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THE ARCHAEOLOGICAL INVESTIGATION OF THE TELCO BLOCK, SOUTH STREET SEAPORT HISTORIC DISTRICT, NEW YORK, NEW YORK

Professional Service Industries, Inc.
Soil Systems, Inc. Subsidiary

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THE ARCHAEOLOGICAL INVESTIGATION OF THE TELCO BLOCK, SOUTH STREET HISTORIC DISTRICT, NEW YORK, NEW YORK

Prepared by:
Diana Rockman
Wendy Harris
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For Jack Resnick and Sons, Inc.

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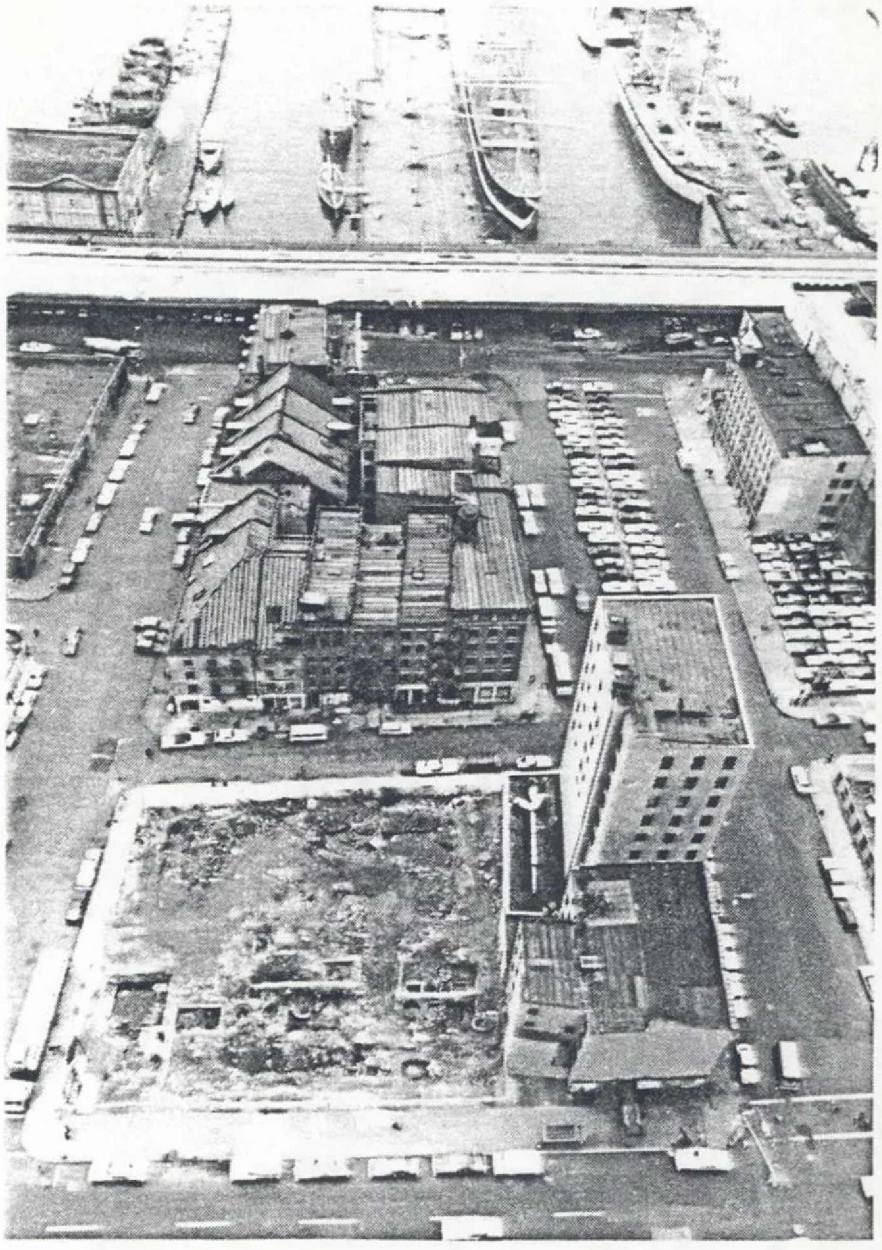

Frontispiece. Bird's-eye view of the Telco Block, looking east from Water Street to the East River, showing the excavations and, to the east across Front Street, the Schermerhorn Row Block, and the seaport itself.

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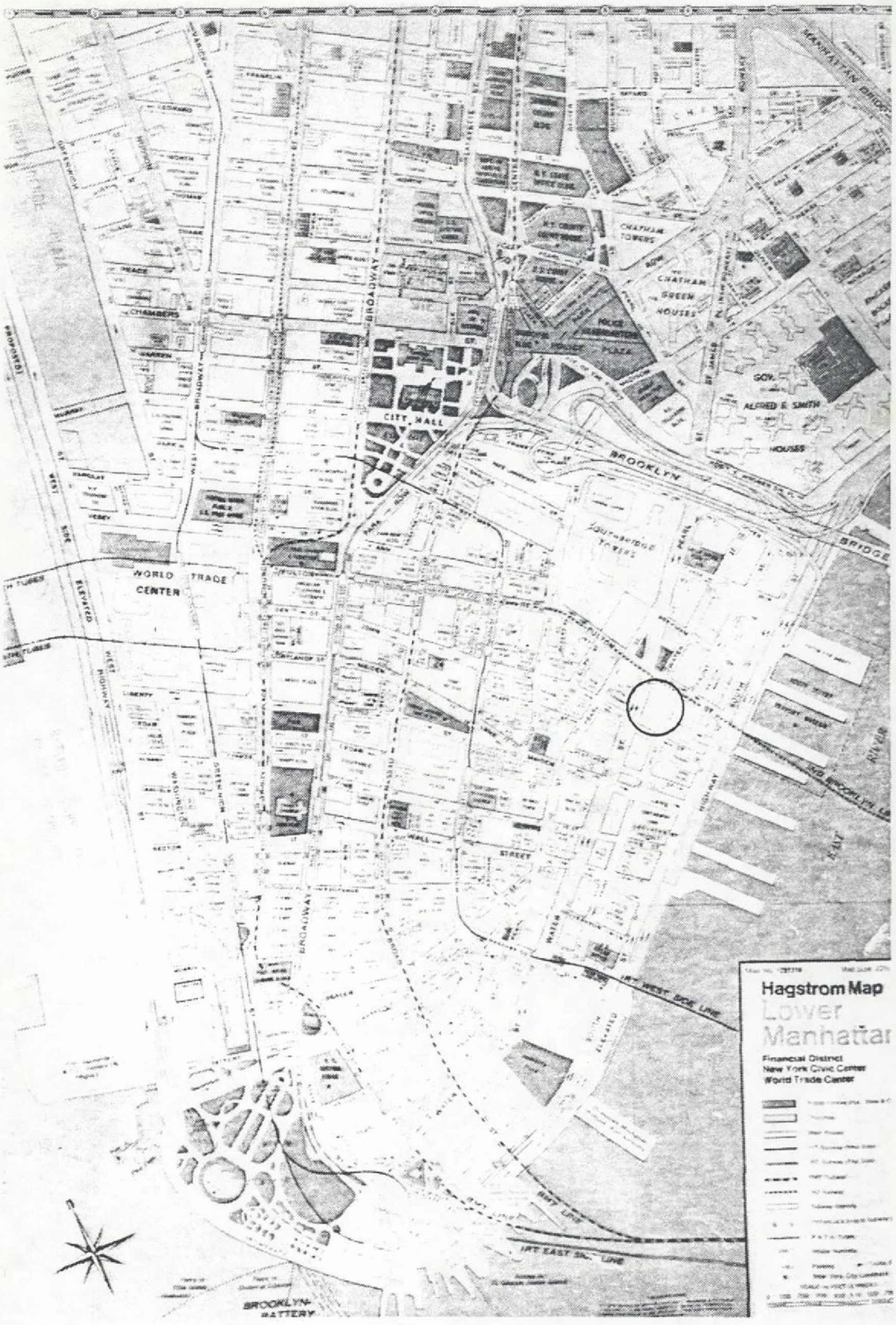


Figure 1.1. A map of lower Manhattan, showing the location of the Telco Block.

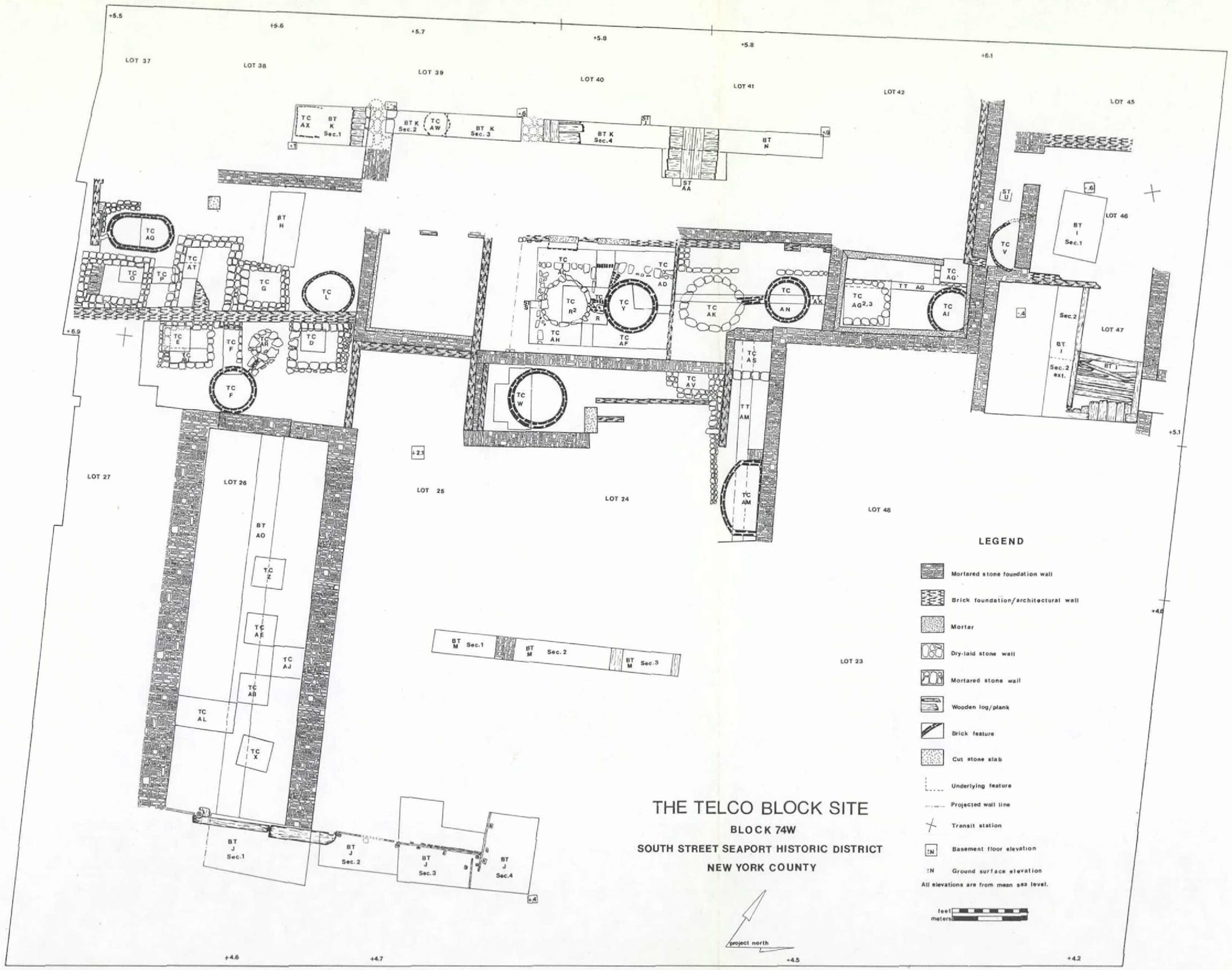


Figure I.2. The site map of the Telco Block.

I. INTRODUCTION

A. The History of the Project and a Brief Summary of the Results

This report presents the results of the excavations on the Telco Block in the South Seaport area in lower Manhattan in New York City. This block is part of the South Street Seaport Historic District, which is listed on the National Register of Historic Places (U.S. Dept. of Interior 1978) for its archaeological as well as its historical and architectural resources. The excavation of the block was mandated by the federal government under the Historic Preservation Act of 1966, as federal funds (an Urban Development Action Grant, administered by the Department of Housing and Urban Development) are being used in the redevelopment of the South Street Seaport area. The redevelopment plan includes the construction of an office tower (Seaport Plaza, or 199 Water Street) on the Telco Block by Jack Resnick and Sons, Inc. The archaeological deposits on the block would have been destroyed by this construction. Archaeological mitigation was therefore required under a Memorandum of Agreement among the City of New York, the New York State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

The Telco Block, designated Block 74W, is bounded by Water Street on the west, Fulton Street on the north, Front Street on the east, and John Street on the south (Fig. 1.1). The block's name is the result of a special leasing arrangement between the City of New York and the New York Telephone Company. During the excavation period, the southern third of the block was covered by standing structures. Excavations were confined to the northern part of the site, which was most recently used as a parking lot and a community garden.

The project was begun in the fall of 1980 with an historic background study by Wendy E. Harris for James Stuckey of the New York City Office of Economic Development (Harris 1980). This study showed that the block had the potential for containing intact archaeological resources and provided recommendations for further historical study and archaeological investigations to be undertaken.

The excavations extended from July 20 through November 13, 1981. The first month of this period was a testing phase, designed to evaluate the archaeological resources on the block and provide data on which to base recommendations for the mitigation phase, if more extensive excavations were deemed necessary. Recommendations from the testing phase were presented to the representatives of the city, the state, and Advisory Council for comment. The subsequent three-month excavation period was the mitigation phase, during which time these recommendations were carried out. After the completion of the mitigation phase an interim report summarizing the results of the excavations was prepared and presented to the representatives of the city, state, and the Advisory Council (Rockman 1981). The relevant parts of this report have been incorporated into the present study.

The field crew consisted of 11 people filling seven positions, in addition to the backhoe operator and the present authors. The backhoe most often used on the project was a 450 Case machine, with a 30-inch bucket.

The laboratory and analysis phases extended from November 13, 1981, through April 30, 1982. The lab crew consisted of a maximum of eight people in addition to the present authors. A description of the laboratory procedures is included in Appendix C. The animal bone and floral materials from the flotation samples were analyzed by special consultants Edna Feighner and Josselyn Moore, respectively.

The Telco Block is composed of landfill which was deposited in four episodes ranging in date from the 1730s through the late 1760s or early 1770s. Since that time, the block has been continuously occupied. The archaeological resources may therefore be divided into two different categories: 1) those associated both with the use of the area before the block was filled and the landfill itself (including the remains of wharves and bulkheads and the materials included in the fill); and 2) those resulting from the subsequent use and occupation of the block from the late-eighteenth through the nineteenth centuries. The vast majority of the material reflecting the occupation of the block came from features (11 privies, eight cisterns, a wooden box, a barrel, a dry well, an oven, and the deposits on a wooden floor), structural remains (two wooden floors, and numerous spread-footer complexes), and the stratified deposits from the backyard in Lot 40 (Fig. 1.2).

These two resource categories (1) the materials and features included in the eighteenth century landfill and 2) the later eighteenthth and nineteenth century occupational remains) have been used both in organizing this report and in structuring the research perspective.

B. Research Potential

New York City's social geography has been the focus of a number of historic studies (such as Abbott 1974, Blackmar 1979, Gordon 1978, and Wilkenfield 1976). The resources excavated on the Telco Block document the shifting patterns of land use in the port of New York. The wharves and subsequent landfill document the fabric of the port facility itself, while the later occupational remains record changes in land use in the nineteenth century. The late eighteenth- and early nineteenth-century deposits document a mixed residential and commercial use of the block by merchants and artisans. In the early nineteenth century, this pattern shifts to a strictly commercial use. A change in the kind of commercial use of the block took place in the mid-nineteenth century, when the merchants and artisans moved their businesses away from the block and were replaced by warehouses and light industry. All of these phases of land use on the block were documented by the excavations.

The research potential of the Telco Block is most apparent within the context of other archaeological projects which have been conducted in New York City. The process of making land by depositing landfill is closely correlated with the increasing value of land in densely populated and intensively used urban areas (Kardas and Larrabee 1980, Rothschild and Rockman 1982). The landfill process has accompanied the growth of New York City from the late seventeenth century until the present. The study of the eighteenth century landfill deposits and technology from the Telco Block nicely complements the data from other landfill sites in the New York area. These sites include the limited excavations at 209 Water Street (Henn et al. n.d., Brouwer 1980), at 64 Pearl Street (Pickman and Rothschild 1981) and on the Schermerhorn Row Block (Kardas and Larrabee 1979), and the more extensive excavations at 7 Hanover Square (Pickman, Rockman, and Rothschild 1981) and 175 Water Street (Joan Geismar, personal communication). The 7 Hanover Square and 64 Pearl Street sites (ca. 0.25 mi to the south of the Telco Block) are late seventeenth century landfill sites, while the 209 Water Street site and the Schermerhorn Row Block (just to the north and east of the Telco Block, respectively) were filled in the late eighteenth century. The 175 Water Street site (just to the south of the Telco Block) apparently was filled at about the same time as the Telco Block (Joan Geismar, personal communication). The landfill was sampled in each of these excavations, and fill-retaining features (including eighteenth century ships at both 209 and 175 Water Streets and log-cribbing structures at Schermerhorn Row) were recorded. The mid-eighteenth century landfill and fill retaining features studied on the Telco Block, with one exception, are not represented at any of these fill sites in Manhattan; the results of the excavations in the landfill at 175 Water Street (the exception noted above) have not yet been reported.

The resources resulting from the nineteenth century occupation of the Telco Block along with those from 175 Water Street also complement the occupational remains from two of the other sites in Manhattan. The resources sampled on the Telco Block include 24 features as well as undisturbed, stratified deposits. On the Stadt Huys Block (Rockman and Rothschild 1980) and the 7 Hanover Square site, most of the materials date from the seventeenth through the late eighteenth centuries. Relatively few of the features from these sites were deposited in the nineteenth century. The Telco Block and 175 Water Street sites, then, yielded information about a period which has not been extensively documented by any of the other excavations in the New York area, but which is one of the most important periods in New York's history, the rise of New York City as the nation's major port.

This time period is represented by excavated materials from many other urban American sites. The comparison of the materials from the Telco Block with those from other American cities is beyond the scope of the present report, but it is hoped that these excavations have contributed to the potential for this kind of research.

Four "research questions" were presented in the Telco Block's proposal. It was stressed that these questions were intentionally designed to be flexible and general in nature, so that almost any of the data recovered from the block could contribute to fulfilling the research design in some manner. It was further suggested that these questions should be reviewed and adjusted after the fieldwork was completed (Soil Systems Inc., n.d.:6). The original questions are presented below, and are followed by a discussion of their relevance in light of the results of the excavations.

The first two questions, their hypotheses, and their archaeological implications are as follows:

> 1. What was the nature of New York's participation in the world economy in the eighteenth century? How did this participation change through time?
>
> Hypothesis 1
>
> The eighteenth century occupations on the Telco Block were mercantile in nature, and attuned New York's position as a key American link in international trade networks.
>
> Archaeological Implications: It is anticipated that the vast majority of the materials recovered from the fill materials and early occupation on the block will be of foreign origin and predominantly British. It is further anticipated that artifacts deposited in prefill contexts (i.e., original river bottom sediments) will follow this same pattern. Artifacts incorporated within the fill, as random samples of materials from surrounding areas, will reflect this same trend. Exceptions to this trend will occur almost exclusively as locally produced items, with weak representation of materials manufactured elsewhere in America. Artifacts recovered from late eighteenth century contexts on the block should reflect a weakening of impact of foreign manufactured goods as the percentages of such goods decline.
>
> 2. What was the nature of New York's participation in the national economy of the nineteenth century? How did this participation change through time?
>
> Hypothesis 2
>
> The role of New York as an international port began to modify in the nineteenth century. As industrialization increased in this country, New York became not only a key link in the international trade, but a transshipping point for goods produced in America.

> Archaeological Implications: The historical documentation (Harris 1980) indicates that the Telco Block was occupied by merchants who lived over their shops for much of the nineteenth century. Occupation debris from the nineteenth century was thus generated by individuals who were wealthy enough to choose their goods from a wide variety of sources. Their discards should then serve as a rough cross-section of the goods flowing into New York at that time. As time passes, the percentage of foreign-made goods present should decline while American-made goods increase. While early in the century the majority of American-made goods should be local in origin, by the second half of the century these goods should be coming from a wide region of the country. The percentage of foreign-made goods should stabilize at some point in the nineteenth century. The most sensitive indicators of country/region of origin should be ceramic and glass items (Soil Systems, Inc. n.d.:7).

Questions 1 and 2 may be addressed with one kind of archaeological data: the location of the place of manufacture of the artifacts recovered in the excavations. Furthermore, as suggested in the proposal, the most useful indicators of country or region of manufacture should be ceramic and glass items. Unfortunately, the results of the excavation and subsequent literature research have shown that it is not possible to generate meaningful data from the artifacts to explore these questions. To explain this conclusion, a brief description of the problems involved in determining the location of the places of manufacture for ceramics and glassware in the eighteenth and nineteenth centuries is presented below. There is a separate discussion of each of these industries, because the forces which influenced their development in America (such as the raw materials required, the organization of production, and the market) varied in each case during this period.

Glassware. Even though the British, as part of a general mercantile policy, banned the manufacture of glassware in the American colonies during most of the eighteenth century, nine glasshouses are documented as having been in operation during this period, with window and bottle glass being the staple commodities (McKearin and Wilson 1978:29-30, Davidson 1974:86). Furthermore, the styles of American- and British-made bottles and table glass are thought to have been quite similar. "The bottles blown in the colonial and also later 18th century glasshouse would have been some or all of the kinds imported and typical of those made during the lifespan of the glasshouse" (McKearin and Wilson 1978:31). These types would include chestnut bottles, globular bottles, and demi-johns (McKearin and Wilson 1978:32). It is known that American copies of Anglo-Irish table glass were made in quantity by immigrant glass blowers; however, a simple test which will permit the identification of the country of origin of these vessels remains to be devised (Perrot 1974:89).

Therefore, although one may safely assume with Noel Hume that prior to the Revolution, most of the bottles, and presumably much of the table glass as well, found in American sites is of British manufacture (1978:60), there is no accurate way to identify visually the place of manufacture of specific glass vessels made in the eighteenth century. Thus, eighteenth century glassware is not amenable to quantitative analysis designed to explore the first question.

The rise in the production of the American glasshouses in the nineteenth century has been documented. In 1800, for example, only eight known glasshouses were in operation, but by 1832 there were 71 (McKearin and Wilson 1978:68). The growth in both the size of the market and the organization of production resulted in the proliferation of bottles which included the name of the glassworks and/or the contents of the bottle, beginning in the 1820s. After the 1860s, with the explosive rise in popularity of panel bottles, there was a sharp increase in this kind of information.

In order to explore the archaeological implications of Question 2, above, we would need good samples of glassware from both the first and second halves of the nineteenth century. Unfortunately, however, only seven of the features excavated on the Telco Block dated to the first half of the nineteenth century, while 16 dated to the second half. Furthermore, the only significant sample of early nineteenth century glass marked with the name of the maker came from redeposited fill in a cistern in Lot 42 (Fig. 1.2). The glassware in this feature presents a special case which biases the sample, because this lot is documented as having housed a crockery during this period (see Appendix B), and all of the indentifiable glass came from a single glassworks, the Coventry Glassworks, in Connecticut. Therefore, it is not possible to address Question 2 using the data from nineteenth century glass.

Ceramics. Relatively little is known about the production of the various kinds of ceramic wares in America during the Colonial Period. It is generally assumed that most of the finer wares found on American sites dating from this period were imported. However, it is known that many of the kinds of wares made in England during this period were also being made, although in small quantity and of unknown quality, in America. For example, in the late seventeenth century, slipwares made in New England were similar to the "Metropolitan" wares of Essex (Noel Hume 1978:99), while white salt-glazed stoneware is thought to have been made in New Jersey at the same time (Spargo 1974:59). A delft potter is also known to have emigrated to the Middle Colonies in this period, and whether or not he continued to make this ware here is a subject of current research (Brenda Springsted, personal communication). In the second quarter of the eighteenth century, brown stoneware tavern mugs, bottles, and pitchers were being produced in Virginia. These vessels are said to have been as good as those being made in England at this time (Noel Hume 1978:100). Creamware is thought to have been produced in South Carolina in 1770 (Noel Hume 1978:99) and, along with porcelain, in Philadephia as early as 1769 (Spargo 1974:91). A photograph of a creamware fruit basket made at the Philadelphia pottery is reproduced in the literature (Barber 1976:11).

Again, for the ceramics industry, one may safely assume that most of the finer tablewares were imported from Britain and the continent during the Colonial Period. However, at this point it is not possible to identify visually the place of manufacture of the specific unmarked vessels which make up the bulk of the eighteenth century ceramics in the Telco Block collection. Thus, the eighteenth century ceramics from the Telco Block are not amenable to the quantitative analysis needed to explore Question 1.

