the Old World tropics and that the commodity involved was probably cloves.

Pollen of the Apiaceae (parsley family) was recovered in small amounts. This pollen could have been introduced either through environmental pollen rain or through diet. Acetylation of dill seed and celery seed produced substantial amounts of Apiaceae pollen. However, it is not unusual to find occasional grains of this type in soil samples from non-cultural contexts. Consequently, it is impossible to determine whether or not the pollen was introduced through human or natural factors.

Up to 5% of the pollen was derived from the family Brassicaceae. This is a common dietary type and is usually introduced into archaeological contexts by human activity. The consumption of cauliflower or broccoli introduces large amounts of pollen into the digestive tract since floral parts are consumed. Acetylation of modern samples of mustard powder produced no mustard pollen. However, it is possible that modern processing techniques reduce the pollen content of the spice and that the pollen of Brassicaceae in the latrine may have a spice origin.

Bean pollen (Fabaceae) is potentially a dietary type. The most interesting bean type is Trifolium with respect to this latrine. Red clover and white clover belong to this genus and both were introduced into North America by European colonists. Clovers of the genus Trifolium are grown as forage for domestic animals. They are also used in hay. They are pollinated by bees and consequently are commonly found in honey (on-

going research, Palynology Laboratory, Department of Anthropology, Texas A&M University). It is possible that the pollen found its way into the privy either by processing clover near-by or by consumption of honey which contained the pollen.

Cultivated grasses are present in the pollen extractions. Corn (Zea mays) is present in small amounts. Large grass grains that probably are derived from a domesticated cereal type are also present. Bryant and Morris (1986) determined that pollen grains of corn are broken when corn kernels are ground. In the case of the Greewich Mews latrine, most corn pollen grains are intact which suggests that the pollen was consumed with fresh corn eaten off the cob and not ground. In contrast, most of the large, cereal grains are broken. This indicates that the cereal grains were consumed with processed foods, perhaps breads.

Lamiaceae (mint family) grains are present in small amounts. The mint family is a common source of spices. The acetylation of a modern sample of rosemary shows that pollen can be introduced into the diet with spice consumption. Unfortunately, it can not be determined whether or not the pollen had a dietary or environmental source.

Poppy family pollen (Papaveraceae) was recovered from two soil samples. The presence of this pollen type is problematic. It is unlikely that consumption of poppy seed was the source of this pollen as processing modern samples of poppy seed did not produce poppy pollen. It is possible that poppies were grown as ornamentals with resulting pollen deposition in the privy.

Pollen types within the rose family (Rosaceae) have dietary significance. Rubus pollen was probably introduced by the consumption of raspberries or blackberries. The distinctive pollen of strawberry

(Fragaria) was also recovered and indicates consumption or cultivation of this dietary berry.

Currants or gooseberries are evidenced by the genus Ribes.

Solanaceae (potato family) is represented by several pollen types. One type is similar to the pollen from Capsicum, a genus that includes bell peppers, red peppers and a variety of other peppers.

Several unknown types were found. One of these, Unknown A, is common enough to suggest a dietary or economic origin. It does not compare well with New England pollen types nor is it recognizable to the four palynologists working in the Palynology Laboratory who are familiar with eastern pollen types. Consequently, I believe it is an introduced type. It is very similar to Eriogonum in size and sculpture patterns. However, there are no obvious pores as evident in pollen grains of Eriogonum. (Unkown A is tricolpate, not tricolporate).

SUMMARY

The analysis of the Greenwich Mews soils provides evidence of parasitism. The parasite implicated is whipworm, and its presence suggests that the inhabitants of the site were at risk to fecal borne disease.

Seed analysis indicate the consumption of grapes and raspberries. Pollen analysis indicates the use of cloves as a seasoning. The people apparently ate corn and other grains as well as plants in the mustard family. The consumption of several fruits is also indicated by pollen analysis.