The nineteenth century ceramics tableware industry is unique in that, for a variety of reasons, it was dominated by the British from the last quarter of the eighteenth century through the end of the nineteenth century (Stradling and Stradling 1976; Miller 1980). Therefore, this industry is not indicative of New York's participation in the national economy, as outlined in Question 2, during this period. In addition, although many authorities have maintained that foreign-made wares were superior, many ceramic specialists cannot distinguish the soft-paste porcelains of the Bonnin and Morris pottery in Philadelphia from those of Bow in England, the hard-pastes of Tucker of Philadelphia from those made on the continent, or the granite wares from Trenton or Ohio from those of Staffordshire (Barber 1976). In addition, eight potteries in America are documented as having made some form of cream-colored ware in the first half of the nineteenth century (Spargo 1974:213-226).

During this period, many potteries, but particularly the British, marked their wares with the name of their company. Although this practice is helpful in identifying the place of origin of certain vessels, another factor of prime importance has skewed the sample of those ceramics which were chosen to be marked: the American market had a strong preference for ceramics of British as opposed to domestic manufacture. Several authors have noted that in the mid-nineteenth century, American merchants often specifically requested that American potteries, including the one at Bennington, not mark their wares, as they could then be sold as English (Stradling and Stradling 1976, Spargo 1974:100-101, Spencer-Wood 1979:120). In addition, some American potteries deceptively marked their wares with their initials below the British coat of arms, while others marked their wares with foreign-sounding names, such as porcelaine opaque, so they would appear to be foreign (Stradling and Stradling 1976).

Again, for the ceramics dating from the nineteenth century, it is not possible to identify with certainty the place of manufacture for the unmarked ceramics, and the bias with which ceramics were chosen to be marked makes the sample of marked vessels unrepresentative in determining places of manufacture.

Questions 1 and 2, then, cannot be addressed adequately with the data from the Telco Block collection. These topics would be better approached through the use of techniques such as trace element analysis. Aspects of Question 1, however, are included in the first revised question, given below.

Questions 3 and 4, their hypotheses, and their archaeological implications are presented together here, as they both concern the early and mid-eighteenth century use of the block, both before and while it was being filled.

> 3. What was the landfill sequence on the Telco Block and what techniques were employed in filling the block?
>
> Hypothesis 3
>
> The Telco Block was filled on a piecemeal basis using various techniques. The fill techniques employed on this block include a significant number of the technological alternatives available at that time and place.
>
> Archaeological Implications: Hypothesis 3 simply states that we anticipate finding evidence of different fill techniques used on different parts of the block. Pursuit of this hypothesis will require carefully structured inquiry at the testing and mitigation levels. Techniques such as cribbing, encapsulation of wharves, and use of ships as retainer structures should be clearly reflected as the fill is explored (Soil Systems, Inc. n.d.:8).

Question 3 is addressed in Section III, on the landfill, below.

> 4. What was the Telco Block area utilized for prior to the filling activities?
>
> Hypothesis 4
>
> Prior to filling, the Telco Block was part of a shallow bay that abutted the East River. Historical research indicates that a shipyard was located to the north of the study tract, but it is hypothesized that the Telco Block was utilized for no more than sporadic trash disposal prior to filling.
>
> Archaeological Implications: The Harris (1980) report indicates that two lots adjoining the north edge of the Telco Block contained a shipyard as early as 1716, but the nature of that shipyard is not clearly understood. Archaeological investigation of the north edge of the block may recover traces of that activity, but it appears most likely that we will find shallow fill resting directly on river muck. Artifacts in the river muck on the entire tract should be scattered and non-intensive, and reflect dates of the late seventeenth to early eighteenth centuries (Soil Systems, Inc. n.d.:8).

The study of Question 4, as outlined above, required the excavation of river bottom deposits from several areas on the Telco Block. Unfortunately, because of the high water table and concern about crew safety, only one backhoe trench (B.T. I, Sec. 2) was extended to a stratum which we interpreted as the river bottom, and no artifacts were retrieved. This question about land use in the area of the Telco Block in the period before the block was filled is approached with a different set of data in the first research topic presented below.

C. Research Perspective

More than a decade ago, a dichotomy arose in the kinds of archaeological studies being conducted in urban areas. This dichotomy is still relevant today and distinguishes between archaeology in the city, where the site's urban context is irrelevant to the project's research design, and archaeology of the city, where the information learned from the excavations is applied to research directed to the study of the city or urbanism itself (Salwen 1973, Schuyler 1977). The first category includes both prehistoric sites (Salwen 1973) and historic sites which were located in rural rather than urban areas when the archaeological materials were deposited (Schuyler 1977). The factors common to both kinds of urban archaeology are basically methodological; the kinds of research questions they are designed to answer are substantively different.

It is only within the last decade that researchers in America have begun to study urban archaeology in the sense of archaeology of the city. The earlier neglect of this research focus may be attributed to three factors: 1) the belief that important archaeological remains were unlikely to survive intact in heavily developed areas; 2) the relatively great expense involved in the large-scale excavations which are preferable in studying urban problems; and 3) the lack of research interest in historical and anthropological questions which could be addressed with the information learned from such excavations (Schuyler 1977). It has since been demonstrated that important archaeological resources may be found in the most heavily urbanized areas of the world. In addition, government legislation has enabled the financing of large-scale excavations in urban areas. Research questions are also being posed in history and anthropology and other fields which can be answered with data acquired through urban excavations.

More recently, the approach of studying "the archaeology of the city" has been modified, in that archaeologists have begun to stress the study of particular cities within their specific historical, economic, and social context. This change has occurred because it has become apparent that "the city" is a complex phenomenon which cannot be successfully defined; previous studies of urbanism (e.g., Wheatley 1973, Blanton 1976) indicate that the development of a universally applicable definition of "the city" is elusive at best. Wallerstein's perspective of the growth of the modern world system and the capitalist world economy (1974, 1980) is useful in providing such a context for modern western cities. In fact, his and similar approaches have begun to be used by archaeologists involved in local and regional studies (e.g., Cressey et al. 1982, Paynter 1982, DiPeso 1980). Wallerstein's perspective is particularly helpful in historical archaeology in that it can be used to place both urban and rural sites into a larger historical, economic, and social context.

In the original proposal to perform archaeological investigations on the Telco Block, the central position of the block within the Port of New York was emphasized, and it was expected that the materials from the excavations would "reflect the economic growth of the city and trade networks through time" (Soil Systems Inc., n.d.:2). The proposal cited the relevance of Wallerstein's model for looking at eighteenth century New York City from the perspective of its development as a major port within the British colonial system, which in turn was part of an expanding capitalist world economy. The data from the Telco Block excavations have proved very useful in exploring certain aspects of Wallerstein's concept of the modern world system.

This perspective has been presented in opposition to the developmentalist theory that:

> the globe consists of relatively autonomous 'societies' developing in relation to one another along roughly the same path although with different starting times and at different speeds (Hopkins and Wallerstein 1977:112).

Rather, Wallerstein's world system perspective stresses that:

> the arena within which social action takes place and social change occurs is not 'society' in the abstract, but a definite 'world,' a spatiotemporal whole, whose spatial scope is coextensive with the elementary division of labor among its constituent regions or parts and whose temporal scope extends for as long as the elementary division of labor continually reproduces the 'world' as a social whole (Hopkins and Wallerstein 1977:112).

The data generated from the Telco Block excavations fit very neatly into the framework of Wallerstein's world system perspective. He sees the origin of the modern world system - that of the capitalist world economy - in sixteenth century Europe, where the redistributive mode of production of feudal Europe was transformed into this qualitatively new social system. Wallerstein points out that since the sixteenth century, this system has undergone changes, which include the shifting in economic roles of different geographic locations (seen as the "rise and fall of hegemonies" and "the movements up and down of particular core, peripheral, and semiperipheral zones"), and a "process of secular transformation, including technological advance, industrialization, and proletarianization" (1980:8).

The results of the excavation of the Telco Block provide documentation for New York City's shift from being part of a semiperipheral zone to part of a core zone in the eighteenth and nineteenth centuries. Although Wallerstein has yet to present explicit criteria for defining core, semiperipheral, and peripheral zones, the factor central to these concepts is that of unequal exchange and the global division of labor (Hopkins and Wallerstein 1977:117). Core zones are often characterized by the export of manufactured goods, and peripheral zones may be characterized by the export of agricultural and extractive products, while semiperipheral zones incorporate aspects of both the core and peripheral areas.

Wallerstein sees one of the three trends which characterize the development of the capitalist world economy as that of commodification; the two primary elements which have been commodified, or turned into marketable commodities, are land and labor (Hopkins and Wallerstein 1977:124-125). The commodification of land and labor has been documented by our research on the Telco Block; three new research topics, presented below, will be used to provide insight into these processes in eighteenth and nineteenth century New York City.

1. The excavations and documentary study of the landfill, wharves, and bulkheads on the Telco Block provide insight into the commercialization of land in the primary port facility in the eighteenth century.

2. The increased commodification of land and labor in late eighteenth and early nineteenth century New York is related to a fundamental change in social structure and use of urban space during this period. This change involved the separation of places of work from places of residence, a change which is of central historical importance (Ryan 1981) and which is reflected in the nineteenth century deposits on the Telco Block.

3. The secular transformations of industrialization and the commodification of labor also involved the development of a "capitalist work discipline" or the "rationalization of the workplace." The data from the late nineteenth-century commercial deposits on the Telco Block provide insight into how these processes relate to the changing nature of the workplace.

D. Organization of the Report

The present report is divided into five sections, the first being this introduction. The second consists of a contextual history of the Telco Block. The third includes a description of the excavations in the landfill combined with inferences made from the historical documents to provide a picture of the landfill sequence and techniques used on the block. The fourth section describes and analyses the results of the excavation of the occupational remains on the block. Finally, the data from the excavations are applied to the three research questions outlined above in the fifth section.

II. HISTORY OF THE TELCO BLOCK

by

Barbara Balliet

A. Introduction

The history of the Telco Block, woven by wealthy merchants, artisans and a changing world economy, is the history of the port of New York. The block, separated from Manhattan's original shoreline by one city block, is bounded on the east side by Front Street, on the west by Water Street, on the south by John Street and on the north by Fulton Street. Claimed from the East River by eighteenth century landfill operations, the Telco Block lies within what was once the heart of New York City's maritime district (Fig. 1.1).

The wharves and storehouses of New York's powerful eighteenth century merchant families such as the Van Cortlandts and the Schermerhorns once stood within the block's boundaries. Later occupants included Stephen Allen, D. F. Tieman, Abram Hewitt, and Peter Cooper. Allen, Tieman and Hewitt were nineteenth century mayors, and Cooper is best remembered as the builder of America's first steam locomotive, the Tom Thumb, and as the founder of Cooper Union (Appendix G).

In the eighteenth century, the newly made block was a center for merchant's houses, stores, and warehouses. The waterfront's vitality was grounded in the triangular trade between New York City, Britain, and the West Indies, and a vigorous coastal trade with the other colonies (Wertenbaker 1948:5). Merchants selling luxuries from the Indies and Europe shared the block with hairdressers, coppersmiths, shoemakers, and cabinetmakers living and working above and behind their small shops. Master and servant lived and worked in the same neighborhood (Blackmar 1979:133).

Although the American Revolution and the Napoleonic Wars briefly disrupted the area's rapidly growing importance as a trading center, the port's fortunes rose dramatically before the Civil War with the widespread introduction of the auction system in 1817, the initiation of regular transatlantic packet service in 1818, and the opening of the Erie Canal in 1825 (Gilchrist 1967: 71, 74-75). The port's growth brought changes to the Telco Block. By 1800, landfilling had pushed the city's shoreline further into the East River. Newly created South Street replaced Front Street as the City's East River waterfront (Albion 1970:266). Front and Water Streets were pushed from the center of the city's fast-growing foreign trade. The offices of the principal shipping houses, importers, and foreign packet lines relocated on South Street to be near the waterfront wharves. The Telco Block, now located inland, became a center for the southern coastal trade, with wholesale grocers, fruiterers and artisans connected with the shipping industry (Rosebrock 1975:3, 29; Schermerhorn 1914:154-56; Table 2.1). Although the block retained a residential character, to some extent, its class composition altered. As the merchants and master craftsmen moved uptown, apparently seeking more spacious, healthy residences separated from their waterfront shops, their dwellings became their workplaces, interspersed with boardinghouses for sailors, countinghouse clerks and journeymen (Blackmar 1979:136, 140; Lockwood 1976:25).

During the last decades of the nineteenth century, the city's waterfront activity shifted from the East River to the West Side. The port's foreign trade went into a slow decline as the age of sail ended. Trade was further disrupted by the Civil War (Appendix G, McKay 1934:423-24). As the rise of the railroad increased the importance of northern and western domestic markets, the port became a center for importing and domestic distribution, rather than international export. After 1887, the Hudson River's deeper channels and newer piers attracted the larger steam vessels that were replacing sailing ships. The West Side's extensive railway yards became the focal point of the city's economy (Appendix G, Rosebrock 1975:3).

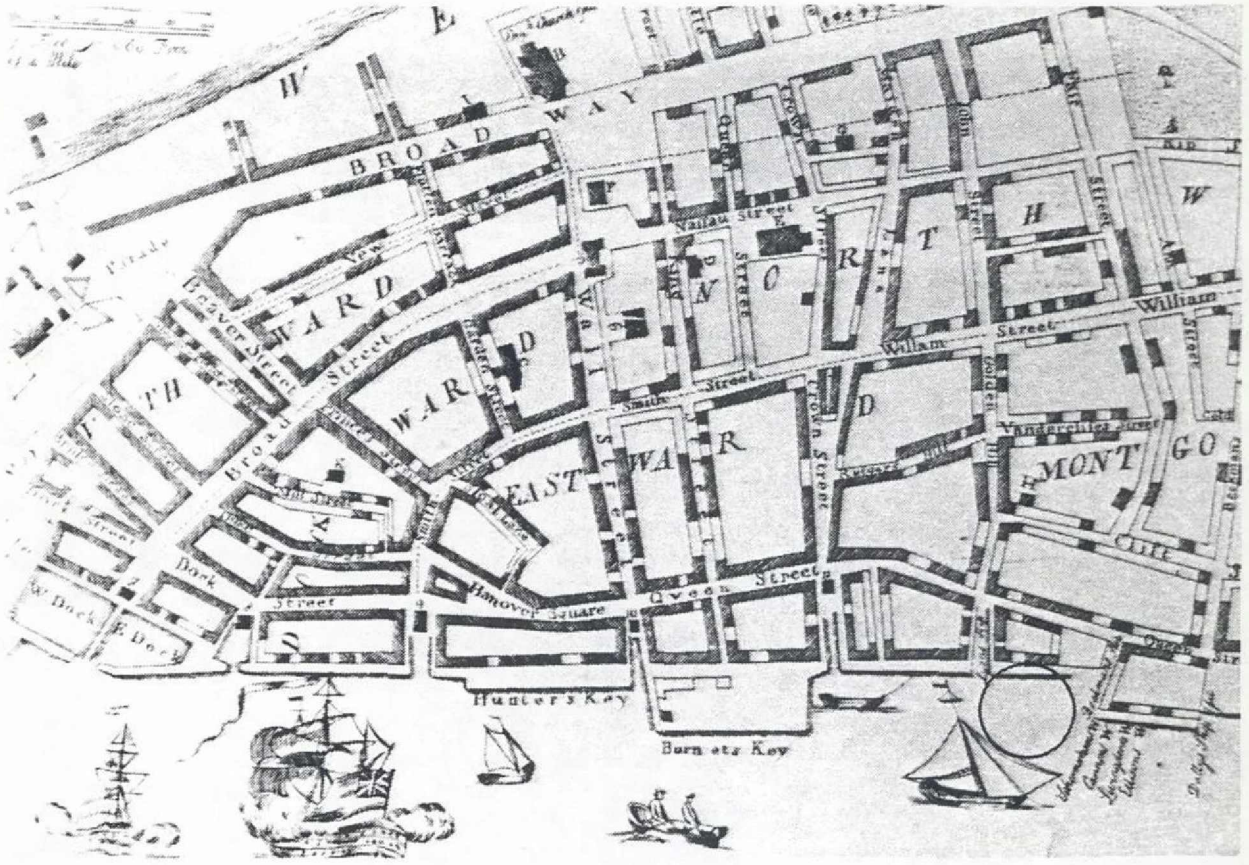
These changes in the port's economy were reflected in the Telco Block, where new industries replaced those formerly serving the foreign shipping trade. Maritime artisans, wholesale grocers, and commission merchants were replaced by manufacturers of cigars and paint. Warehouses for chemicals, cotton, and paper moved into the merchant's offices and stores. The block continued to hold small retail businesses serving local workers. After 1890 an increased demand for office space brought more office work into the neighborhood (Appendix G).

As industry crowded onto the Telco Block at the end of the nineteenth century, the block's residential population vanished. The citywide separation of residential and commercial areas that began in the late eighteenth century was complete by the beginning of the twentieth century, and with its completion, the block became overwhelmingly industrial and commercial. Workers in these businesses, unlike the early artisans who lived in or near their shops, resided away from their Telco Block workplaces. The block was given over entirely to light industry, warehouses, and offices in the twentieth century.

B. Colonial Period

Prior to European settlement, the area today called the Telco Block lay beneath the waters of the East River. By 1692, English water lot grants apportioned areas of the southwest shore of Manhattan and shortly afterwards the Telco Block began to take shape. By 1722, holders of 1692 water lot grants west of the block had filled in the area between the seventeenth century high water mark, now Pearl Street, and the seventeenth century low water mark, now Water Street (Lyne Survey 1728, Map 1; MCC IV: 236, 376-377). The construction of two public slips, short channels extending one or two blocks inland and used for docking ships, accompanied the landfill operations. Burling Slip on the south side of the block (also called Van Clyff and Rodman Slips and now John Street) was in existence as early as 1692 (MCC I:279; IV: 236; V: 113, 161; Stokes I: pls. 26, 27, 27A, 64). Construction of Beekman Slip (now Fulton Street) on the north side of the block was completed to Water Street by 1722 (MCC VII:341-342, 363).

The landfill operation that created the Telco Block was made possible by the Montgomerie Charter of 1731. The charter granted the city the right to make land 400 ft beyond the low water mark, further into the river than had previously been allowed (Peterson and Edwards 1917: 349). The new water lot grants were taken by members of the existing merchant elite, revealing their ties to city government and the value of waterfront property in New York (Peterson and Edwards 1917:350-351).



Map 1. A detail of the 1728 Lyne Survey, showing the area of the Telco Block before it was filled. (Courtesy of the New York Public Library)

The city's Common Council, until after the Revolution, routinely raised municipal revenue through the sale of this valuable waterfront property. The Council's policy and procedures tended to keep property within the control of merchants with close connections to the Council. Before an area scheduled for sale was offered publically, owners of waterfront parcels west of the area were given the option of extending their holdings by petitioning the Council for water lot grants. These petitions were rarely denied (Peterson and Edwards 1917: 350-351).

Prosperous merchants used their capital, family connections, and political influence to accumulate multiple town lots, water lots along both shores of the island, and large farm tracts north of the port area. Land was both an investment for profits from trade and an emblem of social status (Blackmar 1979: 133). The holders of the new water lot grants were members of well-to-do merchant families who apparently bought the waterfront property as an investment. They generally did not live on their new property but built houses, stores, and warehouses on the newly filled land. They either used these themselves or rented to other merchants and artisans (Blackmar 1979: 132-133).

Almost all the grants creating the Telco Block were made to the owners of property lying immediately west of the block. In 1734 Egbert Van Borsam requested the lots "lying on the East [north] Side of Van Clyff's Slip" on the southern boundary of the block (MCC IV: 236). In 1737 the Council granted Water Lot 1, containing Lots 28-36, to his son Henry Van Borsam (Grants of Land Under Water, Liber B: 296). Stephen Van Cortlandt received Water Lot 5 at the opposite end of the block fronting Beekman's Slip in 1750 (Grants of Land Under Water, Liber B: 408). Some of the deeds for the land immediately west of the Telco Block contained a clause permitting their owners to make land 130 ft beyond the original low water mark at Water Street. The center section of the block, including Lots 37-40 and possibly portions of Lots 24-27, was filled prior to 1756 under the provision of the earlier deeds, without an additional water lot grant. The remaining three grants on the eastern side of the middle of the block date to 1756 (Grants of Land Under Water, Liber C: 146, 151, 157). Water Lot Grants 2-4 extended their owners' right to make land from the boundary of these 130 ft grants to the 200 ft mark at Front Street (Harris 1980: 12).

Under municipal law, water lot grants were filled by their owners. Recipients of water lot grants acquired, with the right to make land, public obligations which were delineated in the grant texts after 1734. Grant holders were required to build a bulkhead or dock around their property upon three months notice from the Common Council. These docks were laid out as extensions of existing streets (Peterson and Edwards 1917: 85-86).

A French visitor, Jean de Crevecour, described the "art of constructing wharves" in the 1770s:

> I have seen them made in forty feet of water. This is done with the trunks of pine attached together which they gradually sink, fill in with stone and cover the surface with earth. (Still 1956: 170)

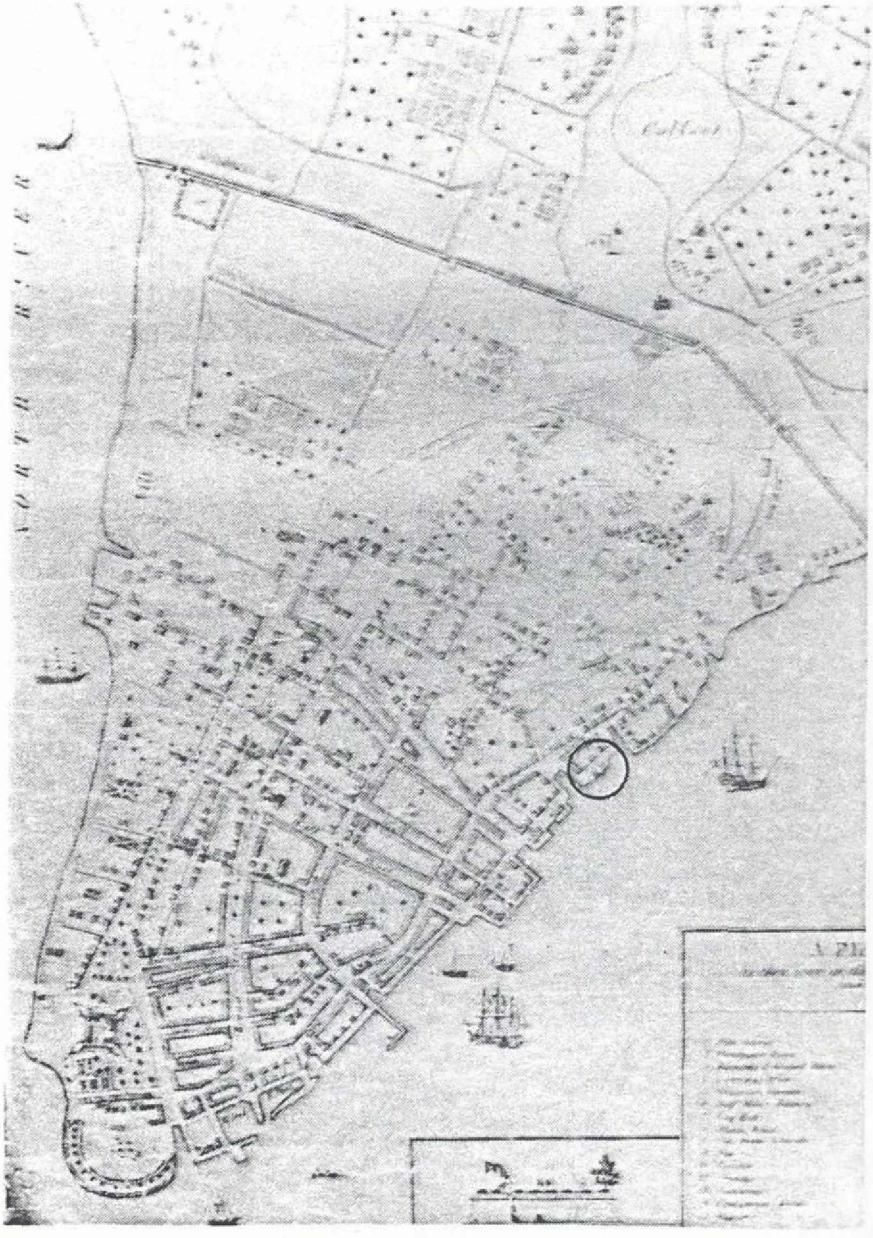
Following the construction of a dock or bulkhead the grant holder was to "fill in the space between the lines of the grant from the high water mark" with earth to the dock, creating taxable real estate (Harris: 1980:12).

The pressure to fill these water lots grants arose from a shortage of lower Manhattan land which grew increasingly acute by the mid-eighteenth century. In 1730, over two-thirds of the port's total population of 8000 owned property within a one-mile radius of the wharves; a surplus of land allowed successful craftsmen to establish their shops near the wharves. New York in these years was a "walking city" where merchants' houses, shops, and storehouses clustered within walking distance of the wharves. Two- and three-story wooden and brick houses contained both working and living space (Blackmar 1979: 131, 133-134).