SUGGESTIONS FOR SAMPLING

In the analyses of latrine soils accomplished to date, the necessity of regular sampling strategy has become clear. This sampling strategy should take into consideration field sampling that will optimize the dietary and disease data available from privies.

A regular vertical stratigraphic sampling scheme allows for the identification of levels in which pollen, parasite eggs, macrofloral remains, and zoolarchaeological remains are most common. Soils samples taken every 10 cm. in a vertical column through the depth of the privy is an ideal goal. Also, it should be remembered that intact or nearly intact bottles or ceramic containers often retain evidence of plant material stored inside of them. Pollen wash techniques have been proven effective in recovering evidence of economic plants from prehistoric containers and there is no reason that this technique should not be effective with historic containers.

The soil samples should be large enough to apply a battery of tests. One cup of soil is sufficient for pollen and parasite analysis. For analysis of macroscopic remains, a flotation sample of 3-5 cups of soils is usually sufficient. For pollen wash of bottles or ceramics, very small amounts of soil can be used. With this technique, the size of the container determines the amount of soil available. Soil immediately adjacent to the interior sides of containers are most productive in pollen washes.

The data from the Greenwich Mews latrine shows that dietary and disease data are potentially present. A developed sampling strategy will result in developing this potential into real data.

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TABLE 1: Pollen types recovered from Greenwich Mews latrine soils. Absoluted counts are presented fpr samples 1, 2 and 3. The composite count of all samples is a percentage expression. Counts less than 0,5% are indicated by an "x".

Pollen Type	Sample 1	Sample 2	Sample 3	Composite
Acer	*		3	0.5%
Apiaceae		*	1	x
Asteraceae, High Spine	7	5	5	3
Asteraceae, Low Spine	28	26	31	14
Betula		*	2	x
Brassicaceae	8	8	3	3
Brassicaceae, c.f. Brassica	1			x
Caprifoliaceae, Triosteum type		2		x
Carya	1	1	1	0.5
Caryophyllaceae		*	4	1
Castenea	3	2	2	1
Celtis		1	1	x
Cheno Am	24	14	13	8
Eriocaulaceae c.f.			2	x
Fabaceae, undifferenciated	11		2	2
Fabaceae, Papilionaceae	1			x
Fabaceae, Trifolium	6	8	3	3
Fern	*			x
Fraxinus			1	x
grass, large broken	5	4	6	2
grass, c.f. Zea mays broken	5			1
grass, c.f. Zea mays	5	6	6	3
grass, large			1	x
grass, small	39	45	70	25
Ilex			2	x
Juniperus		1		x
Lamiaceae		4		1
Liliaceae	1	3	1	1
Liquidambar			1	x
Lugustrum	*			x
Lycopodium, introduced	11	109	106	
Myrtaceae	5	5	10	3
Ostrya/Carpinus	1			x
Papaveraceae		7	8	2
Pinus	8	8	3	3
Plantago	*	2	1	0.5
Polygalaceae	*			x
Polyganum		1		x
Populus			1	x
Quercus	4	7	6	3
Ranunculaceae, c.f.			1	x
Rhus	3		1	1
Ribes	2	*		x
Rosaceae, undifferenciated	4	3		1
Rosaceae, Fragaria	2	*		0.5
Rosaceae, Rubus	3			0.5

TABLE 1: Continued

Salix	1	1		x
Solanaceae, c.f. Physalis		*		x
Solanaceae, c.f. Capsicum ?		1		x
Solanaceae, undifferenciated		1	1	x
Unidentifiable	12	19	13	7
Unknown A	7	13	10	5
Unknown B		*	1	x
Unknown C		2		x
Unknown D		1		x
Verbena			2	x
Viburnum	*			x
	207	200	219	626

TABLE 2: Common names of pollen taxa recovered. An "*" indicates insect pollinated. An "@" indicates arboreal.

Pollen Type	Common Name
Acer @	maple
Apiaceae *	parsley family
Asteraceae, High Spine *	prominant spined pollen, sunflower-type
Asteraceae, Low Spine	reduced spine pollen, ragweed-type
Betula @	birch
Brassicaceae *	mustard family
Brassicaceae, c.f. Brassica *	brocolli/cauliflower type
Caprifoliaceae, Triosteum type *	feverwort
Carya @	pecan or hickory
Caryophyllaceae *	pink family
Castenea @	chestnut
Celtis @	hackberry
Cheno Am	chenopod and/or amaranth families
Eriocaulaceae c.f.	pipewort family
Fabaceae, undifferenciated *	bean family
Fabaceae, Papilioniodeae *	subfamily of bean family
Fabaceae, Trifolium *	clover
Fern	fern
Fraxinus @	ash
grass, large broken	probably a cultivated cereal grain
grass, c.f. Zea mays broken	corn
grass, c.f. Zea mays	corn
grass, large	probably a cultivated cereal grain
grass, small	wild grass
Ilex *	holly
Juniperus @	juniper or cedar
Lamiaceae *	mint family.
Liliaceae *	lily family
Liquidambar @	sweetgum
Lugustrum	
Lycopodium, introduced	introduced tracer spores for quantification
Myrtaceae	cloves and eucalyptus family
Ostrya/Carpinus @	hophornbeam or blue beech
Papaveraceae *	poppy family
Pinus @	pine
Plantago *	plantain
Polyganaceae *	knotweed (smartweed) family
Polyganum *	knotweed
Populus @	cottonwood
Quercus @	oak
Ranunculaceae, c.f. *	crowfoot family
Rhus *	sumac
Ribes *	current
Rosaceae, undifferenciated *	rose family
Rosaceae, Fragaria *	strawberry
Rosaceae, Rubus *	raspberry-type

TABLE 2: Continued

Salix @	willow
Solanaceae, c.f. Physalis *	groundcherry
Solanaceae, c.f. Capsicum ? *	pepper
Solanaceae, undifferenciated *	potato family
Unidentifiable	too poorly preserved for identification
Unknown A	unknown type
Unknown B	unknown type
Unknown C	unknown type
Unknown D	unknown type
Verbena *	vervain
Viburnum *	arrow-wood

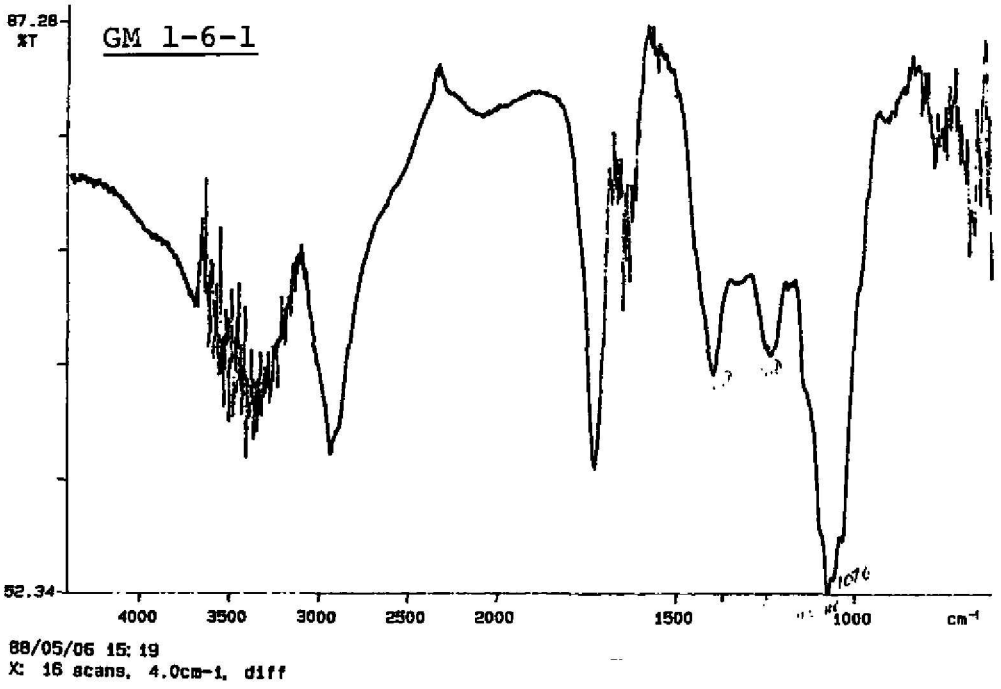
An Infra Red (IR) Spectrum Analysis of Unidentified Substances in Two Bottles from Greenwich Mews Privies