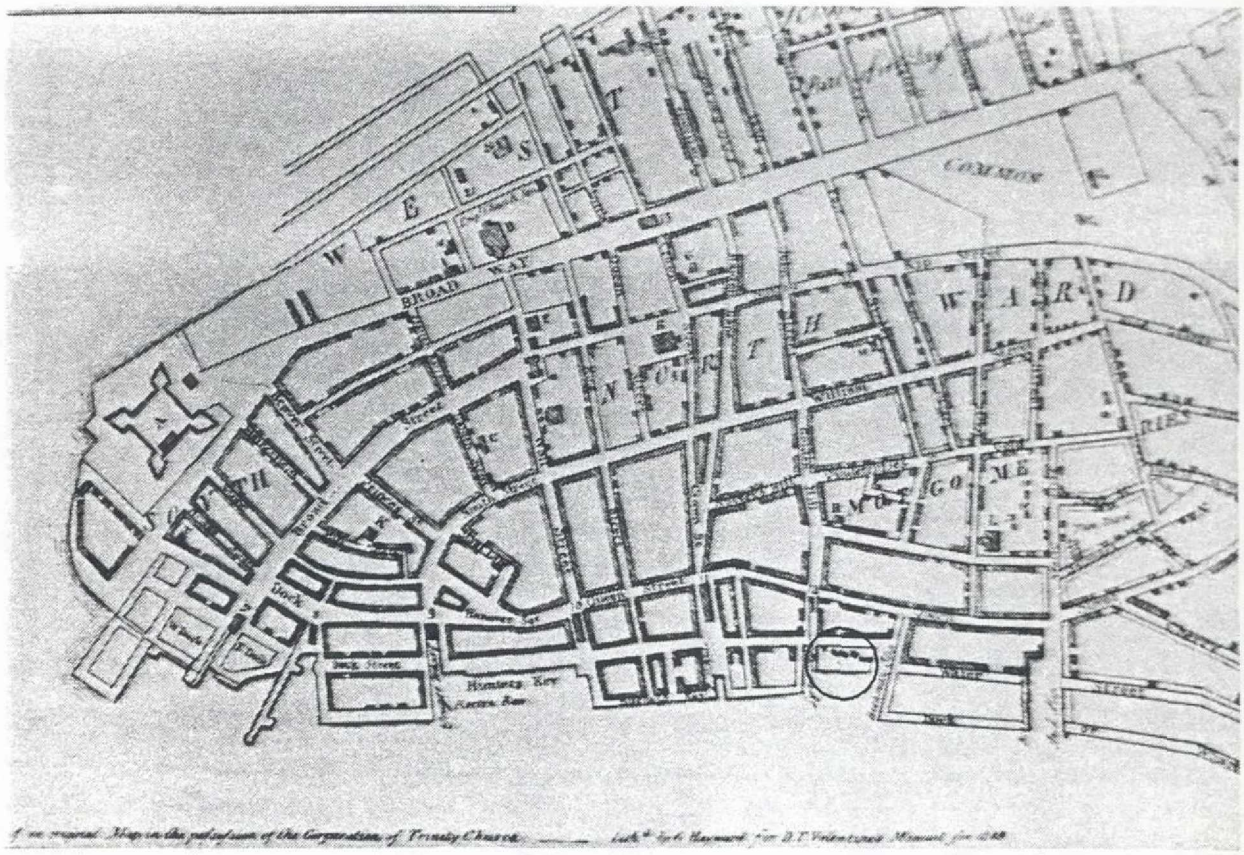
Within 40 years, this situation had changed dramatically. In the 1760s and 1770s, population growth increased the demand for space near the wharves. Real estate speculators responded by filling in their water lot grants to create additional land; in this process, the Telco Block landfill was completed (Blackmar 1979:133, Gilchrist 1967: 27-29).

A series of colonial maps documents the landfill process on the block. David Grimm's A Plan of the City and Environs of New York as They Were in the Years 1742, 1743, and 1744 (Map 2) shows two structures within a small band of landfill fronting Water Street's east side, midway between Fulton and John Streets. These structures lay within the bounds of Lots 37-40, in an area now largely covered by Water Street. The 1755 Maerschalck Map (Map 3) gives an indication of the extent of landfilling under the 1737 and 1750 water lot grants. Half of the block has been filled and five structures are pictured on the map. A 1763 boundary dispute prompted City Surveyor Samuel Willis to draw a map showing the two storehouses belonging to Evert Byvanck, holder of a 1756 water lot grant within the boundaries of Lots 37 and 38 (Map 4). The 1776 Holland Map shows the Telco Block completely filled (Harris 1980: 19 Map 6).

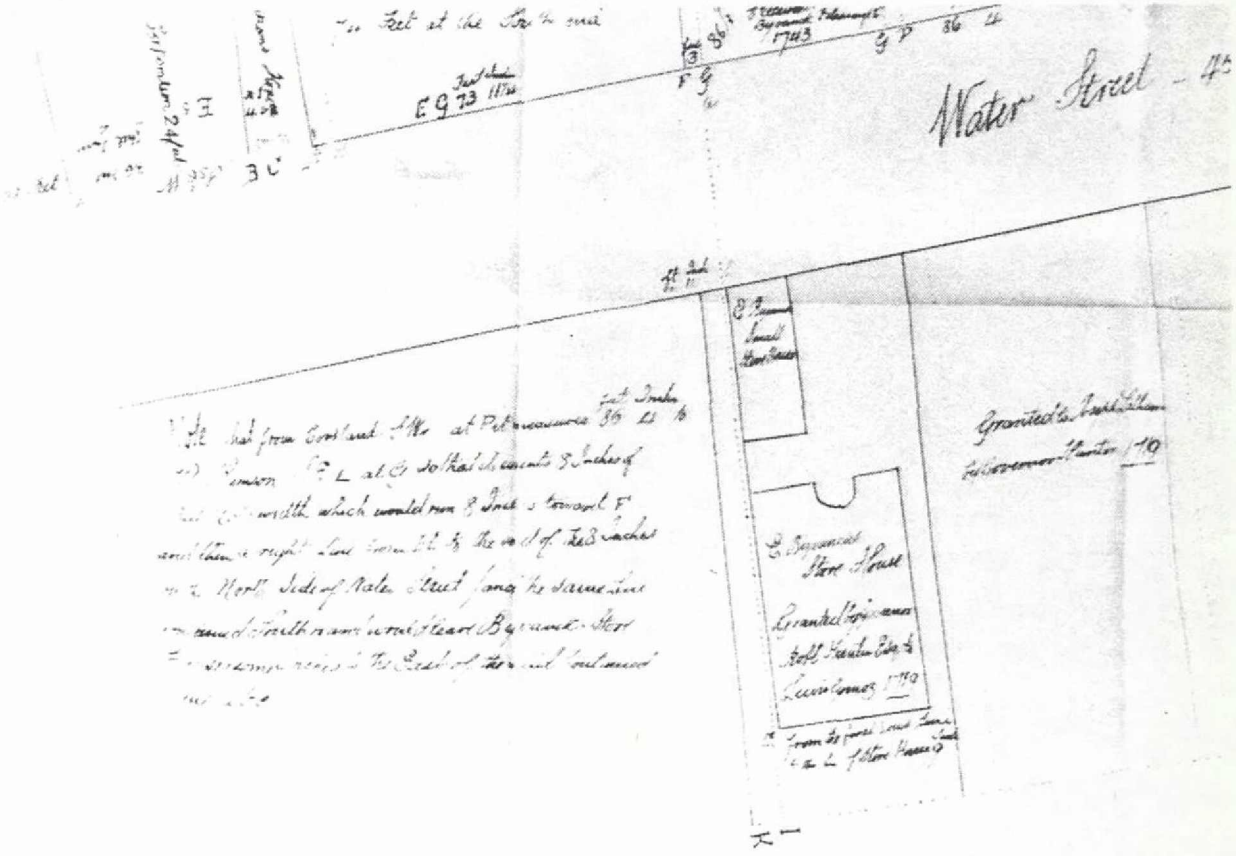
Once filled, the slips, wharves, and streets surrounding the new waterfront block were publicly owned but privately run. Burling and Beekman Slips were public slips. They were owned by the city and leased to the highest bidder. The city and leaseholder were expected to share dock maintenance, with the corporation making all necessary repairs and the lessee responsible for keeping the wharves and their approaches clean. Although theoretically efficient in practice this arrangement was impractical. Both city authorities and private leaseholders neglected their obligations; wharves and slips were repeatedly condemned as public nuisances (Peterson and Edwards 1917: 272, 353-54; MCC V:98, 170).



Map 2. A detail of the 1742-1744 Grimm Map, showing the Telco Block after it had been partially filled. (Courtesy of the New York Public Library)



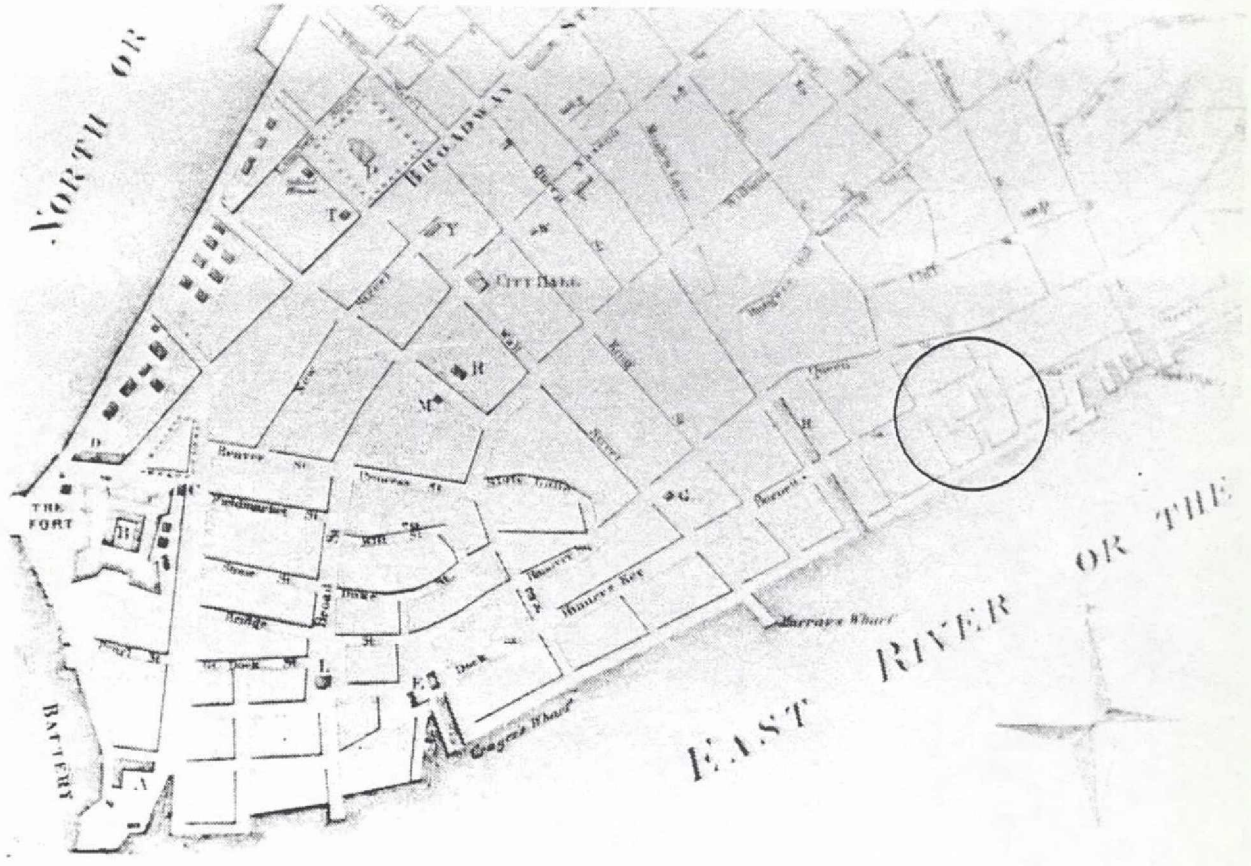
Map 3. A detail of the 1755 Maerschalk Map, showing the Telco Block partially filled. (Department of Anthropology, New York University)



Map 4. A detail of the 1763 Willis Survey, showing two storehouses on Parcel A on the Telco Block. (Courtesy of the South Street Seaport Museum)



Map 5. A detail of the 1767 Ratzer Map, showing the Telco Block. (Courtesy of the New York Public Library)



Map 6. A detail of the 1776 Holland Map, showing the Telco Block and its adjacent slips filled to Front Street. (Courtesy of the Department of Anthropology, New York University)

Although cooperation between government and business resulted in the filling of the Telco Block, it could not guarantee the block's economic success. In the eighteenth century the area was moribund. Burling and Beekman Slips were mere landings where small boats brought food supplies from Long Island, upper Manhattan, New Jersey, and Connecticut to municipal markets. In 1746 the city built a market house at Burling Slip to encourage trade, but it proved unpopular and had fallen into disuse by the 1760s (Peterson and Edwards 1917: 353-354, MCC V: 168).

During the 1760s, the block's residents and property owners quarrelled over the future direction of the block. John Riker, a substantial waterfront property owner, and 60 other inhabitants on either side of Burling Slip petitioned the Council to fill in the slip to the Telco Block's western edge (Water Street), contending that:

> good Intention of making or Leaving that space for a slip called Burling Slip and the Erection and Building a market house there . .. have succeeded for many Years Past, Chiefly from the Almost Total Disuse of the same, by boats & other water crafts which commonly apply to and attend market places the said Slip and markett house have Become more a Common Nuisance to the publick than a Convenience & Advantage by the Cattle of this City sheltering & lying in the said markett house and Idle People, Boys and Negroes spending their Masters Time by Playing & Gambling & that the said Slip by the Filth of the higher parts Descending by force of Rains is in Great Measure filled up so that Scarce any Craft but very small can be conveyed within Several Rods Distance from the said markett house . . . All of which obstructs communication and Negotation Of Business between the Coffee House and Beekmans . . . (MCC IV: 215-216).

William Richards and others presented a petition objecting to the filling of the slip. The Council sided with "those with Business at the Coffee House," presumably the more substantial merchants in the area, and ordered the slip filled to the line of Water Street (MCC IV: 228). This decision favored property owners with grants extending to Front Street, now the site of the docks.

The colonial block housed merchants involved in the triangular trade between the West Indies, New York, and Britain. There was little specialization among these merchants. General merchants imported and sold a variety of "groceries", luxuries such as lemons, spices, wines, sugar, and rum from the Indies and Europe. Specialization was more complete in areas connected with manufacturing, such as iron (Harrington 1935: 61). The block was also a site for shops working and selling iron from the mines of New Jersey, in which one of the block's landowners (Evert Byvanck) had an interest (Harrington 1935: 150-152).

The colonial block was apparently a stable neighborhood of merchants and artisans who lived and worked next door to each other. Neighborhood craftsmen worked in their homes, constructing, equipping, and modifying them according to the needs of their trade. When they moved, they frequently sold their dwelling to fellow tradesmen who shared their craft and building needs. This created occupational stability and continuity in the neighborhood (Blackmar 1979: 134). The Telco Block was a center for metal working and coopers, with brass founders, plumbers, and coopersmiths retaining long tenancy on Water Street and on the side streets fronting the slips.

In this period, wealthy, middling, and artisan households filled their houses intensively, taking in boarders whenever an extra room became available. Apparently holding a concept of privacy different from twentieth century middle class Americans, established families sheltered port area transients, especially mariners, unmarried journeymen, and new arrivals (Blackmar 1979: 134-135). The small frame houses on the Telco Block were probably no exception to this practice, creating a neighborhood that mixed occupations and social classes.

C. Revolutionary Period

The Revolution brought economic dislocation and political conflict to the block. Following the Revolution a depression crippled the port until the 1790s.

The Telco Block was near the site of one of the Sons of Liberty's last overt acts before the Revolution. A small group of patriots confiscated British arms and ammunition as the army evacuated the city for Boston on June 6, 1775. Meeting at Jasper Drake's tavern on Water Street near Beekman's Slip, the patriots concluded that the Committee of One Hundred, then directing city affairs, was wrongfully allowing British troops to leave the city with vital arms and ammunition. The patriots of Water Street, disputing the Committee's conclusion that the troops could not be stopped without great loss of life, hastened to interfere and summoned their comrades to their assistance. They met the troops at the corner of Broadway and Broad Streets and, supported by a large crowd which had assembled, succeeded in capturing the British troops' arms and ammunition before allowing them to depart (Abbott 1929: 143).

Patriotism, however, could not sustain the block's economy. The war, British occupation of the city, and the subsequent Tory and British evacuation of 1783 left the city devastated. Patriot merchants fleeing the city in 1776-77 included the Schermerhorn family, one of the area's most prominent developers (Rosebrock 1975:7-8). The Schermerhorns held warehouses, a ship chandlery and lines of vessels trading between New York and Charleston, achieving an early vertical integration of trade (Harrington 1935: 61). The Schermerhorn's departure left the block without its bustling coastal trade. Although New York was the principal Tory port during the Revolution, the evacuation of the British Army and 30,000 loyalists in 1783 strained the city's economy. The disruption of the triangular trade by the war, the departure of many Tory merchants, and the effects of the long British occupation combined to produce

a post-war economic depression which persisted in the city until the European conflicts of the 1790s (Albion 1970: 1-7, Appendix G).

The 1784 Common Council minutes indicate the effect of the war on the Telco Block. The hulk of a large privateer owned by Frederick Rhinelander, a local merchant, lay in Beekman Slip, blocking access to its wharves. Two years later the vessel still lay in the slip (MCC I: 52-53, 230-231, MCC II: 252). Water Street, called the "emporium of foreign commerce" in 1783, was run-down and overcrowded (Rosebrock 1975:26).

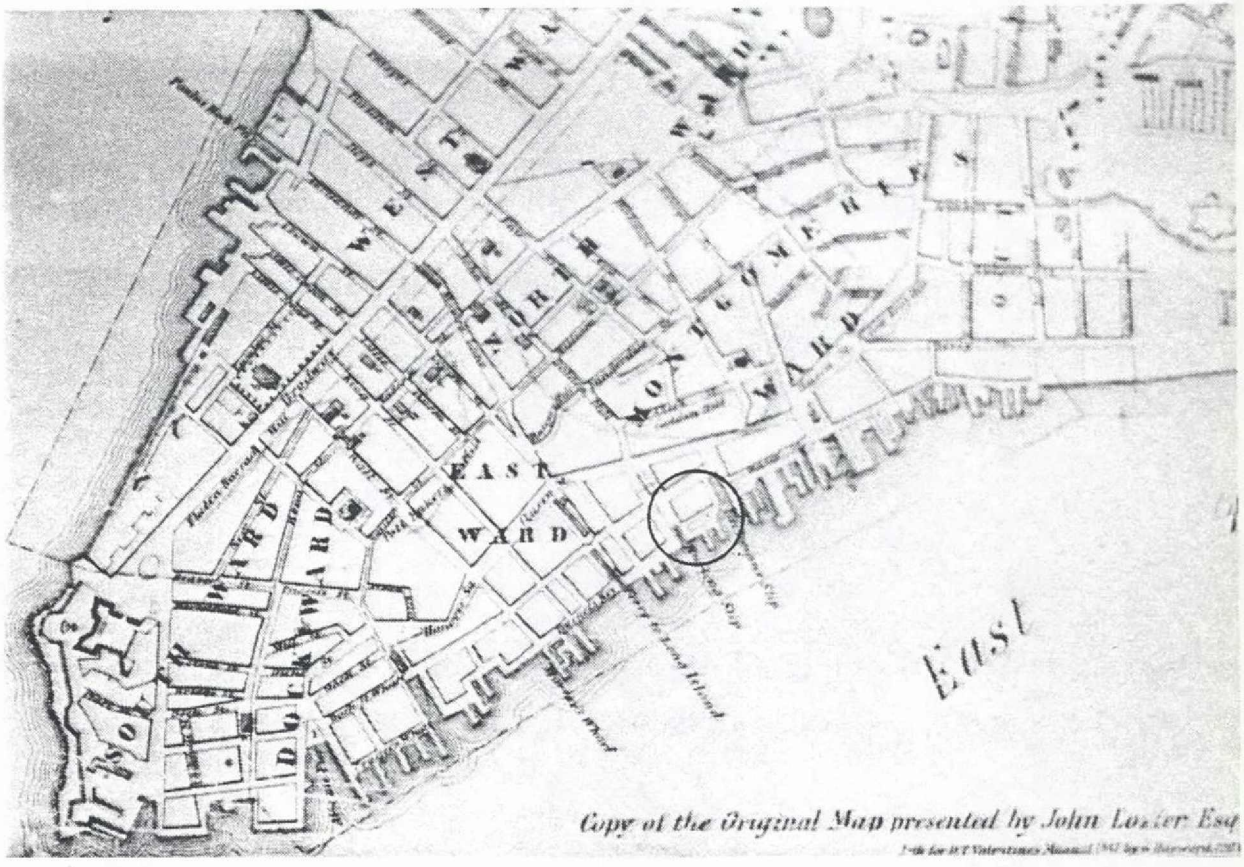
The beginning of the Napoleonic Wars reopened the West Indies trade and initiated a shipping boom. New York City's exports rose from $2,500,000 in 1792 to $13,300,000 in 1797, as New York assumed first place among the nation's ports (Gilchrist 1967: 70, Albion 1970: 1-7). The city's population grew rapidly in the postwar period. In 1785, the city housed 23,000 people; by 1790, 31,131 people crowded into the port, and in the next 10 years the population doubled to reach 61,529 (Blackmar 1979:136). The increase in trade and population initiated a building boom and landfilling operations that claimed valuable slips.

The Common Council commented in 1790 that the "increase of the City is naturally followed by a proportionable increase of the Coasting Trade, the harbours for which are at present scarcely sufficient." To prevent further filling of needed slips, the Council suggested that neighborhoods preserve "every Slip as wide and Capacious as possible." The Council believed preserving the slips was in general neighborhood interests, while filling them would benefit only a few landholders (MCC I: 589-590).

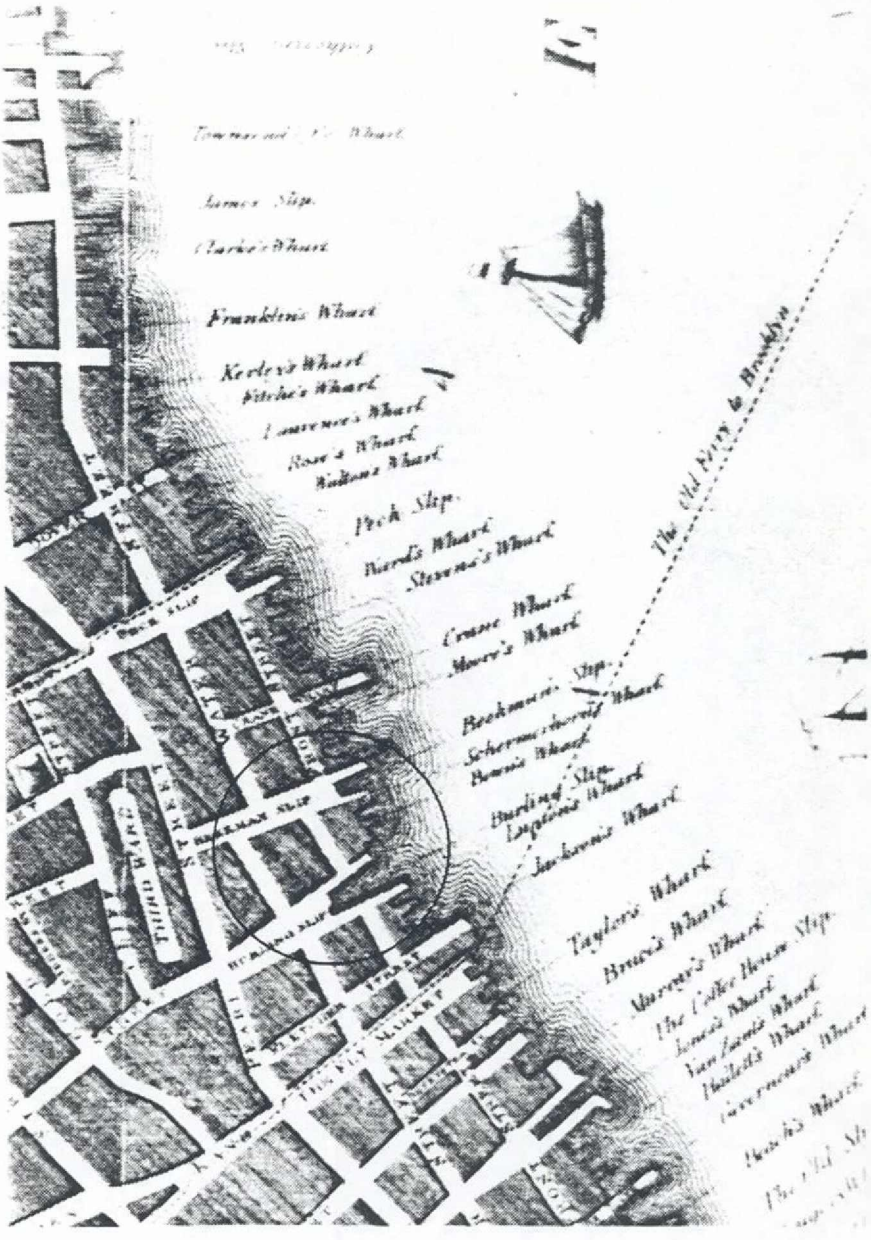
In the demand for space following the revival of trade, streets were expanded and, despite the Council's advice, slips were filled. Water Street was widened and paved with cobblestones in 1788-89 (MCC IV: 414). Front Street was pushed through to Peck Slip, two blocks north of the block, and paved in 1797 (MCC IX: 214). Burling Slip was filled almost to the line of Front Street by 1797, while Beekman Slip had been filled by 1772 (MCC VII: 341-342, 336; MCC VI: 258-259).