(The following information was extracted from conversations with Dr. Leonard Fine of the Columbia University Department of Chemistry who kindly conducted spectrographic analyses of unidentified liquids found in two bottles from the Greenwich Mews privies (GM 1-6-1 and GM 2-6-32). Any mistakes made in the terminology or interpretation are purely the fault of the principal investigator who is not an expert in this field [JHG]).

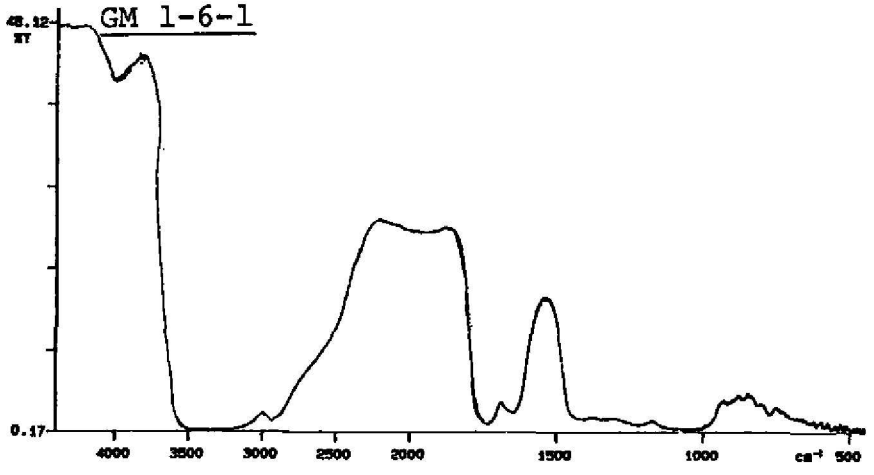
Infra red spectrum analysis was run on each sample extracted from sealed bottles recovered during excavation of the privies. The analysis relies on the individual and characteristic way that molecules react when they absorb infra red radiation. To put it another way, each substance transmits light with a unique signature which will classify and identify its member class. For example, alcohol and sugar are member classes.

Method: Liquid samples were hypodermically extracted from the sealed bottles with a syringe. Water was then allowed to evaporate to condense each sample. The concentrated liquid was then squashed between two salt plates through which all light passes. When light passes through, what comes out is a "classic" compound. In this instance, both samples suggest sugar, the thinner liquid (GM 1-6-1) a thin sugar, the thicker one (GM 2-6-32) perhaps an essence or flavoring (see accompanying figure for a graphic representation of the spectragraphic analysis)..