The demand for commercial space near the wharves resulted in the filling of the block east of the Telco Block between 1793 and 1807 (the Schermerhorn Row Block). South Street became the city's waterfront. The Telco Block became an inland block, removed from the dockside (Rosebrock 1975: 16).

As the docks and wharves moved east, the block's character changed. The new buildings constructed east of the block were tall, handsome brick structures in late Georgian Federal style. Their brownstone-quoined arched doors, wide shop windows, second-story balconies and slate-covered roofs contrasted with the older buildings on Front and Water Streets (Rosebrock 1975: 10-11). Front Street, as an English visitor described it in 1796, was "crowded with confused heaps of wooden storehouses built upon the wharves projecting one beyond the other in every direction" (Pomerantz 1938: 259). The wooden and brick-fronted houses and shop buildings were "run-down" according to another visitor (Rosebrock 1975: 10-11).



Map 7. A detail of the 1782 Hills Map, showing Telco Block filled and the Schermerhorn Row Block partially filled. Note the wharves extending from the Schermerhorn Row Block. (Courtesy of the Department of Anthropology, New York University)



Map 8. A detail of the 1797 Taylor-Roberts Map, showing the Telco Block filled, the Schermerhorn Row Block partially filled, and Schermerhorn's and Bown's wharves extending out into the river. (Courtesy of the Department of Anthropology, New York University)

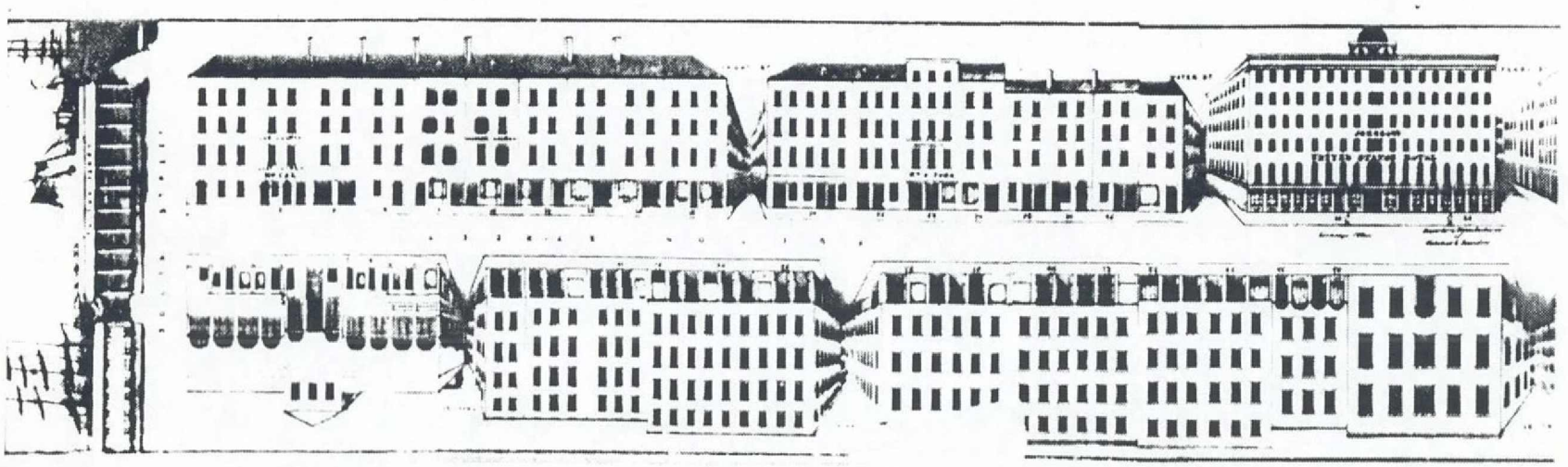


Figure 2.1. An 1849 drawing of the facades of the buildings on Fulton Street between South and Pearl Streets. The Telco Block is in the center of the top row of buildings. (Courtesy of the South Street Seaport Museum)

A major fire in December 1816 razed or heavily damaged most of the block's 30 to 40 buildings (New York Evening Post, Dec. 4, 5, 1816). Rebuilding began almost immediately and emphasized all brick construction to create "long narrow vistas of lofty red brick walls" which gave the block a uniformity and solidity it had previously lacked (Fig. 2.1, Rosebrock 1975:16).

The Telco Block's displacement from dockside commerce was not unique. Pearl Street, the principal "merchants' mart" of the seventeenth century, initially held the merchant's countinghouses where the port's business was transacted. Landfilling made it an inland block in the eighteenth century. By 1826, an English visitor observed that Pearl Street's activity was "only a drop in the bucket compared to that of the wharves and slips, the warehouses, docks and shipyards and auction stores on South, Front and Water Streets" (Lockwood 1976:20). In the late 1820s following the great fire, the block bounded by Front and Water Streets revived. Water and Front streets were "occupied by wholesale grocers or commission merchants, iron dealers or warehouses for the storage of merchandise and produce of every description" (Blunt 1828, Table 2.1).

D. Early to Mid-Nineteenth Century: The Growth of the Port of New York

Throughout the Colonial Period the port of New York had lagged behind Boston, Philadelphia, and Baltimore. By 1825, however, the city had captured a large part of the Southern cotton trade and had become the greatest American entrepot. New York's supremacy was made possible by its increasing ability to capitalize on its location and national economic developments.

The fortunes of America's seaport cities in the period before 1815 were largely determined by events in Europe. The outbreak of the Napoleonic Wars in 1792 restored the West Indies trade formerly controlled by Britain, France, and Spain. The Jeffersonian Embargo of 1807 and subsequent non-intercourse acts and the War of 1812, however, ended the trade boom of the 1790s and left the wharves idle (Gilchrist 1967: 58-59, Appendix G). John Lambert visited the port before and during the embargo and described its impact on the waterfront:

> The coffee-house slip, the wharfs and quays along South Street, presented no longer the bustle and activity that had prevailed there five months before. The port, indeed, was full of shipping; but they were dismantled and laid up . . . Not a box, bale, cask or barrel was to be seen on the wharfs (Still 1956: 74-75).

The prosperity of New York's waterfront was not completely dictated by European events, however. Beginning with the end of the Revolution and with growing significance after 1815, New York capitalized on its natural location and increased its commercial ties to the U.S. and the rest of the world. These developments gave New York a commanding commercial postion by the 1830s and in turn affected the Telco Block (Gilchrist 1967: 60,73).

New York had always benefitted from its large, well-protected, and centrally located harbor. Through the late eighteenth and early nineteenth centuries, environmental factors had made the East River the city's main trade artery. Unfavorable winds and winter ice drove most of the water traffic away from the Hudson River to the more sheltered East River. Nearby waterways, particularly the Hudson River, gave easy access to the American interior with its rapidly expanding population. Long Island Sound, the Upper and Lower Bays, and Newark Bay offered close, protected water and access to Connecticut and the eastern interior. The Narrows and the Atlantic opened New York to the American South and the rest of the world (Gilchrist 1967: 60, 74-75, 79; Appendix G).

The city and state of New York made early efforts to exploit fully their natural advantages. Following the 1790s trade boom the state legislatures granted 253 incorporations for turnpikes. With new, improved roads and a canal predating the Erie, the state strengthened its ties to vast interior domestic markets. In New York City, regularly scheduled transatlantic packet service (the Black Ball line) began in 1818, and various well-established coastal packet services and Hudson River steamboating gave the city superior transportation and communication services (Gilchrist 1967: 69, 71, 87).

External factors continued to influence the port's economy. The peace agreement of 1815 was followed by Britain's decision to "dump" its manufactured goods in New York City (Appendix G). The British decision made New York the central entrepot for the nation. Favorable auction legislation, beginning in 1817, facilitated wholesaling, attracting buyers from all over the country to the city (Gilchrist 1967: 70-71). In 1825, the opening of the Erie Canal channeled farm and industrial produce from the Middle West to New York Harbor to be exported in the city's ships (Gilchrist 1967: 110, Albion 1970).

These external economic developments shaping the port also affected the way people lived and worked on the Telco Block. As peace restored both European markets and lines of credit, New York shipping expanded and local craft production embraced a new American market. Master craftsmen reorganized and expanded production for the domestic market, ceasing to provide living accommodations for their workers and moving away from their shops (Johnson 1978: 40-42, 48, 52-53; Blackmar 1979: 143). Merchants, who in the Colonial Period lived near their investment property on the Telco Block, deserted the waterfront district for less crowded regions above 14th Street and in Greenwich Village. The pressure of rising commercial rents in the wharf district and with the desire to separate work from home combined to alter the character and class composition of the neighborhood (Blackmar 1979: 143-145).

The decline of the household system of production detached workers from employers and created a widespread need for residential neighborhoods. Between 1785 and 1815, land values in Manhattan increased 750% as a growing wage-earning class sought living space (Blackmar 1979: 140-141). On the Telco Block, merchants' residences and small artisan households were replaced by boardinghouses, shops, and offices. The city directories, which begin in 1786, indicate the growing size and social distance of the city. They show a decline in the number of residences on the block after the 1790s.

Real estate ownership patterns also shifted. Landowners adopted strategies to promote development and increase the value of their property. Some owners began to intervene in the tenants' use of leased lots by adding to the leases restrictive covenants which required substantial improvements. These policies added a new financial burden to leaseholding (Blackmar 1979: 143-144). In place of independent artisans leasing land to build their own shops and houses, investor merchants, entrepreneurs, brokers and shopkeepers either acquired the land or obtained long-term leases. They advanced capital for improvements and then sublet the new buildings to others who collected multiple rents from working-class tenants. Grocers, shopkeepers, tavernkeepers,and building tradesmen were those most likely to raise the capital necessary for purchasing long-term leases or new buildings (Blackmar 1979: 137). On the Telco Block, a nineteenth century pattern of land ownership by merchants and manufacturers and leaseholding by shopkeepers and grocers who rented to less successful artisans and grocers developed. This process continued the block's use as an income-producing investment for its owners but introduced a new group of middlemen and brokers who managed the property (Blackmar 1979: 139-140).

As neighborhoods for specific classes began to emerge between 1800 and 1840, the Telco Block became increasingly functionally specialized (Table 2.1). From the 1790s to 1825 Burling Slip held a boarding house, attorneys' offices, druggist and merchant residences, and flour merchants' and grocers' shops. Water Street housed wholesale grocers and included among its residents craftsmen such as coppersmiths, cabinetmakers, hatters and shoemakers. Front Street, closest to the waterfront, held the wholesale grocers and maritime aritsans, a boat builder, a sail loft, a tavern, and a boardinghouse. Grocers, victuallers and chandlers worked on Beekman Slip. After 1825, specialization in the area intensified as individual streets assumed a speciality. From the 1820s until mid-century, Burling Slip was a center for coopers and junk dealers. Water Street continued to house craftsmen, fur stores, and crockery merchants. Front Street was favored by commission merchants, wholesale grocers, and fruiterers. Fulton Street held chandlers, grocers, boardinghouses, woodenware merchants, and some artisans, continuing the earlier pattern of mixed occupational use (Appendix G). An 1852 survey of Lower Manhattan summarizes the relationship of the Telco Block to the surrounding area in the first half of the nineteenth century:

> South Street is occupied by the principal shipping houses, and the offices of most of the foreign packet lines. On Water and Front Street and the vicinity are the wholesale grocers, commission merchants and mechanics connected with the shipping business (Albion 1970: 266).

E. The East Side Port's Decline

During the 1840s manufacturers of cigars, glue, iron wire and cloth, paint, and agricultural implements, and warehouses for paper, cotton and tobacco began to share space with the commission merchants, grocers, and craftsmen (Appendix G; Table 2.1). Their presence on the block signalled both the end of the block's maritime function and the end of the East Side port's pre-Civil War commercial dominance. From the 1860s on, the neighborhood declined in commercial importance. The commercial center of the city, except for the insurance industry on John Street and the investment community on Wall Street, moved toward mid-town (Rosebrock 1975: 3).

The East River's dock, historically linked to foreign commerce, suffered as America's share of world shipping declined. Simultaneously, New York's growth as a domestic shipping center brought prosperity to West Side piers at the expense of the East Side. The West Side held two key advantages for domestic shipping. First, its extensive railway connections allowed for convenient transport of goods taken from the ships docked at West Side piers. Second, the Hudson's wider and deeper channels accommodated the large, new steam vessels (Appendix G, McKay 1934: 428-431).

By the 1890s, wholesale grocers, fruiterers, and fur merchants had vanished from the Telco Block. They were replaced by light industry and warehouses which persisted in the area until the 1930s. In the twentieth century, a factory, printing plant, and warehouses for chemicals, cork, cotton, and tobacco occupied the old maritime block. An increased demand for office and industrial space was also evident in the old port. In 1897, a ten-story building was constructed at 21 Burling Slip; in 1919, 15, 17, and 19 Burling Slip were incorporated into a single building, 145-9 John Street. Some small businesses which served local workers continued on the Telco Block, including a drug store, a barbershop, a saloon, and a luncheonette (Fig. 2.2). Workers in the industrial and office buildings of the late nineteenth and twentieth century block, unlike the earlier artisans and countinghouse clerks, lived away from their Telco Block workplaces. The citywide separation of residential and commercial areas was complete by the twentieth century.

The Telco Block bustled only during working hours during the late nineteenth and twentieth centuries. Developed for profit by its owners, the block's functions shifted with changes in the port and world economy. The new office tower on the block will only provide a working space rather than the integrated working and living spaces present in the eighteenth and early nineteenth century "walking city."

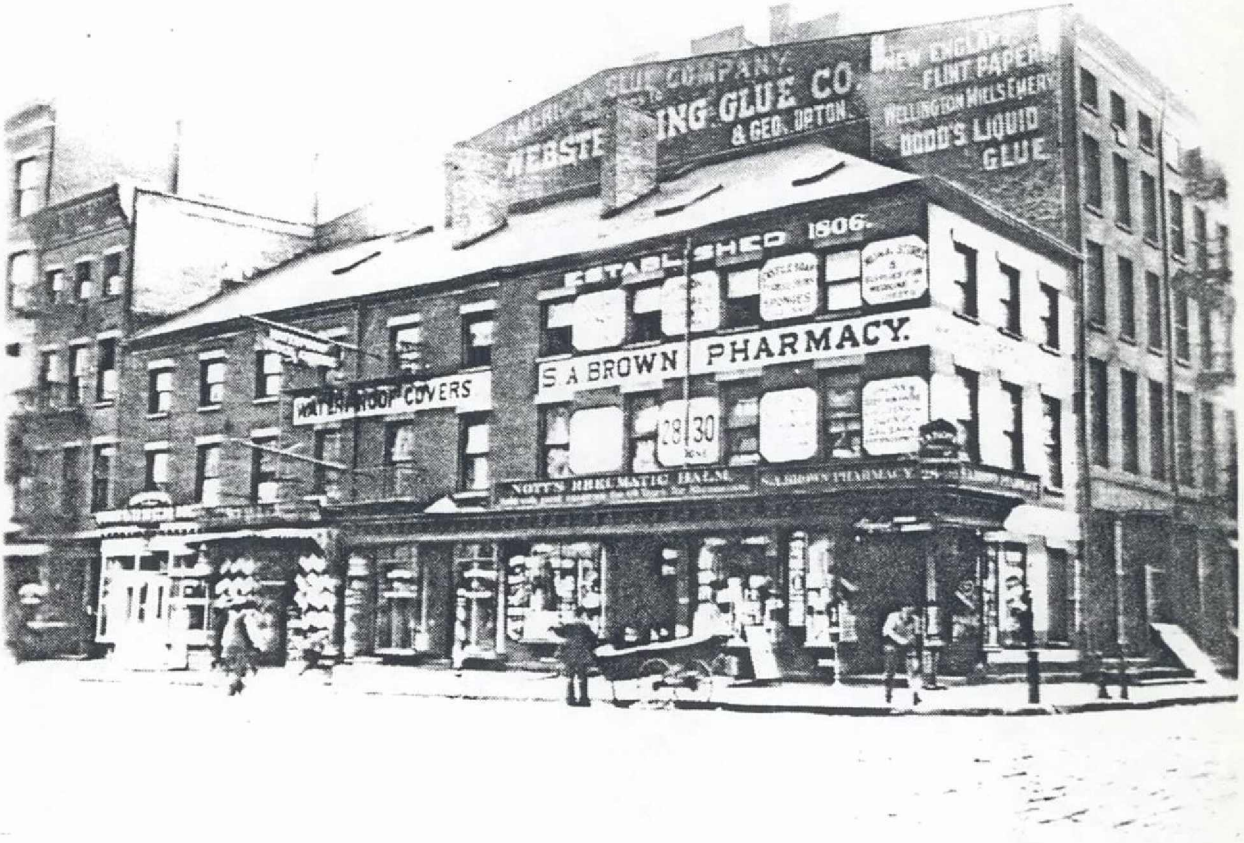


Figure 2.2. The Telco Block in 1910, looking southeast across Fulton Street. (Courtesy of the South Street Seaport Museum)

TABLE 2.1: The businesses on the excavated lots of the Telco Block, by decade, street, and lot. (N/A = not available; source is Appendix B)

Table 2.1a: Front Street

Lot Year	24	25	26	27	28
1790	boatbuilder	cooper	merchant		store
1800	boatbuilder	grocer	merchant/ tailor		N/A
1810	grocer	merchant	grocer/ clothing		sail loft
1820	merchant	merchant	merchant	merchant	sail duck store
1830	merchant	grocer	merchant	grocer	merchant
1840	commission merchant	grocer	wholesale grocer	wholesale dealer whale pro- ducts	fruits
1850	commission merchant	grocer	grocer	commission merchant linseed oil manufacturer	fruits commission merchant
1860	guano	naval stores	naval stores	merchant candles tobacco warehouse	merchant pickle ware- house
1870	N/A	N/A	fruits commission merchant	tobacco warehouse	N/A
1880	N/A	N/A	fireworks	tobacco warehouse	N/A
1890	N/A	tobacco house	N/A	tobacco warehouse	N/A

Table 2.1b: Water Street

Lot Year	37	38	39	40	41	42
1790	cutler		merchant	shoemaker	N/A	N/A
1800	brassfounder	N/A	N/A	shoe manufacturer	cabinetmaker hat store	N/A
1810	grocer hatter	grocer printer	cabinetmaker	cabinetmaker shoemaker grocer	cabinetmaker hatter	N/A
1820	saddler	fur store	vacant	vacant	vacant	stable
1830	fur store	fur store	N/A	wire manufacturer	N/A	crockery
1840	agricultural warehouse/ wire cloth manuf.	furs	N/A	N/A	N/A	crockery
1850	commission merchant	agricultural implements seed wire cloth manuf. machinist		tinware	wine & liquor importer	ploughs & agricultural warehouse
1860	cork cutter furs	agricultural warehouse		cork	merchant	ploughs & agricultural warehouse
1870	fertilizers & agricultural implements	agricultural warehouse		cork importer	guano	N/A
1880	fertilizers & agricultural implements	agricultural warehouse		cork importer	guano	N/A
1890	fertilizers & agricultural implements	N/A	N/A	cork	N/A	agricultural implements

Table 2.1c: Fulton Street

Lot Year	46	47	48
1810		vacant*	N/A
1820		victualler	N/A
1830	grocer**	victualler	boardinghouse
1840		grocer	N/A
1850		upholsterer wholesale fruit baker	wooden ware
1860		upholsterer cigar importer	clerk wooden ware
1870		cigar dealer	wooden ware
1880		N/A	N/A
1890		N/A	N/A

* occupants of Lots 46 and 47.

** occupants of Lot 46 only.

III. THE LANDFILL

> The made ground on the East river is pregnant with almost annual pestilence; it is now become enormously extensive; it was originally composed of the most corrupt material; from its relation to the river, and the condition of the wharves and slips, it must constantly remain moist; from its surface being level, it receives and retains the collected filth washed down from the higher grounds; and besides all this, the offensive and putrid matter, which a crowded population must necessarily deposit, and which already underlays a great proportion of this part of the city, incessantly augments the mass of corruption . . . The mode of construction of our wharves and slips would almost induce the belief that they had been designed for repositories of filth and nurseries of disease. (Edward Miller, MD, Resident Physician for the City of New York in Report on the Malignant Disease, Which Prevailed in the City of New York, in the Autumn of 1805: Addressed to the Governor of the State of New York.)

A. Introduction

Landfilling, or the process of making artificial land in underwater areas by depositing fill within retaining structures, has played an important role in the growth of New York City from the seventeenth century to the present, and is a response to the increasing value of land in densely populated and intensively used urban areas. Significant portions of the city have been built on made land, and it is estimated that more than half of lower Manhattan below Chambers Street is landfill (Kardas and Larrabee 1980). The landfill process was originally authorized under the provisions of the 1686 Dongan Charter. This charter allowed the city to claim:

> All the waste, vacant, unpatented and unappropriated lands lying and being within the City of New York and on Manhattan Island aforesaid extending and reaching to the low water mark. (quoted in Harris 1980:6)

The City could therefore grant water lots extending from the shoreline to the low water mark. The seventeenth century shoreline in the area of the Telco Block was at Pearl Street, one block to the west of the site, and the seventeenth century low water mark was at what is now Water Street (Harris 1980:6). The water lots for the block just to the west of the Telco Block were granted in 1692 (Harris 1980:15), and had been filled in to Water Street by 1722 (Harris 1980:16).

According to Harris, "The 1730 Montgomerie Charter extended the potential landfill area by granting the City the right to make land 400' below the low water mark. 'With full power authority at anytime thereafter to fill, make up, wharf and lay out all and every part thereof.' Most of the landfilling within the study area occurred after the enactment of this charter" (Harris 1980:6).

Landfilling's role in New York City's political and economic history as well as technical and legal aspects of landfilling are discussed in Sections II and V of this report and in an earlier report dealing with the Telco Block's history (Harris 1980). This information is summarized below.

Procedures followed *during* the eighteenth century expansion of the city's waterfront are described in surveyor's reports *on* file at the Topographic Division of the Manhattan Borough President's Office. The individual water lot grantee was responsible for both wharf-building and landfilling. The city's wharves followed the boundary lines of grants and existing streets. The grantees eventually filled in the spaces between previously filled or shoreline areas and the bulkheads or wharves, thus creating taxable real estate. The wharves became the property of the municipality but were leased to individuals. The implications of this arrangement have been discussed in Section II.

Little is known regarding the extent of capital and labor involved in landfill operations. The Minutes of the Common Council contain a 1688 entry ordering the use of slaves to finish a series of wharves and to fill and level "all vacant holes and spaces" in one of the landfill areas (Stokes IV:366). In 1691 the Common Council ordered the city's licensed cartmen to monitor the dumping of rubbish along the waterfront (Peterson and Edwards 1917:67). The leveling of lower Manhattan's hills generated clean fill (Stokes IV:376). The city's slips gradually silted up with sand and rubbish and dredging operations provided another landfill source. A Common Council entry in 1766 ordered the dredging of "50 scow loads of mud and filth" from Burling Slip (MCC 7:43). The slip was dredged again in 1768, 1769, and 1772. This gives an indication of the considerable volume that would be available for landfill within the period that such operations were conducted at the Telco Block.

The Common Council minutes, deeds, water lot grant texts and eighteenth century maps suggest a specific sequence of landfill episodes within the study area. These documents, examined prior to excavation, in combination with foundation wall and basement depth information, indicated that many of the eighteenth century structural features associated with the landfill process (piers, wharves, and bulkheads) remained intact beneath the nineteenth century basement floors. Five backhoe trenches were placed to insure that six out of the eight original water lots were examined. Our basic field objectives were 1) to sample the fill and 2) to record features associated with landfill technology. Both subsequent analysis of the temporally diagnostic artifacts from the deposits which comprise the fill and the study of the spatial arrangement and nature of the fill-retaining structures are oriented toward a fuller understanding of the landfill process as executed in the mid-eighteenth century.

This section of the report outlines all aspects of the excavations of landfill on the Telco Block, our earliest resource. We will discuss the landfilling sequence as revealed in existing documents (for a more general discussion consult Section II), then relate it to the actual excavation sampling strategy and methodology employed. We will also describe the structural features, artifactual content and stratigraphy found in each of the five trenches. We will draw inferences refining what is already known from the documents and attempt to clarify the nature of the technology involved and the actual rate of the filling process, two issues not resolved in the documentary sources cited above.

B. Documentary Evidence for Landfill Sequence

1. Filling Prior to 1756

The project area's landfill history begins in 1692 one block inland from what is now the Telco Block, in an area which was as yet unclaimed from the East River. This area was bordered along the western edge of the river by what was to become Pearl Street. The 1686 Dongan Charter had given the city rights to make land between the high and low water marks and, in doing so, set the stage for creating taxable real estate between present day Pearl and Water Streets. The nine grantees of the unfilled lots along the existing shoreline between Wall and Fulton Streets received permission from the Common Council to obtain landfill by digging " . . the hill by Mr. Beekman's" (Stokes IV:376). The lots on the block described above, when completely filled, became the basis of all chains of title for the Telco Block properties because the Telco water lot grants (1737-1756) were extensions of a series of 1692 Water Lot Grants awarded in this neighboring block (Harris 1980:15). This latter block is visible in the 1717 Burgis View. In the foreground are the wharves which would ultimately underlie the Telco Block. Van Borsam's and Latham's shipyards can also be seen (Fig. 3.1).