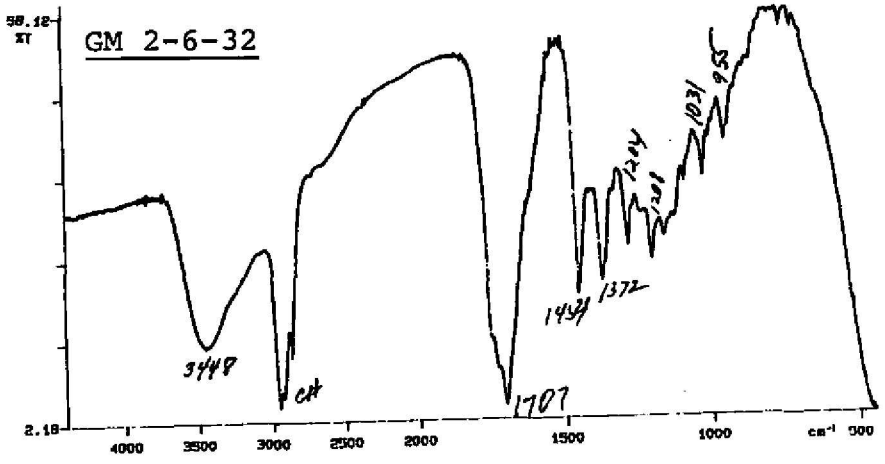
Dr. Fine suggested both liquids were kitchen kind of substances--the thicker one perhaps an extract. But, as noted in the text, it appears more likely they were sugar based components of medicines.



Thinner liquid



Thinner sample, loop over weekend



Thicker sample

Spectragraphic Analysis of Unidentified Liquids from Greenwich Mews (GM 1-6-1 and GM 2-6-32)

GREENWICH MEWS APPENDIX Ambrotype Analysis and Stablization Procedures (Peter Mustardo)

BACKGROUND

The ambrotype was the second major photographic process to achieve popularity in the United States during the nineteenth century. It effectively supplanted the earlier daguerrotype process and reigned between the years 1855 and 1860. The advantages of the ambrotype over the daguerreotype process were many; they were less expensive, easier to view, and more permanent in that they were less susceptible to deteriorative reactions with atmospheric contaminants.

The method of production of the Ambrotype image was similiar but not identical to, that of the enormously popular daguerreotype. The support material for the ambrotype image was glass. Upon this glass support a thin emulsion of collodion was applied by hand and exposed within the camera while still wet. After subsequent development and fixation procedures a negative reading image was produced. To reverse this negative and create a right-reading image, one of two techniques was used. Either the verso of the glass support was painted directly with a black varnish or a piece of black paper or cloth was laid behind the glass support. This effectively reversed the image when viewed in reflected light and gave what we call today a positive image.

> "This illusion was due to the fact that the white areas of the negative, when backed by the black surface, became black, and the dark areas of the negative, which were silver, reflected light and by contrast appeared bright. The inversion from negative to positive was thus secured without resort to the preparation of a print." (Taft 1939: p.125)

To protect the ambrotype an effective and decorative hand-sized case was used. Early cases were made of fitted wooden pieces covered in leather finely worked with floral or pictoral motifs and gold-tooled along the edges. A thin leather strip served as the case's hinge opposite which were found one or two small hook-and-eyelet clasps to keep the case securely closed. Once opened the inside left cover was lined with a padded silk or a plush dark velvet square of material. Opposite this fabric lining which served to enhance the aesthetic feel of the entire object, lay the ambrotype 'package.' (Rinhart 1969: p.16)

This package was made up of the dark backing material, the glass support with its emulsion side on top, an ornamental brass mat which served to protect the delicate emulsion from the next item, and a piece of protective coverglass. The last component was the binder or preserver. This was a die stamped edging that overlapped the coverglass slightly and was outfitted with soft, pliable flanges which wrapped around the entire package. The binder gave a finished appearance to the ensemble which was then fitted snuggly into the recessed bed of the case to complete the presentation of the ambrotype image.

As an object of great personal and sentimental value in the 19th century, these cased images held a special place in any household. They were treasured and preserved as family heirlooms. At times an ambrotype is found with a special momento enclosed with the case. Notations giving names, dates and relationships are not uncommon and occasionally a more touching momento, such as a locket of the depicted person's hair, is found.