Most landfilling in this area seems to have been accomplished through the granting of water lots to those already possessing waterfront property inland from the potential water lot. After the 1730 Montgomery Charter gave the city rights to an additional 400 ft below low water mark (Water Street to South Street), we see this pattern continuing. Five of the eight water lots on the Telco Block were awarded as specific grants between the years 1737 and 1756 and recorded in standard form in Grants of Land Under Water on file at the Topographic Bureau of the Borough of Manhattan. No water lot grants were ever recorded for the block's three central and probably earliest filled parcels (A, B, and C). All landfilling prior to 1756 is discussed below on a parcel-by-parcel basis (Fig. 3.2).

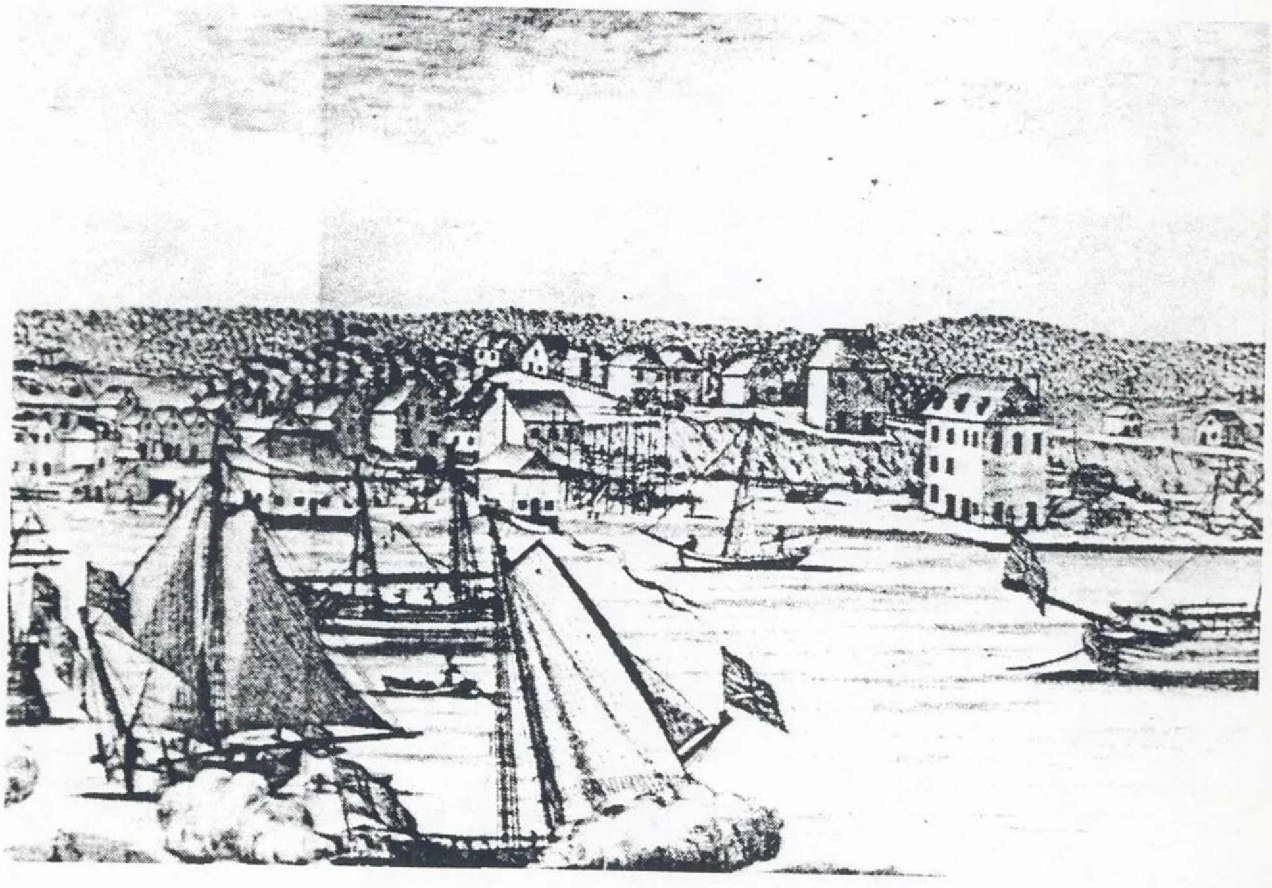


Figure 3.1. A detail of the 1717 Burgis View, showing the shipyards across Water Street, just to the west of the Telco Block, before the block was filled. (Courtesy of the South Street Seaport Museum)

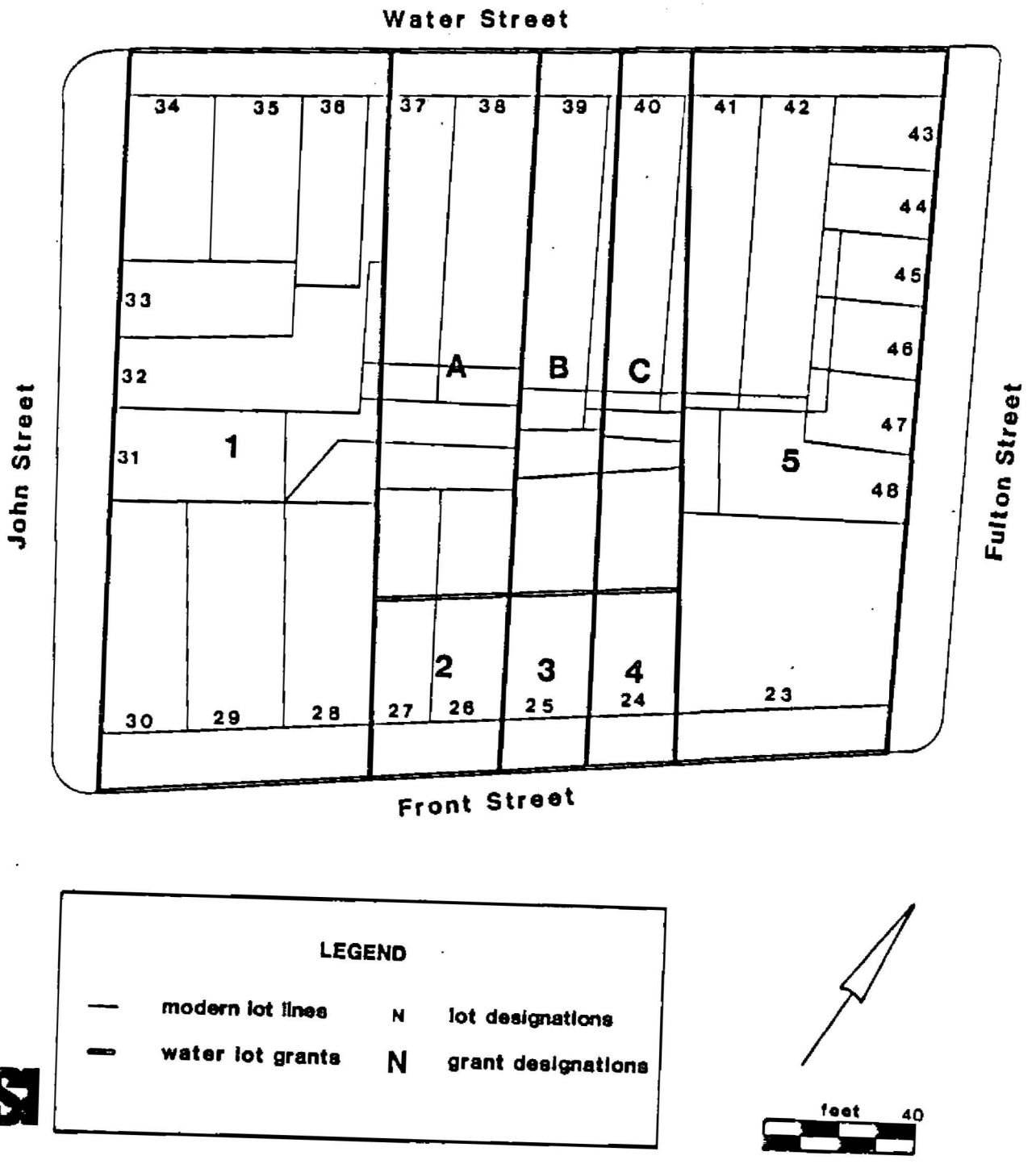


Figure 3.2. Map showing the division of water lots, 1719-1756.

a. Parcels A, B, and C 1719-1755

The right to made land in the area of the river which became Lots 37, 38, 39, and 40 and also the western portions of Lots 27, 26, 25, and 24 (which will be designated throughout the text as 37/27, 38/26, 39/25, 40/24) is traceable to provisions outlined in a deed held by an owner of property on the block described above immediately west of the Telco Block. A February 5, 1712 Common Council decision (recorded in Liber 35 page 159) granted to Bartholomew Feust the right to extend his 87 ft wide parcel 130 ft beyond low water mark (Water Street) into the river, the Telco Block being at that time unfilled. The council also granted Feust ". . . liberty to run out a dock or wharf to the extremity thereof or so far thereof as he should think fit and convenient not exceeding one hundred and thirty feet . . ." (Liber 35 page 159). His widow Magdalene subdivided the parcel in 1717 (Liber 28 page 309, Liber 30 page 92), which then consisted of land between Pearl and Water Streets, and the as yet unfilled parcel which was to become part of the Telco Block.

Feust's deed and a 1763 surveyor's map (Map 4) describe Lots 37/27, 38/26, 39/25, and 40/24 as being granted to shipbuilder Joseph Latham (Stokes 1:296) and to the prominent Jewish merchant Lewis Gomez by Governor Hunter in 1719. This suggests that the central section of the block, although it lies beyond low water mark (thus falling under the provisions of the 1730 charter) could have legally been filled prior to 1730, independently of either charter and under separate provisions conferred by Governor Hunter in 1719.

Two early eighteenth century maps indicate that the property owners did not immediately act on the landfill rights which they had been granted. The 1728 Lyne Survey (Map 1) and an unsigned map dating to 1732-35 (Stokes I: Plate 30) show the shoreline at Water Street, which was at that time the site of a 30 ft wide wharf built by the earlier water lot grantees (Stokes IV: 376; Harris 1980: 17).

Landfill operations in Parcel A (Lots 37/27 and 38/26) apparently predate shipbuilder Henry Van Borsam's 1737 water lot grant for Water Lot Grant 1, comprising the southern third of the block. On June 11, 1737 a Common Council committee reported on its survey of the intended water lot and described it as lying between Van Clyff's Slip (John Street) and ". . . the ground of Lewis Gomez" (MCC IV: 376). This description reappears in the text of Van Borsam's 1737 grant (Grants of Land Under Water, Liber B page 296). Documentary evidence thus suggests that the earliest landfill on the Telco Block could not have occurred before 1719 (1763 Willis Map) and, more specifically, that it did occur between 1732-35 (unsigned map Stokes I: Plate 30) and 1737 (MCC IV: 376) within Lots 37/27 and 38/26. The following points remain unclear: 1) whether Gomez, who owned the parcel in question with rights to landfill between 1717 and 1739 actually filled in the entire 130 ft length (Liber 28 page 309, Liber 32 page 151, Liber 35 page 159), thus including the westerly portions of Lots 27 and 26; 2) whether Parcels B (Lot 39/25) and C (Lot 40/24) were also filled prior to 1737; and 3) whether any filling at all actually occurred in Lots 37 and 38 by 1737 as indicated above.

A conflicting description in a 1739 deed describes Parcel A as yet unfilled (Liber 32 page 151). Given the existing documentation, we think it is more likely that the westerly area of Parcel A (Lots 37 and 38) was filled between 1732-35 and 1737.

The eighteenth century maps vary in accuracy, the Grimm Map (drawn from memory) possibly being the least reliable. His Plan of the City and Environs of New York as They Were in the Years 1742, 1743 and 1744 (Map 2) depicts two structures on Water Street's east side midway between present-day John and Fulton Streets. These are probably storehouses located on the site of what is now Lots 37/27, 38/26, 39/25, and 40/24 in an area now under Water Street. Two explanations exist for the structures' exact location. Between 1738 and 1742, Lots 37/27, 38/26, and 39/25 belonged to a single owner, Robert Bowne. One structure may have occupied this parcel, with another on Lot 40/24. In 1742 Lots 37/27 and 38/26 were conveyed to Evert Byvanck (1763 Willis Map), and this parcel probably held one structure, as shown 20 years later on the Willis Map. The remaining structure would have occupied either Lot 39/25 belonging to Robert Bowne (Liber 32 page 105) or Lot 40/24 belonging to James Rennaudet (Liber 25 page 159).

By 1755, the Maerschalk Map (Map 3) shows these parcels filled to the 130 ft line, and depicts three structures in the central section of the block. The positioning of Byvanck's storehouse on the later Willis Map (1763; Map 4) suggests that of the 1755 structures, one occupied Lots 37/27 and 38/26 and the remaining two were on Lots 39/25 and 40/25.

Parcels A, B, and C were filled to the full 130 ft beyond low water mark (Water Street) by 1756. In that year a series of three water lots was granted to the owners of these parcels for an additional 70 ft beyond the original 130 ft granted them through the chain of title described above. The texts of these 1756 water lot grants describe Parcels A, B, and C as filled (Grants of Land Under Water, Liber C pages 146, 151, 157).

b. Water Lot Grant 1: Henry Van Borsam 1737

Although this parcel is the block's first water lot grant, it does not represent the earliest landfilling episode. Henry Van Borsam's 1737 grant measured 71 ft 3 in along Water Street (which he was responsible for widening from 30 ft to 45 ft) and measured 200 ft into the East River, terminating at the present site of Front Street where he was to construct a 40 ft wide wharf paralleling the East River (Grants of Land Under Water, Liber B 296). The lines of the lot were not laid out until 1740 (MCC IV: 496) and the 1742-44 Grimm Map (Map 2) suggests that a relatively small section of the lot had been filled, although no structure had as yet been erected in the early 1740s. The 1755 Maerschalck Map (Map 3) shows slightly more than half the granted area filled and a single structure erected fronting on Water Street.

c. Water Lot Grant 5: Stephen Van Cortlandt - 1750

This lot, comprising the northern third of the block, was originally granted to Stephan Van Cortlandt, a member of the politically powerful Van Cortlandt family, who in addition to their commercial interests also controlled vast tracts of land in Westchester and Dutchess counties (Bonomi 1971: 60-63).

The grant measured 55 ft 8 in along Water Street and extended 200 ft into the East River. Like Van Borsam, Van Cortlandt was responsible for widening Water Street from 30 ft to 45 ft and for constructing two wharves, one to be 40 ft wide paralleling the newly created waterfront, thus becoming an extension of Burnett's Key (Front Street), and the other to be 15 ft wide paralleling Beekman Slip (Fulton Street) (Grants of Land Under Water, Liber B page 408).[1]

By 1755 slightly more than half the granted area had been filled. The Maerschalck Map of this year (Map 3) depicts a single structure fronting Beekman Slip (Fulton Street) in the middle of the filled area.

The question of whether a pier existed along the southern side of Beekman's Slip emerges again in 1764. John Berrien, owner of a subdivision of the then partially filled Van Cortlandt grant (Liber 194 page 151) was given liberty to "lay a pier of 18 feet on the northeast side of his dwelling house fronting Beekman's Slip" (MCC I: 156). The pier to be constructed could be replacing or extending Van Cortlandt's pier. It is also possible that Berrien built the first pier on the south side of Beekman's Slip, Van Cortlandt having never completed the pier described in the water lot grant.

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1. The section of the water lot grant text describing the second wharf's location is problematic. The provisions of the grant include the construction of a " . . .wharf or street of fifteen foot English measure in breadth on the Inward part of the water lot number five granted contiguous and adjoining to the street called Water Street." The location of this wharf could be either a) paralleling Water Street or b) paralleling Beekman's Slip (Fulton Street). We support the second interpretation for two reasons: 1) The first interpretation would mean that the grantee was charged with building an inland wharf, and 2) grantees routinely built wharves at the end or shoreline of their grant. A series of 1692 water lot grants for the block north of to the project area contained provisions mandating the construction of a 30 ft wide wharf at the present-day site of Water Street (Stokes IV:376).

2. Filling Between 1756 and 1776

The 1755 Maerschalck Map (Map 3) and the 1756 water lot grants (Grants of Land Under Water, Liber C pages 146, 151, 157) suggest that Water Lot Grants 1 and 5, and Parcels A, B and C had been filled to the same point forming a continuous band of made land between Lyon's and Beekman's Slips (John and Fulton Streets) extending approximately 130 ft from Water Street by 1756. Post-1756 landfilling is discussed below on a parcel-by-parcel basis (Fig. 3.2).

a. Water Lot Grant 1

A 1762 partition deed for this parcel indicates that by this date it had been filled except for Lots 30, 29, and 28 (only the backyard area of Lot 28 is shown as made land) (Liber 36 pages 72, 100, 110). Ratzen's 1767 Map (Map 5) depicts filling to the same extent five years later. The Holland Map of 1776 (Map 6) shows that by that year the landfill had reached Front Street. The landfill is again depicted as completed in J. Hills' 1782 Map (Map 7).

b. Water Lot Grants 2, 3 and 4: 1756

Evert Byvanck, Margaret Bowne and Mrs. Bolito Rennaudet received water lots opposite their respective landfilled parcels in 1756. Byvanck's parcel, the southernmost of the three, bordered Water Lot Grant 1 on the south and measured 37 ft wide. It extended 70 ft out into the river with 40 ft taken out for Front Street at the eastern or river end (1827 Erwin Survey). The water lots granted to Margaret Bowne and Mrs. Rennaudet (the latter bordering Stephen Van Cortlandt's water lot grant on the north) each measured 25 ft in width fronting the grantees' already filled parcels, and each extended 70 ft in length into the East River with 40 ft taken out at the eastern or river end of Front Street. These water lots apparently remained unfilled for at least ten years (1767 Ratzen Map, Map 5).

In 1763 city surveyor Samuel Willis produced a detailed map of Lot 37/27 and Lot 38/26 (Map 4). Two structures are shown, one occupying Lot 37 fronting on Water Street which was then 45 ft wide, and the other labelled "E. Byvanck's store house," set back approximately 45 ft from Water Street and straddling Lots 37/27 and 38/26. It is unclear here whether any additional filling had occurred since 1755.

Ratzen's 1767 Map indicates that the project area's shoreline had not changed between 1763 and 1767 (Map 5). A series of wharves, however, had been built surrounding the block, including one which protruded into the river from the 1750 shoreline point (Parcels A, B, and C being filled to approximately 130 ft from Water Street as shown above). This wharf and its subsequent extensions (into the area now occupied by Front Street and Schermerhorn Row) became the Bowne-Byvanck wharf which was assessed at 400 pounds in the 1789 tax rolls. We suggest that its precise location followed the 26/25 lot line because 1) its placement on the 1767 and later maps is too far north to be following the Water Lot 1 and 2 boundary line and too far south to be following the Water Lot 3 and 4 boundary line; and 2) its designation "Bowne/Byvanck" suggests that it straddled property belonging to these individuals. Evert Byvanck owned Lots 26 and 27 between 1742 and 1799 (Willis Map 1763,

Map 4; Liber 56 page 531). Bowne owned Lot 25 between 1738 and 1807 (Liber 32 page 105, Liber 77 page 406). There was thus a Bowne/Byvanck border during the years that the wharf and its extensions are shown on the maps (1767 Ratzen Map, Map 5; 1782 J. Hills Map, Map 7; Taylor Roberts Map, Map 8). Thus, we can be fairly certain that the wharf and its extensions followed the Lot 26/25 boundary line on the Telco Block and the Lot 11/12 boundary line in the Schermerhern Row Block.

The final filling of the central section of the block occurred between 1767 (Ratzen Map, Map 5) and 1776 (Holland Map, Map 6; David Grimm Map of the Great Fires of 1776, 1778).

c. Water Lot Grant 5

By 1755 Water Lot Grant 5 had been filled so that its eastern or shoreline border together with the easternmost borders of the neighboring Telco Block parcels formed a continuous line approximately 130 ft east of Water Street (1755 Maerschalck Map, Map 3; Grants of Land Under Water, Liber C pages 146, 151, 157). Filling did not extend beyond this point until at least ten years later (1767 Ratzen Map, Map 5). The 1776 Holland Map (Map 6) and the 1776-78 Grimm Map provide the earliest indication that the filling of this northernmost parcel had been completed to the edge of Front Street.

3. Summary and Conclusions

Documentary research performed prior to excavation suggested a specific sequence of filling episodes, a series of landfill features, and also the location of structures built before landfilling was completed. These have been discussed here in detail. The following is a brief summary of the information presented above.

a. Landfill

The earliest filling occurred in the center of the block, in the area fronting Water Street (it should be noted that Water Street was widened in the 1950s, thereby removing some of the first landfill on the Telco Block from the bounds of the project area).

The western section of Parcel A (Lots 37 and 38) was at least partially filled between 1732-35 and 1737. Although Parcels B and C were completely filled by 1755 the exact date of their filling remains unclear. The western end of Water Lot Grant 1 (Lots 34, 35, 36, and possibly Lots 33 and 32) was filled between 1740 and 1742-44. Slightly more than half of Water Lot Grant 5 (Lots 41, 42, 43, 44, 45, 46, 47 and possibly 48) was filled between 1750 and 1755. The unfilled areas of the block remained so for at least ten years. In 1762 Lots 30, 29, and 28 were as yet unfilled. In 1767 Lots 30, 29, and 28 as well as the eastern sections of Lots 27, 26, 25, 24 and Lots 23 1/2, 23 1/4, and 23 were still under water. These lots, which would include parts of Water Lots 1 and 5 and all of Water Lots 2, 3, and 4, representing the eastern third of the block, were finally filled between 1767 and 1776.

This lapse in the filling process can probably be traced to the depression following the Seven Years War. During the 1760s New York building construction entered a particularly moribund period. A 1765 observer noted that:

> Trade in this part of the world is come to so wretched a pass that you would imagine the plague had been here, the grass growing in most trading streets (Quoted in Nash 1979:250).

We have concluded that the landfilling of the Telco Block was accomplished in approximately forty years beginning in ca. 1735 and completed by 1776. Furthermore, filling occurred in four fairly discrete episodes and we can link the spatial limits of some of these episodes to modern lot lines.

b. Landfill Retaining Structures

The 1767 Ratzen Map (Map 5) shows the partially filled Telco Block lined by what appears to be a series of wharves and bulkheads. These are the structures described in the water lot grants, deeds, and minutes of the Common Council.

One pier, lining Burling Slip along the southern edge of Water Lot 1, is not within the bounds of the project area. A fill-retaining structure running the length of the block from north to south marks the line from which the 1756 Water Lot Grants would extend from the ends of Parcels A, B, and C. This structure or sections of this structure would lie within Lots 27, 26, 25, and 24 at a point approximately 130 ft south of the eighteenth century site of Water Street.

A second pier extends into the East River from what is apparently the block's midpoint. This pier (and its extensions) was subsequently called the Bowne/Byvanck Wharf (1789) and followed the Lot 26/25 lot line. It could possibly date to the early 1740s. Following the filling in of the area surrounding the wharf between 1767 and 1776, the wharf was extended beyond the present site of Front Street. It appears again in a 1782 map (Map 7) and a 1789 map (Map 8) following what is now Schermerhern Row's Lot 11/12 boundary line.

Another wharf is seen on the block's northern edge, bordering Van Cortlandt's 1750 water lot at Beekman's Slip. This structure dates either to the 1750-55 filling of Water Lot 5 or to 1764 when the Common Council charged the parcel's owner with construction of an 18 ft wide pier.

By the late 1780s Beekman and Burling Slips had been filled to Front Street thus rendering the piers, wharves, and bulkhead (excepting a wharf at Front Street) useless (Kardas and Larrabee 1979:21-22).

c. Structures

Several structures are known to have existed during the period (1742-44 to 1767) when the block was only partially filled. There were two storehouses in Lots 37/27 and 38/26 in the 1760s. The smallest fronted Water Street within Lot 37 and is not within the bounds of the project area. The other, a large store house, was set back approximately 90 ft from what was then (1763) the 45 ft wide Water Street. In the 1750s structures may also have occupied Lots 39 and 40. A fifth structure stood within the bounds of Van Cortlandt's grant, at the site of present-day Lots 46-48. An additional structure stood near the corner of John and what was then Water Streets and is thus not within the bounds of the project area.

d. Shipyards

Stokes' (I:296) commentary on the 1717 Burgis View (Fig. 3.1) places two shipyards just to the west of the as yet unfilled Telco Block. One yard belonged to Egbert Van Borsam and was west of Water Street opposite Lots 34, 35 and 36 (not in project area). The second, belonging to Joseph Latham, was west of Water Street opposite Lots 38, 39, and 40 (see also Liber 28 page 538, Liber 30 page 92).

The field investigations of the landfill were designed to allow an adequate sampling and recording of the three aspects of the landfilling discussed in the Introduction to this section (fill-retaining structures, buildings erected on the block before the landfill process was completed, and the fill itself). A description of the methodology employed and an analysis of the landfill excavation follows.

C. The Excavations in the Landfill

1. Methodology

Five backhoe trenches (Backhoe Trenches I, J, K, M, and N; see Fig. 1.2) were excavated in order to sample the landfill. The trenches were placed to find features such as bulkheads, docks, and ships, and to retrieve a sample of artifacts which could be used to help in dating the landfill episodes. None of these trenches were put in the backyard areas, where their excavation would have destroyed important occupational deposits. The location of the trenches ensured that six of the eight original water lots were examined. Lots 39 and 40 and the western part of Lots 24 and 25 were more intensively sampled with two trenches, as the water lots here had been owned by a ship-builder who had his shipyard directly across Water Street. It seemed likely that if a ship had been incorporated into the landfill on the project area, it would have been in association with this shipyard. Five of the trenches were extended across the property lines of the water lots in order to look for fill-retaining structures. No trench was placed in Lot 23, as the most recent structure in this area is documented as having a deep basement, with foundation walls extending to a depth of 12 ft (City of New York, Department of Buildings, 1896).

These trenches were dug in approximately 3 ft wide by 10 ft long sections and were excavated in ca. 1-ft arbitrary levels within each section. The highest level in each section consisted of the basement floor and the floor's bedding. A flotation sample was taken from each level, and about 30 gallons of the deposits from all but the uppermost levels in each section were screened through quarter-inch wire mesh. The profiles from each of the trenches were drawn and photographed. In cases where bulkheads or other structural features were found, these features were exposed and recorded. Each of these trenches was terminated at the depth where features were encountered (for example, Backhoe Trench K, Lots 38 and 39) or when the sides of the trenches became so unstable as to be unsafe. The depths of the trenches ranged from ca. 2.5 to 9 ft below the basement floors.

Another backhoe trench (Backhoe Trench AO) was dug from east to west across Lot 26 in order to look for additional landfill features. None of the deposits from this trench were screened. In all, more than 1000 sq ft of the landfill was excavated in order to examine the fill and its associated features.

The next section consists of a unit-by-unit description of these excavation and their results.

2. A Description of the Excavation

a. Backhoe Trench K in Parcels A, B, and C

i. Introduction

This test, extending through Lots 38, 39, and 40, enabled us to sample this fill in Parcels A, B, and C. The westernmost areas of these parcels are now under Water Street, which was widened in the 1950s. Thus much of the area which we would have been interested in testing was not part of the project area. Backhoe Trench K was therefore placed as close to the western edge of the study area as possible.

Lots 38, 39, and 40 were considered sensitive due to the presence of eighteenth century boatyards on the west side of Water Street (Stokes 1:296; Liber 28 page 538, Liber 30 page 92). We had also developed a series of research questions pertaining to the sequence of fill episodes within these three parcels. Parcel A (containing Lots 37 and 38) was probably filled between 1732-35 and 1737. However, the documents were less clear as to when Parcels B and C had been filled. We approached this problem through the analysis of both the fill and fill-retaining structures.

ii. Backhoe Trench K: Landfill Stratigraphy

Backhoe Trench K: Section 1 (Fig. 3.3)

The first of Backhoe Trench K's four sections was in Parcel A and extended across approximately half of Lot 38. At sea level a wooden box was discovered in the southern part of the section. The box, measuring 48 in. by 36 in., was intrusive into the fill and was excavated later by hand as Test Cut AX (see Section IV). A spread-footer complex supporting the Lot 38/39 lot wall marked the northern end of Section 1.

Stratigraphy here consisted of the trench associated with the installation of the box (Stratum 5) intrusive into the Lot 38/39 spread-footer builder's trench. Stratum 7 represents the spread-footer builder's trench. Both trenches were underlain by a sandy reddish brown silt which began at approximately 10 in. below mean sea level.

Backhoe Trench K: Section 2 (Fig. 3.4)

Section 2 extended across the southern half of Lot 39 in Parcel B and measured 2 ft by 8 ft. Within the second level, at a depth of approximately 12 in. below mean sea level, the uppermost portion of a wooden barrel was discovered. The barrel, later identified as mahogany (Donna Christensen, U.S. Forest Products Laboratory, Madison, Wisconsin) was designated Test Cut AW and was hand excavated at a later date (see Section IV).

Backhoe Trench K: Section 3 (Fig. 3.4)

Section 3 measured 2 ft by 9 ft and extended across the northern half of Lot 39, in Parcel B. A total of three 1 ft levels were excavated, level 3 terminating at a depth of approximately 34 in. below mean sea level. None of these levels were deeper than the disturbance associated with the spread-footer complex builder's trench. The Lot 39/40 spread-footer complex marked the northern end of Section 3.

Backhoe Trenck K: Section 4 (Fig. 3.5)

Section 4 measured 3 ft by 22 ft and extended across Lot 40 (Parcel C). A total of seven 1 ft levels were excavated in Section 4. However, collapsed trench walls prevented the final four feet from being included in the profile.

The northern side of the Lot 39/40 spread-footer complex was of interest because of an apparent double system whereby one set of spread-footer planks underlay the other. Two distinct builder's trenches were evident in the profile indicating that two events were represented. The lower spread-footers would thus predate the upper. The builder's trenches were underlain by three additional strata; these were Stratum 15, a very fine brown sandy silt, Stratum 12, a very fine brown sandy silt with clay, wood chips and shell, and Stratum 16, a red brown sand. The deeper strata do not appear in the profile because of cave-ins.

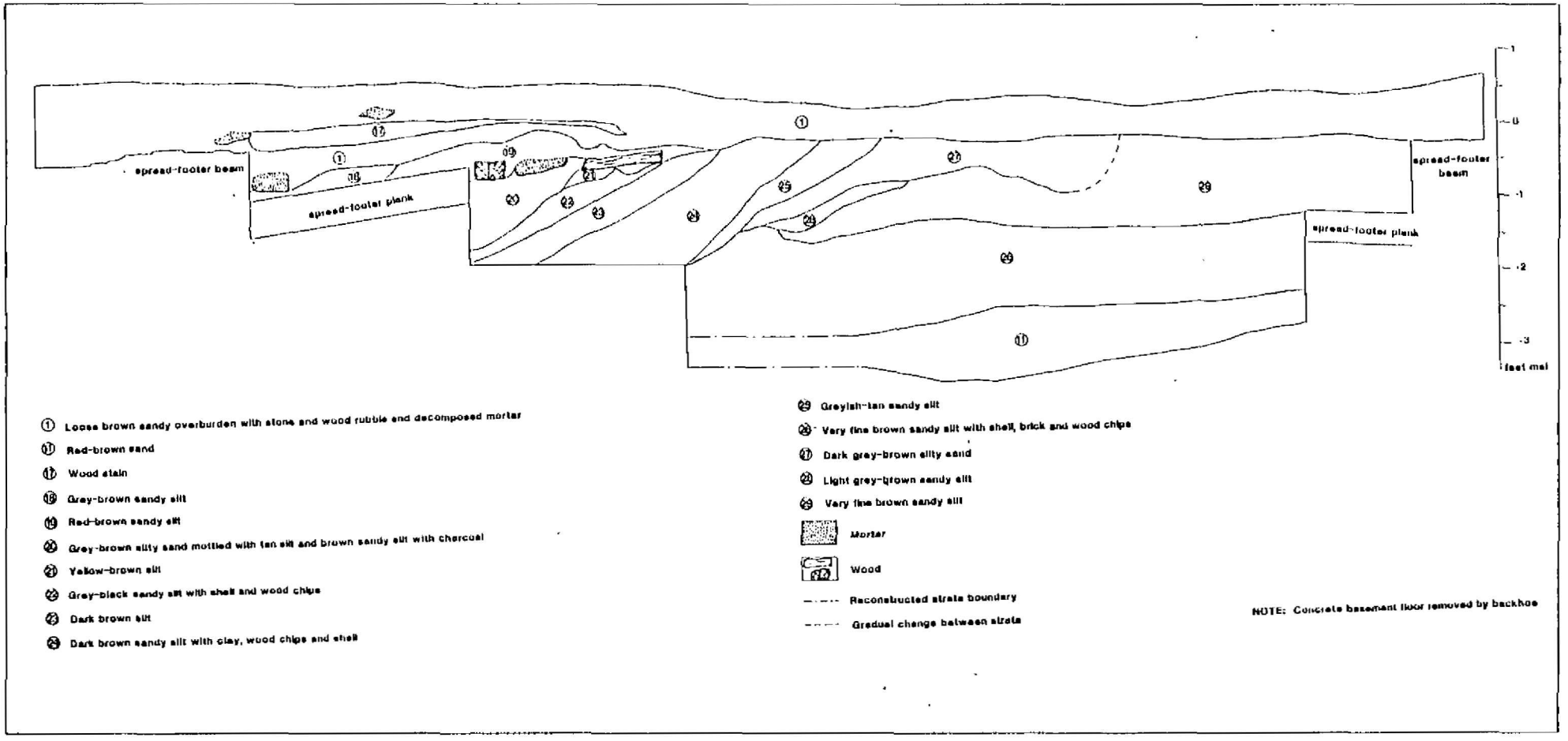

Figure 3.5. Profile, west wall of Backhoe Trench K, Section 4, in Lot 40.

Temporally diagnostic ceramics from Strata 12, 15 and 16 (retrieved during excavation of Shovel Test T) were solidly eighteenth century. The 106 datable ceramics retrieved from the five levels in Section 4 which did not contain intrusive materials from the builder's trench had a mean date of 1737.50 (s=13.07). Of these datable fragments, 101 represented types with pre-1740 dates of introduction. Only one creamware fragment was present (introduced circa 1762); this suggests that our sample was relatively uncontaminated by intrusive materials. This time range is consistent with the results of excavations in Lot 40's backyard, also part of the same landfill episode. Ceramics recovered from the landfill levels in the Lot 40 backyard also had mean dates in the 1730s and, here again, there was relatively little contamination from overlying deposits.

iii. Backhoe Trench K: Conclusion

The homogeneous nature of the fill in Backhoe Trench K suggests that no stratigraphic and therefore temporal differentiation exists between the western sections of Parcels A, B, and C. The pre-1737 filling of Parcel A had been fairly well established using documentary sources, although the fill history of Parcels B and C remained unclear. The ceramic content of Backhoe Trench K Section 4 and from the fill levels of the Lot 40 backyard (see Section IV) suggests that this part of Parcel C was filled at the same time (the 1730s) as Parcel A. Since no discernable stratigraphic breaks were found in Backhoe Trench K, we will assume that Parcel B is also part of the same episode. However, as discussed in the section dealing with Backhoe Trench J, the filling sequence which created the eastern ends of these parcels is slightly different.

No evidence of earlier structures or of Joseph Latham's eighteenth century shipyard was found during the excavation of Backhoe Trench K.

b. Backhoe Trench N in Water Lot 5 (Fig. 3.6)

i. *Introduction*

This test was placed in Lot 41, the southernmost section of Van Cortlandt's 1750 Water Lot Grant. As the documents were unclear regarding the exact filling sequence of Parcels B, C, and Water Lot Grant 5, it was thought that Backhoe Trench N would generate useful data for comparison.

The alignment of the bulkheads in Backhoe Trench J indicated that the eastern ends of Parcels A and B had been filled in one episode which did not include Parcel C (Lot 40; see discussion of Backhoe Trench J, below). However, the western ends of these parcels did not necessarily follow the same sequence. Therefore finding a bulkhead or pier between Backhoe Trench K Section 4 and Backhoe Trench N along the Lot 40 and Lot 41 boundary (which corresponds to the boundary between Parcel C and Water Lot Grant 5) could be considered evidence of the western end of Parcel C being filled separately from Water Lot Grant 5.

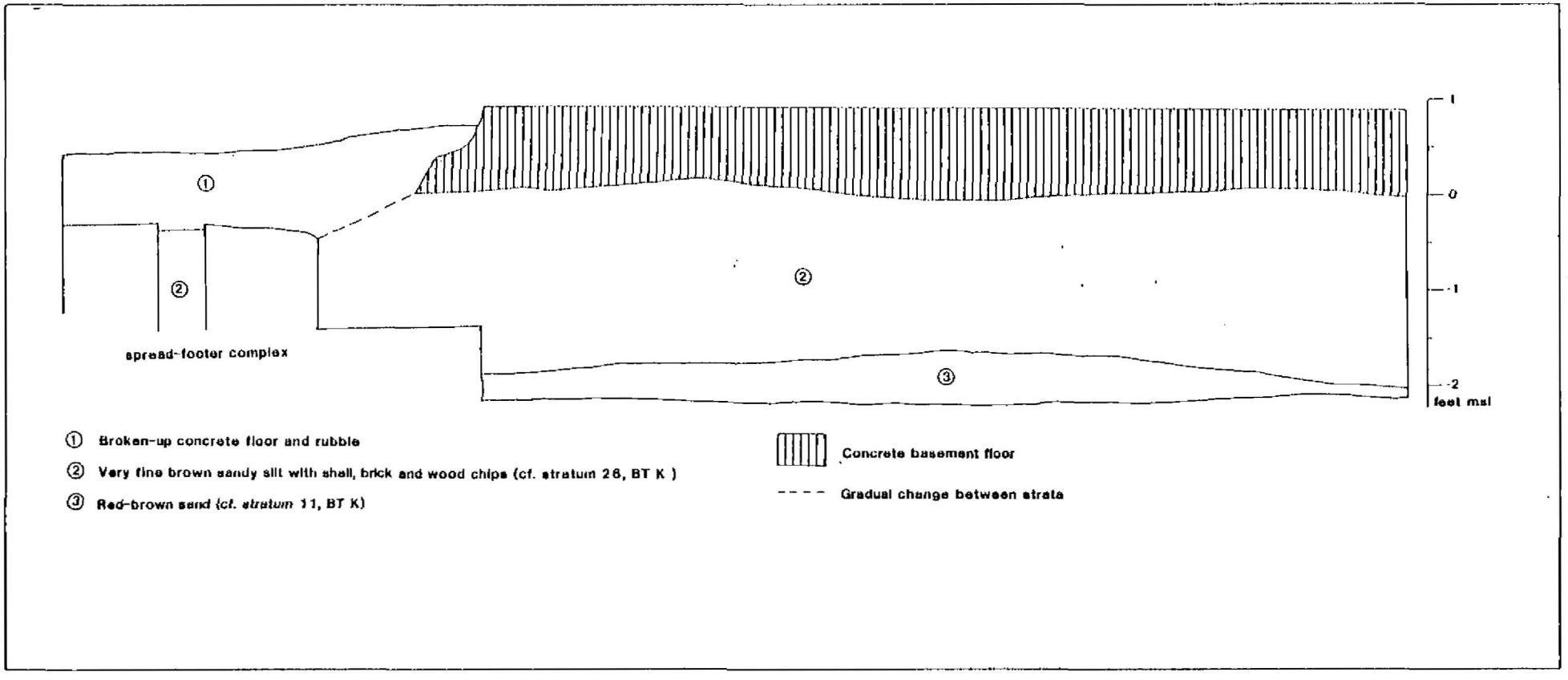

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Figure 3.6. Profile, west wall of Backhoe Trench N in Lot 41.

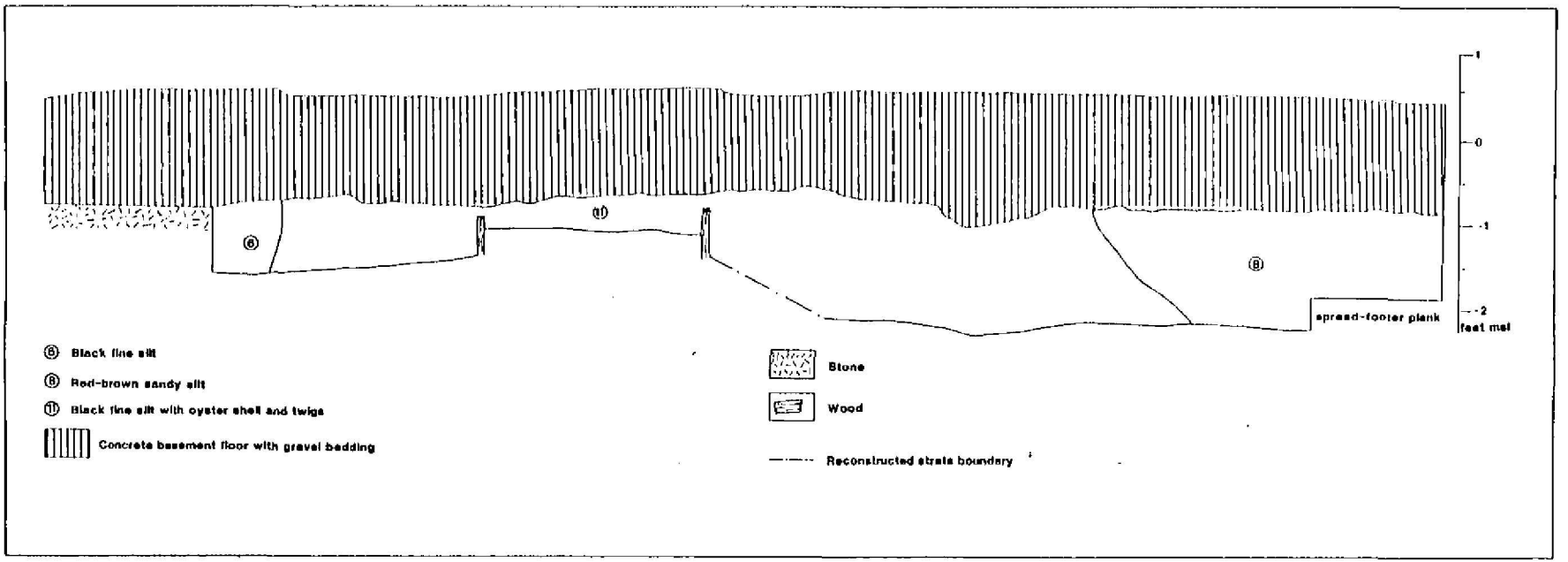

Figure 3.4. Profile, west wall of Backhoe Trench K, sections 2 and 3, in Lot 39.

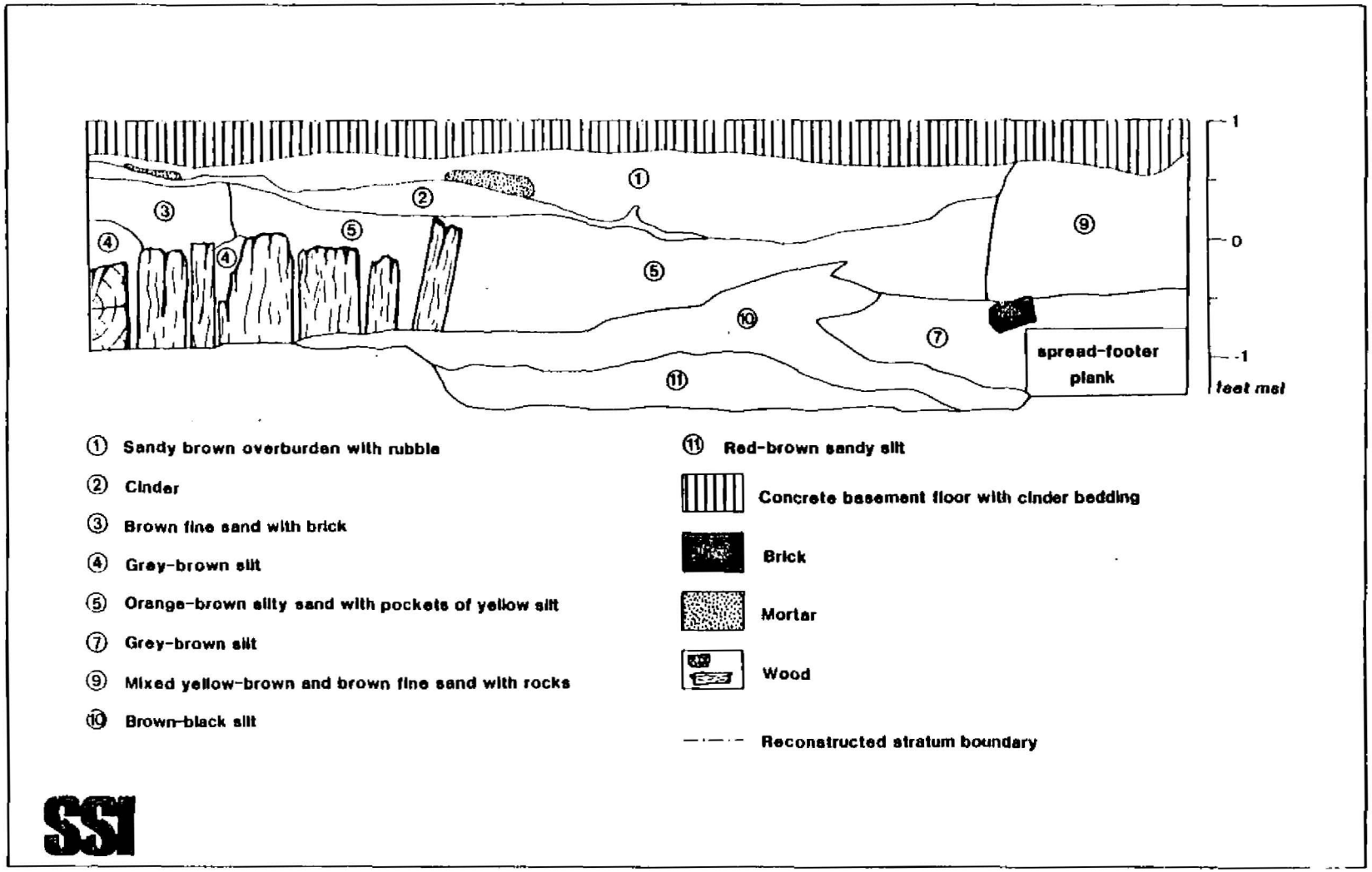

Figure 3.3. Profile, west wall of Backhoe Trench K, Section 1 in Lot 38.

ii. Backhoe Trench N: Landfill Features and Stratigraphy

Backhoe Trench N, measuring 3 ft by 17 ft, extended across most of Lot 41. The Lot 40/41 spread-footer complex was removed and the underlying deposits explored. No sign of wharves or bulkheads as found.

A total of four 1-ft levels were excavated, terminating in a brown and very dark gray sand at approximately 32 in. below mean sea level. Only level 4 was deeper than the disturbance associated with the Lot 40/41 spread-footer complex builder's trench. The ceramics here had a mean date of 1754.62 (s=25.67). This is consistent with the 1750-1755 land filling time frame assigned to the western portion of Water Lot Grant 5.

iii. Backhoe Trench N: Conclusion

The mean ceramic date of 1754.62 (s=25.67) in Backhoe Trench N contrasts with the mean ceramic dates from adjoining Lot 40. The ceramics from both Backhoe Trench K Section 4 and the Lot 40 backyard fill deposits had mean dates in the 1730s. This suggests that the western end of Parcel C, Lot 40, was filled earlier than Water Lot Grant 5. The absence of a bulkhead or pier is therefore puzzling because fill-retaining structures had been found in Backhoe Trench J separating other temporally distinct fill episodes. However, such a structure may have been removed in the course of filling Water Lot Grant 5. It is also important to note that mean ceramic dates derived from samples as small as those retrieved from Backhoe Trench N (n=8) are unreliable.

c. Backhoe Trench M in Parcels B and C

i. Introduction

This test, extending through half of Lot 25 and all of Lot 24, enabled us to sample the fill in the eastern end of Parcels B and C. Documentary research suggested that filling of the western or Water Street section of the block preceded filling in the area excavated here as Backhoe Trench M. The trench was also placed in an area considered highly sensitive because of documented eighteenth century shipyards. Backhoe Trench M was excavated in three sections totaling 32.5 ft by 3 ft.

ii. Backhoe Trench M: Landfill Stratigraphy and Features

Backhoe Trench M: Section 1 (Fig. 3.7)

Section 1, measuring 3 ft by 9 ft, extended through the northern half of Lot 25 and terminated at the Lot 24/25 spread-footer complex. It was excavated in four 1-ft levels to a depth of approximately 56 in below the top of the basement floor, or 10 in below the bottom of the Lot 24/25 spread-footer complex. Only the fourth level (consisting of a dark brown sand mixed with dark reddish brown silt) was deeper than the disturbance associated with the Lot 24/25 builder's trench. The mean ceramic date of 1741.50 (s=35.93) derived from this level, though based on an extremely small sample (n=4) is

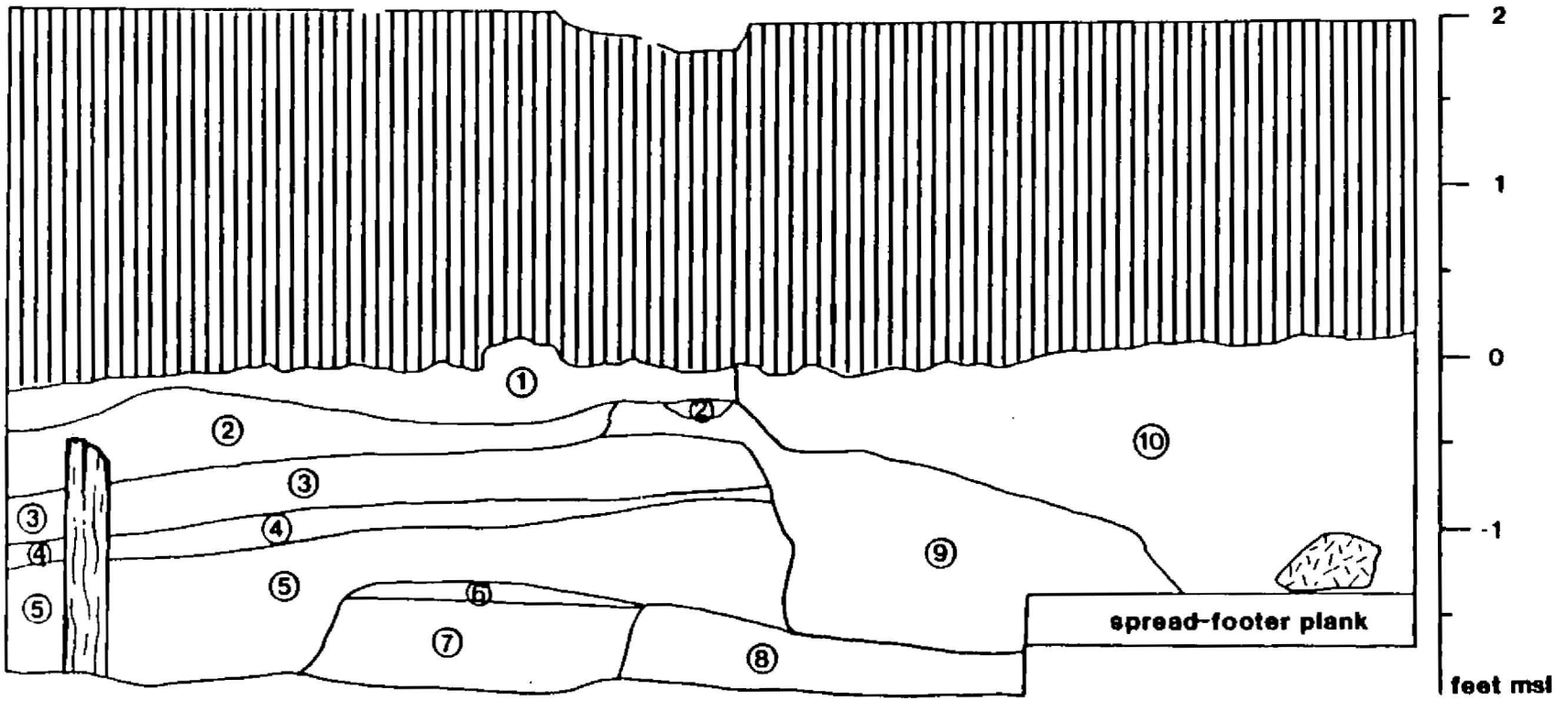

Figure 3.7. Profile, west wall of Backhoe Trench M, Section 1, in Lot 25.

consistent with the documented filling of Parcel B, to which we have assigned a circa 1755 completion date. However, without the single creamware fragment, the date would have been even earlier and we can be fairly certain that the creamware (with its 1762 introduction date) represents contamination from the overlying spread-footer builder's trench.