EXCAVATED AMBROTYPES:

The photographic materials which I examined were excavated in November of 1987 from the Greenwhich Mews site in Greenwich Village. Although the condition of the artifacts brought to me ranged from poor to beyond hope, two pieces were relatively intact. The majority of the glass shards recovered had only slight traces of emulsion or varnish remaining. The various components of the ambrotype package had all been exposed to a variety of hostile forces. Mechanical pressure from the weight of accumulated earth and water seepage contributed to the deterioration of these artifacts. The glass, wood, fabric, emulsion and metal elements of the cased ambrotypes were all severely damaged.

In every instance the glass component was severely degraded. This degradation took the form of both physical damage [breakage] and chemical decomposition. All of the glass was delaminating into very fine, small scales of iridescent color. Years of exposure to mud and moisture, plus temperature and humidity extremes, conspired to reduce or remove most traces of emulsion and varnish from the glass supports. On those pieces where emulsion remained much of it was lifting in small flakes from the glass support and was often covered with a thin wash of mud.

Only fragments of the wooden case material remained and no original fabric linings or leather case coverings were recovered. Brass mats and preservers were found in such a state of decomposition that only

corrosion by-products remained of the original metal. These corrosion by-products were relatively intact, retaining the shape of the original objects but now in a bright blue-green of oxidized brass. These mats and preservers were in extremely fragile condition.

TREATMENT: ...Of the many fragments of ambrotype images brought to me only three pieces were treated. This was due to both the degree of deterioration in the majority of them, and to the costs and technical limits of available treatment.

Loose and caked mud were removed manually from the two intact ambrotypes with micro-spatulae and air bellows. Flaking, iridescent glass was similiarly removed with a sable brush. No attempt was made to remove flaking glass from the emulsion side of the glass. Remnants of original black backing varnish were removed mechanically.

The component pieces of these two ambrotypes were separated manually with great care to expose the blue-green brass mat and the photographic collodion emulsion. Fragments of brass mats from other excavated samples were sent to a local metal conservator who determined that they were now completely corrosion by-products with no metal remaining. The original cover glasses were removed but retained for possible future study.

After removing surface accretions of mud and corrosion from the brass mats, an acrylic resin consolidant [B-67] dissolved in acetone was applied in a ten percent weight/volume solution to the recto and verso of the mats. This strengthened the corroded mats enough to allow for some attentive handling and prevented the possibility of shedding which could then abrade the emulsion surface. Three mends were made with a thin bead of polyvinylacetate (Jade 403) along the edges of breaks in the mats. These are visible upon close inspection.

Although a similiar treatment of consolidation would have been desirable for the emulsion surface itself, no such treatment was undertaken. Here the relative youth of the field of photographic conservation presented a case where a treatment was indeed called for, but no body of data existed whereby a responsible treatment could be developed and performed. Information on a suitable, long-term, non-interactive surface consolidant for badly deteriorated collodion emulsions is lacking. Until a procedure is examined and adopted by working photographic conservators, the only ethical treatment is minimum treatment. Hence the emulsions, in their very fragile state, were left as found except for the benefit of a new cover glass and a paper-tape binding.

New pieces of clean coverglass were cut to size and replaced the original coverglass. Sheets of black Canson paper were similarly cut to size and placed behind the emulson bearing glass plate. With the brass mat replaced directly upon the glass plate and this covered with the new

coverglass, the entire package was sealed along its four edges with FilmoPlast, a commercially available paper tape. In this manner the condition of the original artifacts was preserved by providing a degree of physical and chemical protection.

The fragment of wooden case excavated had a lock of blonde hair attached to it. This delicate and touching artifact was cleaned mechanically of loose soil and its dry and embrittled wood also consolidated with the 10% solution of arcylic B-67 resin.

Given proper storage environments, responsible exhibition conditions, and careful, infrequent handling these unusual artifacts will remain interesting and informative records for years to come. By their mere existence they prove a direct continuity between ourselves and those long deceased anonymous New Yorkers who once inhabited our island. They are especially deserving of special care.

Peter J. Mustardo
111 West 69th Street, #4B
New York, New York 10023
212-877-9716

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