Backhoe Trench M: Section 2 (Fig. 3.8)

Section 2, measuring 3 ft by 13 ft, extended across Lot 24 and terminated unexpectedly in a spread-footer complex located several feet south of the Lot 24/23 lot line. Reevaluation of the deeds for Lots 23 and 24 revealed that the northern wall of the Lot 24 structure did not line up with this lot line. Instead of an arrangement whereby a spread-footer complex carried a single party wall, the structures in Lots 24 and 23 each had separate foundations and, thus, two spread-footer complexes. The 8-ft wide corridor between the Lot 24 spread-footer complex and the Lot 23 spread-footer complex corresponds to an 8-ft wide gangway running between the Lot 24 and Lot 23 structures. It is described in an 1804 conveyance for Lot 23 (Liber 80 page 317).

Excavation in Section 2 reached a depth of approximately 26 in. below mean sea level or 10 in. below the bottom of the Lot 24 structure's north wall spread-footers. A total of four 1-ft levels were excavated, terminating in a reddish brown and gray black sandy silt. Only the fourth level was deeper than the Lot 24 structure's north wall builder's trench. The ceramics from this deepest level represent what seems to be a deposit uncontaiminated with intrusive materials. Unlike Level 4 in Section 1, there is no creamware present. The 13 datable ceramic sherds from Level 4 in Section 2 produced a mean date of 1737.53 (s=15.90), which is consistent with the pre-1755 filling date assigned to Parcel C.

Backhoe Trench M: Section 3 (Fig. 3.8)

Section 3, measuring 3 ft by 7 ft, represents the 8-ft corridor between the Lot 24 and Lot 23 structures (described above). Excavations here terminated at approximately 12 in. below mean sea level at the bottom of the Lot 24 spread-footer complex. None of the three 1-ft levels extended any deeper than the two intersecting builder's trenches associated with these spread-footer complexes.

No evidence of wharves or artifacts associated with eighteenth century shipyards were encountered in Backhoe Trench M.

d. Backhoe Trench I in Water Lot 5

i. Introduction

This test, extending through Lots 46 and 47 within the bounds of Van Cortlandt's 1750 Water Lot Grant 5, was positioned so that a number of research questions could be addressed. Documentary evidence suggested that an eighteenth century pier paralleled the edge of Beekman's Slip (Fulton Street)

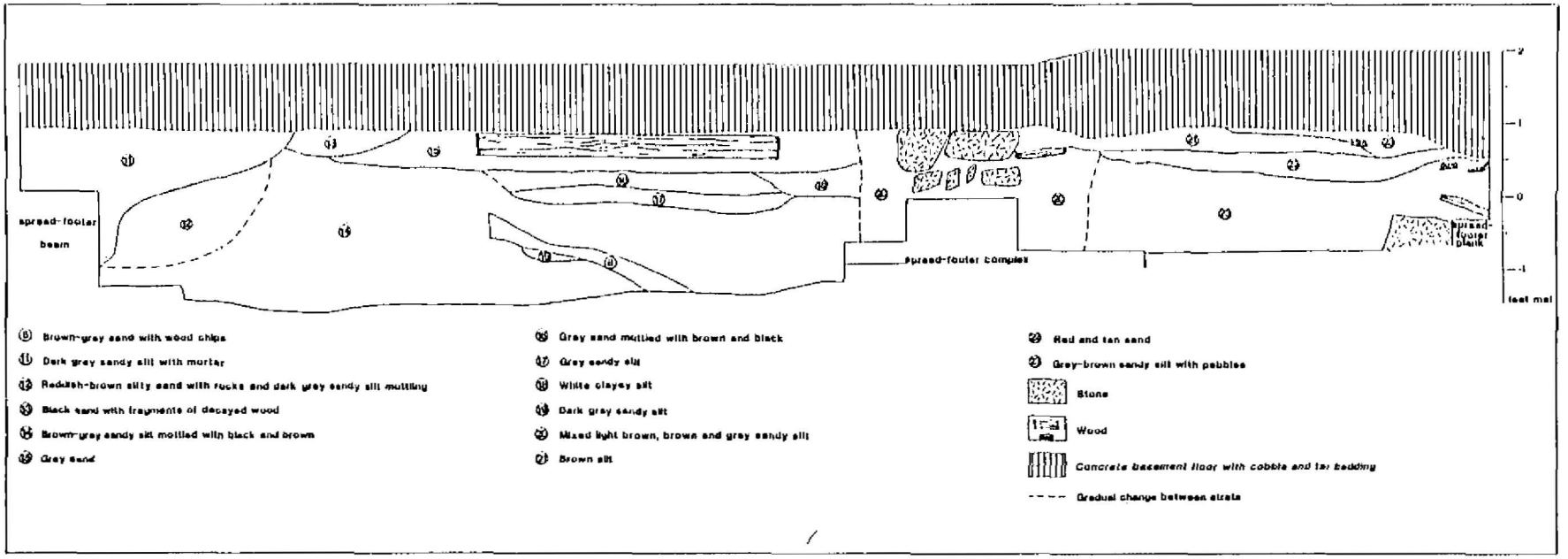

Figure 3.8. Profile, west wall of Backhoe Trench M, Sections 2 and 3, in Lot 24.

and the northern section of the water lot grant. There was also the possibility of encountering the remains of a circa 1755 structure fronting on Fulton Street. We also wanted to sample the fill which was deposited between 1750 and 1755.

ii. Backhoe Trench I: Landfill Stratigraphy

Backhoe Trench I: Section 1 (Fig. 3.9)

Section 1 of Backhoe Trench I was placed in Lot 46 and measured 10 ft by 3 ft. A total of four 1-ft levels were excavated in this section. The construction of the Lot 46 structure's basement and spread-footers in the early nineteenth century probably contaminated the fill in Levels 2 and 3. The fill in Level 4 (beginning at approximately 40 in. - 45 in. below mean sea level) was a mixture of blackish brown organic brown organic sandy silt and medium brown sand.

Backhoe Trench I: Section 2

Section 2, measuring 17 ft by 3 ft, was opened beneath the wooden basement floor of the Lot 47 structure. The soupy consistency of the fill and the presence of large cobbles (approximately 8 in. - 12 in. diameter) made sampling in distinct levels difficult. Stratigraphy was fairly uniform throughout, consisting of dark brown sandy silt and large cobbles. The trench was terminated at approximately 5 ft below mean sea level.

The ceramics from the deepest levels in Sections 1 and 2 had a mean date of 1734.09 (s=11.87). Although this is far too early (the known filling period for Water Lot Grant 5 is 1750 to 1755), the absence of any ceramic types introduced after the above dates (such as pearlware or creamware) confirms the fill sequence established through documentary sources.

iii. Backhoe Trench I: Landfill Features

Backhoe Trench I: Section 1

There was no indication of structures, wharves, or cribbing in Section 1.

Backhoe Trench I: Section 2 (Fig. 3.10, Fig. 3.11)

The dimensions of this test are described above; however, the presence of a feature on the trench's northern edge necessitated expanding its depth and width.

At a depth of approximately 36 in. below mean sea level, what was thought to be an east/west cribbing log appeared in the north wall. This log was underlain by an additional log also oriented east/west.

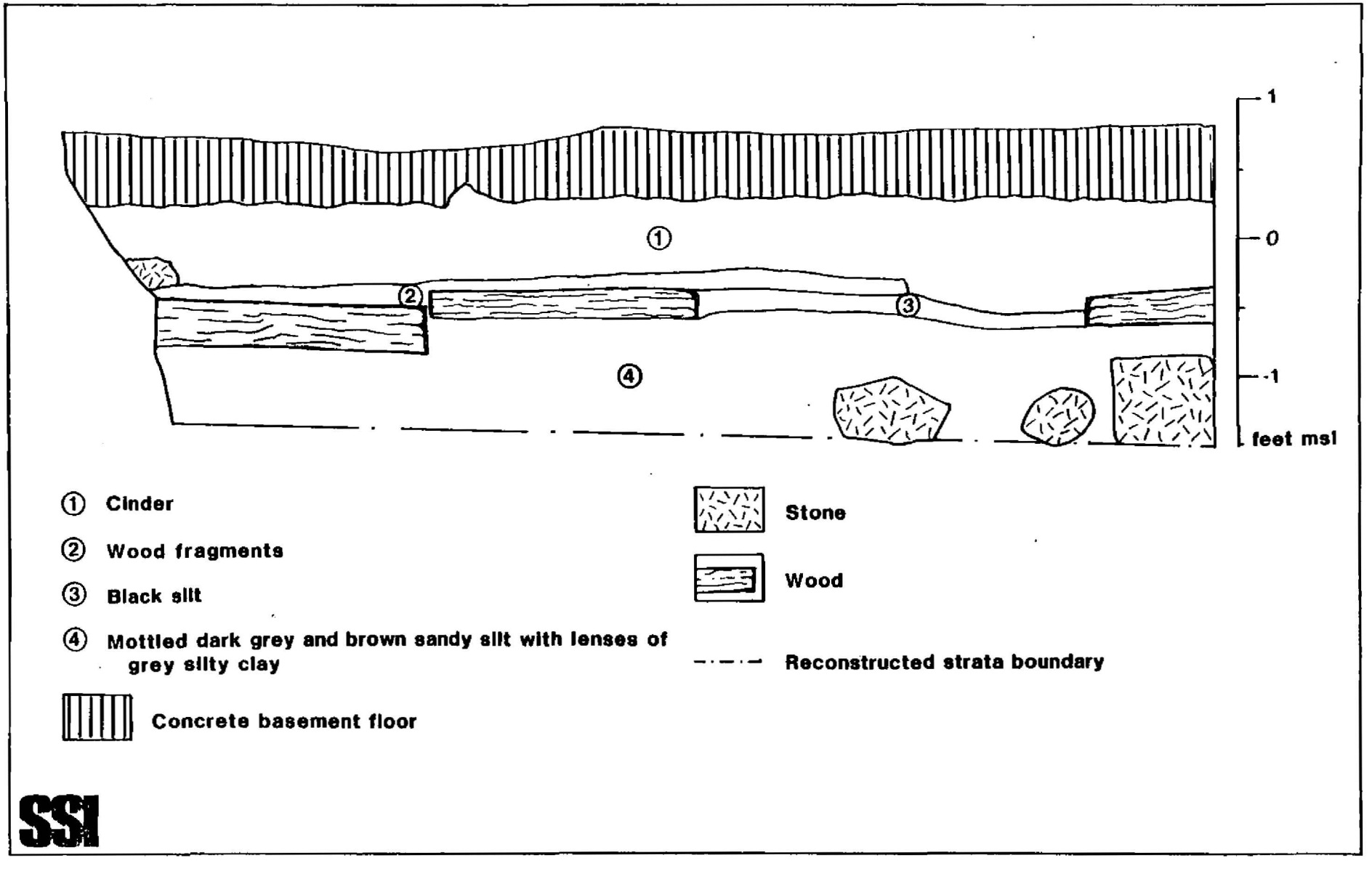

Figure 3.9. Profile, north wall of Backhoe Trench I, Section 1, in Lot 46.

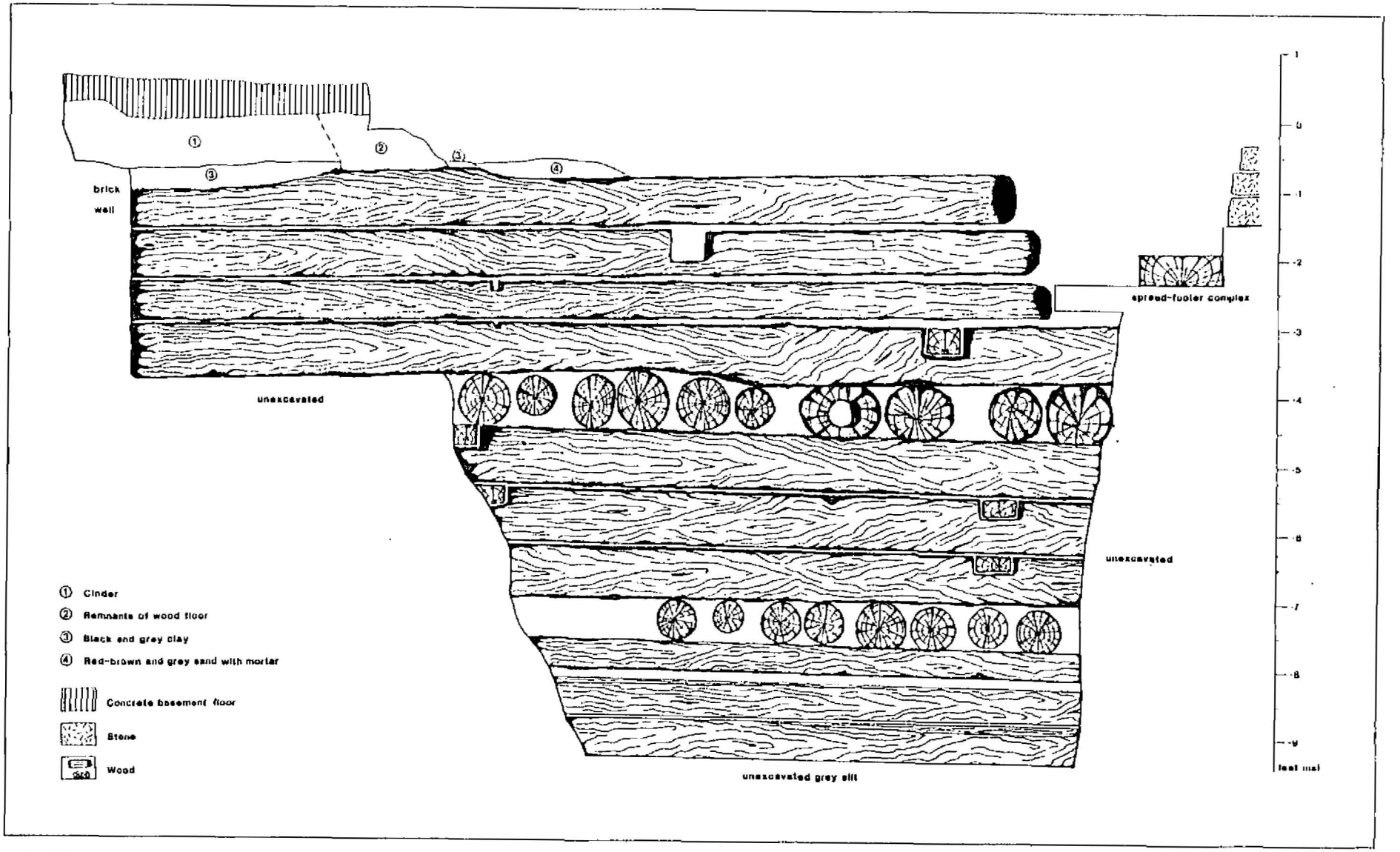

Figure 3.10. Profile, north wall of Backhoe Trench 1, Section 2, in Lot 47, showing south face of "Cobb" wharf.

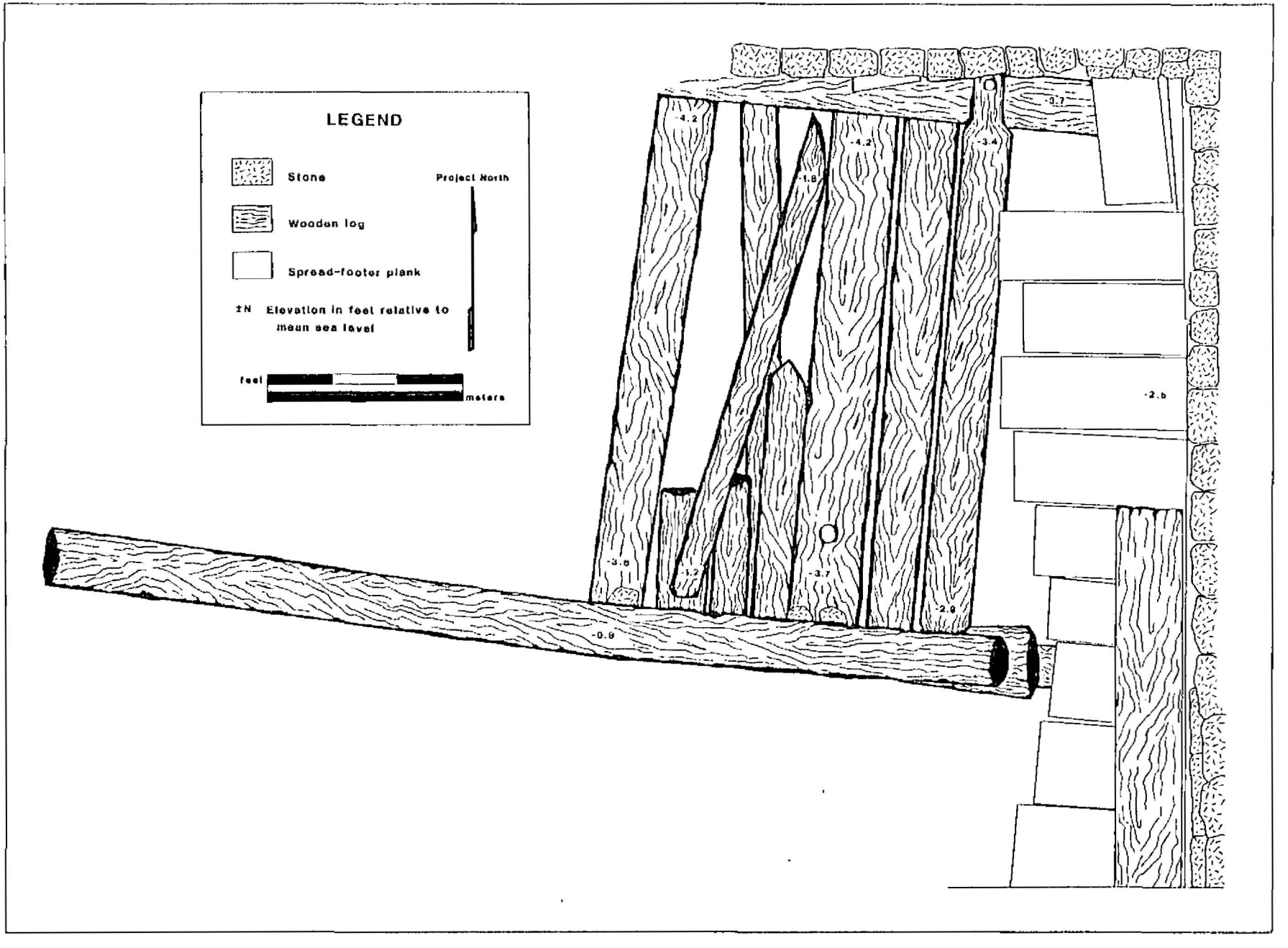

Figure 3.11. Plan view, Backhoe Trench I, Section 2, in Lot 47, showing top of "Cobb" wharf.

A decision was made to extend the test unit to the north in order to expose what was apparently a very large structure. A 15.5 ft long section of the structure, identified as an east/west wharf, was exposed and recorded. The wharf continued west into Lot 46 but was not exposed. The exposed area terminated in the east, interrupted by the intrusive spread-footer complex of the Lot 47/48 structure wall.

A 9-ft vertical section of this wharf was exposed and recorded to a depth of ca. 15 ft below the curb, or 9 ft 6 in. below mean sea level, where we encountered a gray silt which, based on the evidence of boring samples taken on the block, probably represents the river bottom.

The wharf's construction consisted of a "wall" of 10 horizontally-laid logs placed one on top of the other and two horizontal rows of perpendicularly-laid logs which formed platforms extending to the north (see Figs. 3.10 and 3.11). One of these platforms was about 3-feet below the other, with three logs laid in between them. The uppermost platform was exposed and recorded. It extended about 8 ft to the north, where it was built into what was apparently another "wall" of logs, parallel to the first one. Only the uppermost log was actually exposed. This log overlay the northernmost part of the platform. The deposits inside this feature consisted of stones.

Another wharf, uncovered in the eastern edge of the block (Backhoe Trench J) was held together at each end by a vertical bracing system. There was no sign of such supports in the Backhoe Trench I wharf but this is probably because it was not exposed to the full length of its western limits. However, evidence of internal bracing was found throughout the exposed area. Four north/south logs passed through the east/west logs, inserted by means of squared-off notches. A vertical peg was inserted through two east/west logs providing additional support.

A sample taken from one of the wharf's large cribbing logs has been identified as Pinus (of the southern yellow pine group). An analogous sample from the Backhoe Trench J wharf was identified as sweetgum (Liquidambar styraciflua) (Donna J. Christensen, U.S. Forest Products Laboratory correspondence 3/8/82).

The structure exposed in Backhoe Trench I was built by either the Van Cortlandt family or Captain John Berrien. It probably dates to the mid-eighteenth century.

Several eighteenth-century maps depict sections of this wharf proceeding easterly through the project area and then ultimately along the northern edge of what is now the Schermerhorn Row Block (1782 Hills Map, Map 7; 1797 Taylor Roberts Plan, Map 8; 1798 Maverick Map).

e. Backhoe Trench J in Parcels A, B, and C and Water Lots 2, 3 and 4

i. Introduction

This test, extending through the eastern halves of Lots 26, 25, and 24, enabled us to sample the fill in Water Lots 2 and 3. Water Lots 2, 3, and 4 were granted in 1756 and filled between 1767 and 1776.

The fill history of Parcels A, B, and C is less clear. Parcel A was partially filled by 1736 and completely filled by 1756. The documents failed to indicate whether Parcels B and C followed the same pattern, although we do know that they too were completely filled by 1756. We believed that documenting the pier and bulkhead alignments would help us further clarify the land filling sequence.

ii. Backhoe Trench J: Landfill Features

Backhoe Trench J: Section 1 East/West Wharf (Fig. 3.12, Fig. 3.13)

Section 1 measuring 14 ft by 7 ft extended slightly more than halfway across Lot 26. A large (20 in. diameter) north/south horizontally-laid log was uncovered at approximately 2 in. below mean sea level (Fig. 3.12). It was identified as Liquidambar styraciflua, or sweetgum, a species which ranges throughout the southeast and mid-Atlantic as far north as Long Island (Donna J. Christensen, U.S. Forest Products Laboratory, correspondence 3/8/82). The log eventually proved to be the southern end of a 20 ft wide pier similar in construction to that found in Backhoe Trench I.

Subsequent probing revealed that the log was a stretcher underlain by two headers each 20 in. in diameter. The horizontal north/south stretcher was abutted on the north by an additional north/south stretcher of equivalent size. These two stretchers together formed the front of the pier which measured almost 20 ft in width from north to south. Additional stretchers, east of the two described above, were not exposed. However, hand probing by the excavators indicated that the structure extended east towards Front Street.

The southern end of the southernmost north/south stretcher was notched. A vertical post was inserted through the notch. The post most definitely braced the cribbing structure by locking the outermost stretchers and headers. The post may have also acted as an anchoring guide pile (see Small 1970:6). The northern end of the northernmost stretcher was also notched but no vertical post was found. The presence of notches at either end of the structure and the fact that it was abutted on both the north and the south by bulkheads suggest that the exposed area represents the full extent of the feature's width. A 2.5 ft vertical section of the pier was exposed, with the top of the stretcher lying at about mean sea level. It was embedded in a matrix composed of brownish gray sandy silt (Fig. 3.13). The excavators noted the presence of large cobbles similar to those associated with the wharf in Backhoe Trench I. The structure was identified as a "cobb" wharf, as was the structure found in Backhoe Trench I. A detailed discussion of wharf building can be found below in the summary and conclusion.

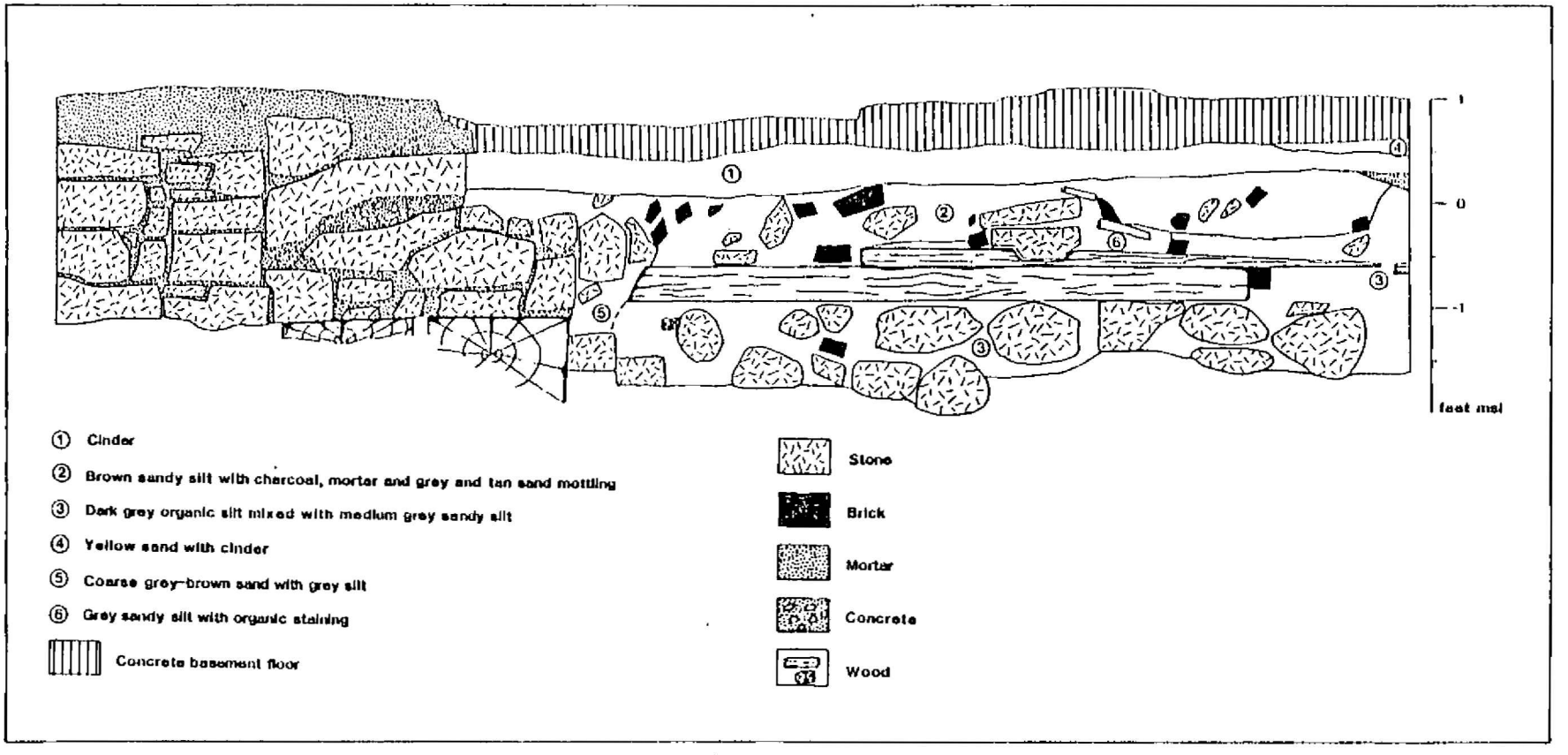

Figure 3.12. Profile, east wall of Backhoe Trench J, Section I, in Lot 26.

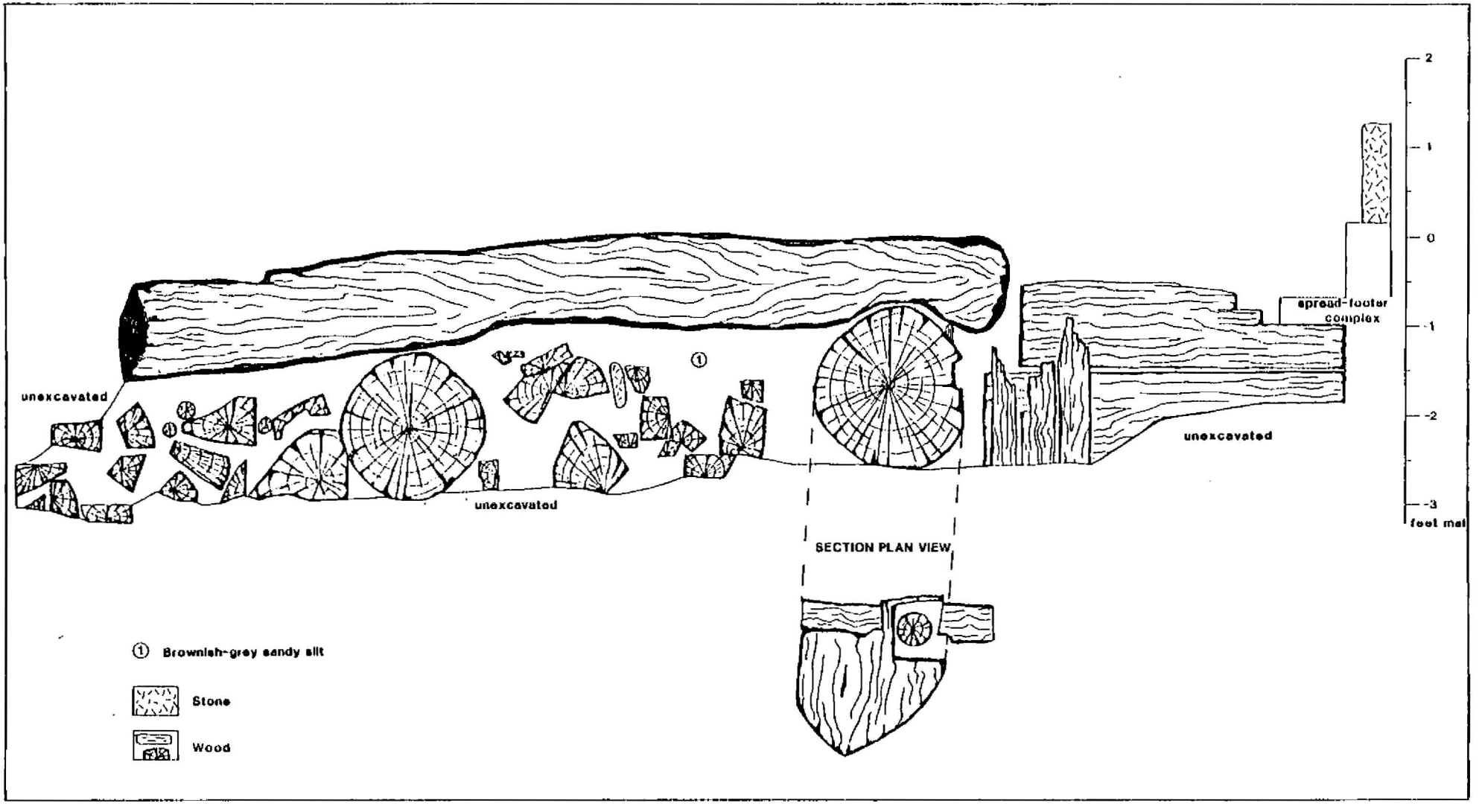

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Figure 3.13. Profile, east wall of Backhoe Trench A0 in Lot 26, showing west face of "Cobb" wharf and plank bulkhead, with section plan view of joint between logs at northern end of wharf.

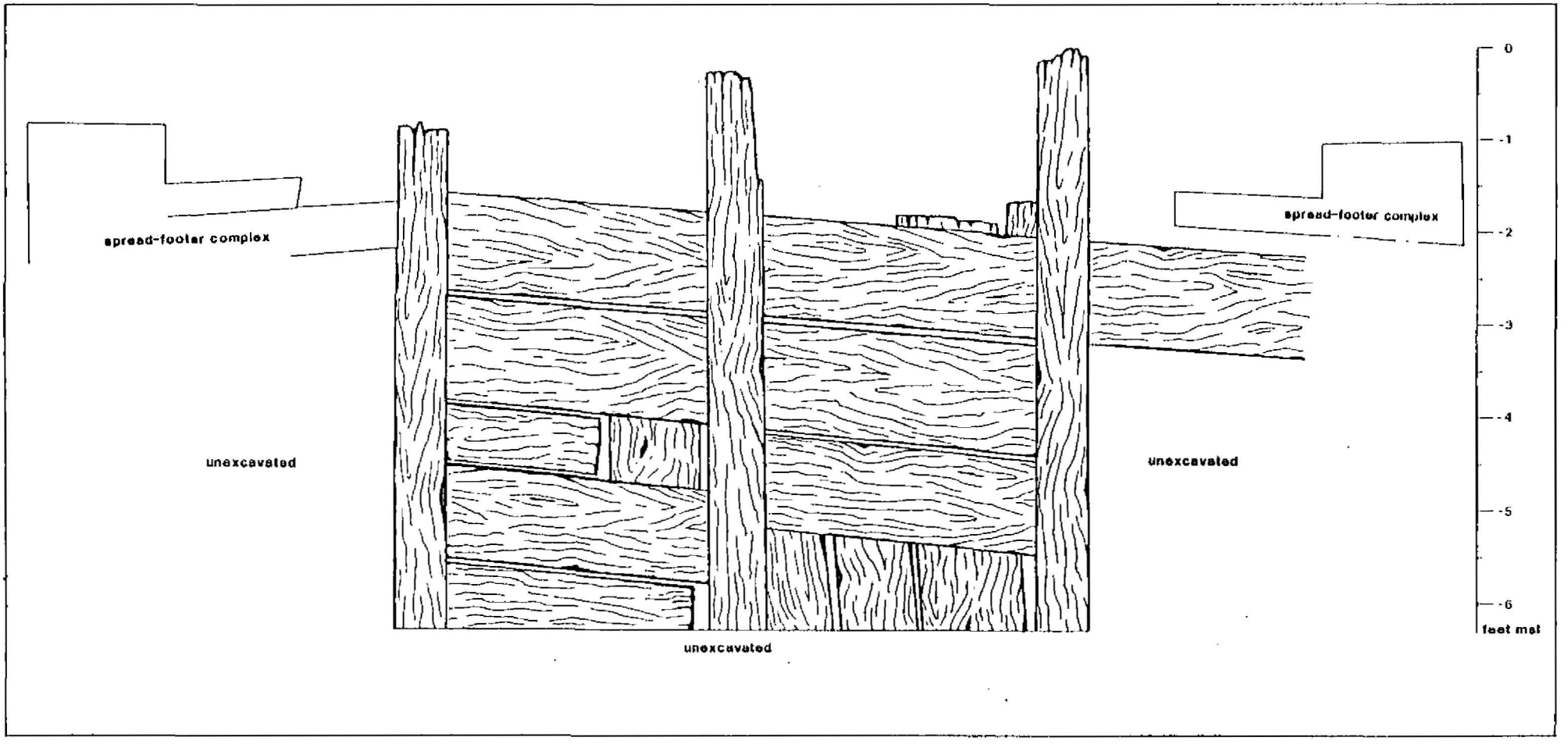


Figure 3.14. Profile, west wall of Backhoe Trench J, Sections 3 and 4, in Lot 25, showing east face of plank bulkhead.

This wharf's location, straddling the Lot 26/25 border, led us to conclude that it is the same wharf depicted in the 1767 Ratzen Map (Map 5) protruding into the East River from what was then the shoreline. This wharf and its extensions, identified as the Bowne/Byvanck Wharf, followed the Lot 26/25 border, extended under the present site of Front Street and continued easterly at the present site of the Schermerhorn Row Block along the Lot 11/12 border. It appears in the 1767 Ratzen Map (Map 5), the 1776 Holland Map (Map 6), the 1782 Hills Map (Map 7), the 1797 Taylor-Roberts Plan (Map 8) and the 1798 Maverick Map.

Backhoe Trench J: Undesignated Section in Lot 26, and Sections 2, 3, and 4 in Lots 24 and 25, Plank Bulkhead (Fig. 3.13, 3.14, 3.15)

Two plank bulkheads were exposed on either side of the Bowne/Byvanck wharf. They were oriented north/south; the southern section (Fig. 3.13) was discovered during the excavation of the wharf in Section 1 and the northern section during the excavation of Sections 2 and 3. A third bulkhead was excavated in Section 4 and it was oriented east/west, perpendicular to the others. The bulkheads, which formed a single system, were made of wooden planks ca. 12-14 in. wide by 1.75 in. thick which were laid horizontally on their sides, one above the other. The planks were supported on the east, or water side, by a series of upright beams which measured ca. 4-6 in. by 6-8 in. in cross section, and on the west, or land side, by a series of upright planks. Beam and plank samples have been identified as Pinus (Donna J. Christensen, U.S. Forest Products Laboratory, correspondence 3/8/82).

The southernmost bulkhead underlay the Lot 26/27 spread-footers and continued north into Lot 26. The planks and uprights were excavated to a depth of approximately 26 in. below mean sea level. The structure's horizontal length from the Lot 27/26 spread-footers to the southern end of the wharf totalled 4 ft. We concluded that the bulkhead marked the edge of a filled-in water lot or series of water lots.

Documentary research indicated that Parcel A (Lots 37/27 and 38/26) was filled to a point approximately 130 ft beyond low water mark by 1756. Another water lot grant was made in 1756 for an additional 70 ft beyond the original filled area. The bulkhead system found in Backhoe Trench J seems to represent the line separating Parcels A, B, and C from Water Lot Grants 2, 3, and 4.

Although the feature's location seemed too close to the block's eastern boundary, subsequent study of street width changes supported this initial theory. Forty feet were taken from the eastern, or river side, of the grants for the construction of Front Street. The nineteenth century widening of Front Street from 40 ft to 59 ft, plus the addition of a 10 ft wide sidewalk, eventually pushed the block's eastern boundary approximately 60 ft west of its original eighteenth century location. This suggests that the bulkhead found in Lot 26 is conterminous with the eastern end of Parcel A and was probably built before 1756. The fill lying between the bulkhead and Front Street represents the post-1767 filling of Water Lot Grant 2. The widening

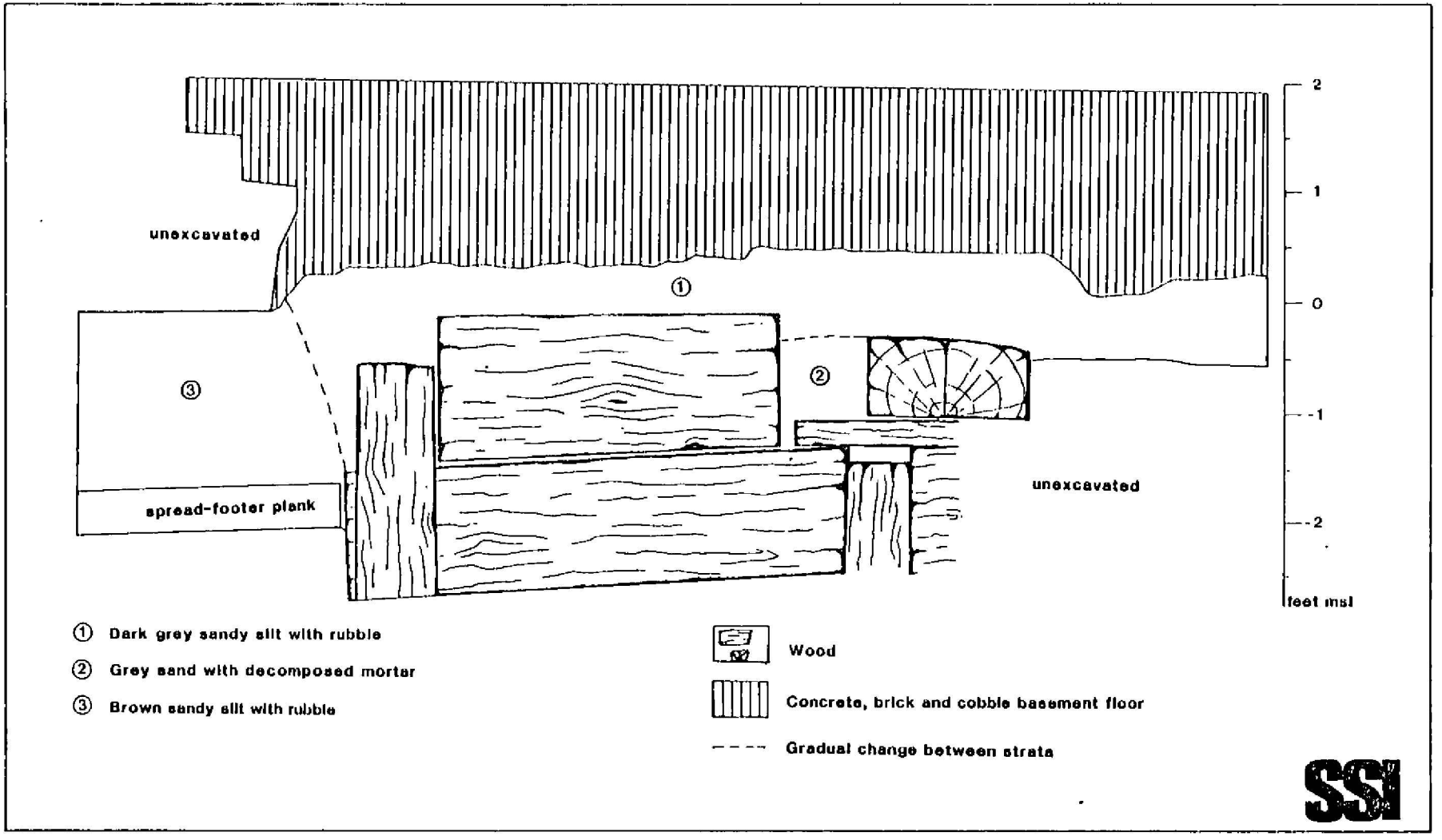


Figure 3.15. Profile, west wall of Backhoe Trench J, Section 2, in Lot 25, showing east face of plank bulkhead.

of Front Street, beginning with the original 40 ft, had moved the block's eastern boundary much closer to this eighteenth century bulkhead line than the grant texts suggest.

This bulkhead line was found to continue on the other side of the Lot 26/25 wharf in Sections 2, 3, and 4 of Backhoe Trench J. Approximately 20 ft of bulkhead was exposed between the northern edge of the wharf and the Lot 25/24 line. A 7-ft vertical section was recorded extending almost 9 ft below mean sea level.

The bulkhead line in Lot 25 functioned as a facing for the fill in Parcel B and the fill to the east of the bulkhead represents the post-1767 filling in of Water Lot Grant 3.

This north/south bulkhead line terminated at the Lot 25/24 border. Here, within Section 4, an additional bulkhead line was uncovered running east/west perpendicular to the bulkhead in Sections 1, 2, and 3 (Fig. 1.2). This bulkhead, also constructed of planking and uprights, underlay the Lot 25/24 spread-footer complex. It lay in two slightly discontinuous sections on either side of the north/south bulkhead. The southernmost section began at the northern end of the Section 3 bulkhead and extended towards Front Street for about 2 ft, at which point excavation stopped. The second section lay about 8 in. to the north of the first, intersecting the Section 3 bulkhead at a right angle. The exposed section measured about 8 ft from west to east.

Backhoe Trench J: Landfill Features; Conclusion

The relationship between the two bulkhead lines (the east/west planking in Section 4 lying perpendicular to the north/south portion in Sections 2 and 3) suggests that the fill in the eastern part of Parcel B forms a separate unit distinct from Parcel C. The bulkhead lines form a retaining wall along the northern limits of Parcel B and we have therefore assumed that this represents an attempt to protect a filled-in parcel (Parcel B) from water action in an unfilled area (Parcel C). This is of interest in light of certain questions we have regarding the landfill sequence in this section of the block (see above).

Documentary research indicated that the filling of Parcel A predated the filling of Water Lot Grant 1. However, it was unclear whether Parcels B and C were also included in this early filling episode. The presence of a bulkhead along Parcel B's northern boundary associated with a continuous line of bulkhead and wharfing along the eastern edge of Parcels A and B is evidence that the eastern end of Parcel C was not part of the filling episode that resulted in Lots 37/27, 38/26, and 39/25. Also interesting is the absence of any fill-retaining structures along the Lot 25/26 border. This points to common ownership of Parcels A and B. It is therefore probable that the eastern ends of these parcels (represented by Backhoe Trench J) were filled between 1739 and 1742, which was the period during which they belonged to a single individual (Appendix A). The eastern end of Parcel C, not enclosed by the east/west bulkhead, represents a different and probably later filling episode. Although no fill-retaining features were found along the border of the western section of Water Lot 5 and the western edge of Parcel C (Backhoe Trenches N and K), documentary research indicates that Parcel C was filled somewhat earlier than Water Lot 5.

We are fairly certain that the east/west wharf exposed in Backhoe Trench J is the Bowne/Byvanck wharf. This structure, dating to the mid-eighteenth century, straddled the 26/27 lot line and continued eastward beneath Front Street. Late eighteenth century maps show additions to the wharf underlying what is now the Schermerhorn Row Block. A more detailed discussion of wharf-building can be found in the summary and conclusion below.

iii. Backhoe Trench J: Landfill Stratigraphy

Backhoe Trench J: Section 1

Section 1 (also described above) measured 14 ft by 7 ft and extended across slightly more than half of Lot 26. A total of three 1-ft levels were excavated in Section 1. The unstable walls of the trench prevented us from going deeper than the disturbance resulting from the Lot 26/25 spread-footers builder's trench. This is reflected in Level 3's mean ceramic date, 1785.90 (s=30.74), which is far too recent. This level consisted of a grayish brown silty sand.

Backhoe Trench J: Section 2

Section 2 (also described above) measured 11 ft by 4 ft and extended north from the Lot 25/26 spread-footer complex across approximately half of Lot 25. A total of three 1-ft levels were excavated in Section 2 and, as with Section 1, we were unable to go any deeper than the disturbance associated with the Lot 16/25 spread-footer builder's trench. The deepest level consisted of a dark gray silt mottled with black sandy silt.

Backhoe Trench J; Section 3 and 4

These sections were excavated in order to explore more fully landfill features which are discussed above.

D. The Landfill: Summary and Conclusion

Excavations at the Telco Block included the testing of more than 1000 sq ft of landfill within six of the block's eight original water lot grants. These tests, which enabled us to sample different fill episodes, also exposed a series of wharves and bulkheads, all of which can be correlated with wharves described in historic documents and depicted on maps. Both research and fieldwork indicate that these wharves and bulkheads served as primary fill-retaining structures.

The construction of the Telco Site wharves in Backhoe Trenches I and J matches de Crevecoeur's description of wharf and dock construction circa 1770:

> I have seen them made in forty feet of water. This is done with the trunks of pine attached together which they gradually sink, fill in with stone and cover the surface with earth (cited above in Section II).

A National Park Service publication Early Wharf Building (Small 1970) describes the evolution of this technology. In Massachusetts "cobb wharves" (the term originating from the use of cobble stones to sink the wooden cribs) were being replaced in the early nineteenth century with stone wharves. Contemporary accounts of the earlier "cobb" wharves described them as "built of stone-filled cribs enclosing areas which were filled with earth" (Small 1970:3). Derby Wharf, an eighteenth century restored wharf located in the Salem (Mass.) Maritime National Historic Site, was partially constructed using the "cribbing" system whereby timbers were laid up in alternating rows of headers and stretchers. The report goes on to say that: "Evidence indicated the stone used to sink these cribs was sometimes secured to the bottom headers by nails or wire, but probably it more often was simply loaded on top of the headers as fill back of the stretcher" (Small 1970:8).

An apparent "cobb" wharf is visible in the foreground of the 1717 Burgiss View. It is filled with what appears to be large cobbles and extends into the East River from the Brooklyn Shore (Fig. 3.16). In New York City the construction of "cobb" wharves persisted into the nineteenth century. Albion (1970:22) notes that New York docks appeared slightly ramshackle and "informal" in comparison to London's impressive stone docks. Tidal levels in the Thames often reached 20 ft, therefore necessitating such substantial structures. In New York the tide only rose 4 or 5 ft. The status of waterfront construction was described by Fenimore Cooper in 1824:

> The time has not yet come for the formation of massive permanent quays in the harbor of New York. Wood is still too cheap, and labor too dear, for so heavy an investment of capital. All the wharves of New York are of very simple construction--A framework of hewn logs is filled with loose stone, and covered with a surface of trodden earth . . The Americans . . . are daily constructing great ranges of these wooden piers, in order to meet the increasing demands of their trade . . (Quoted in Albion 1970:220).

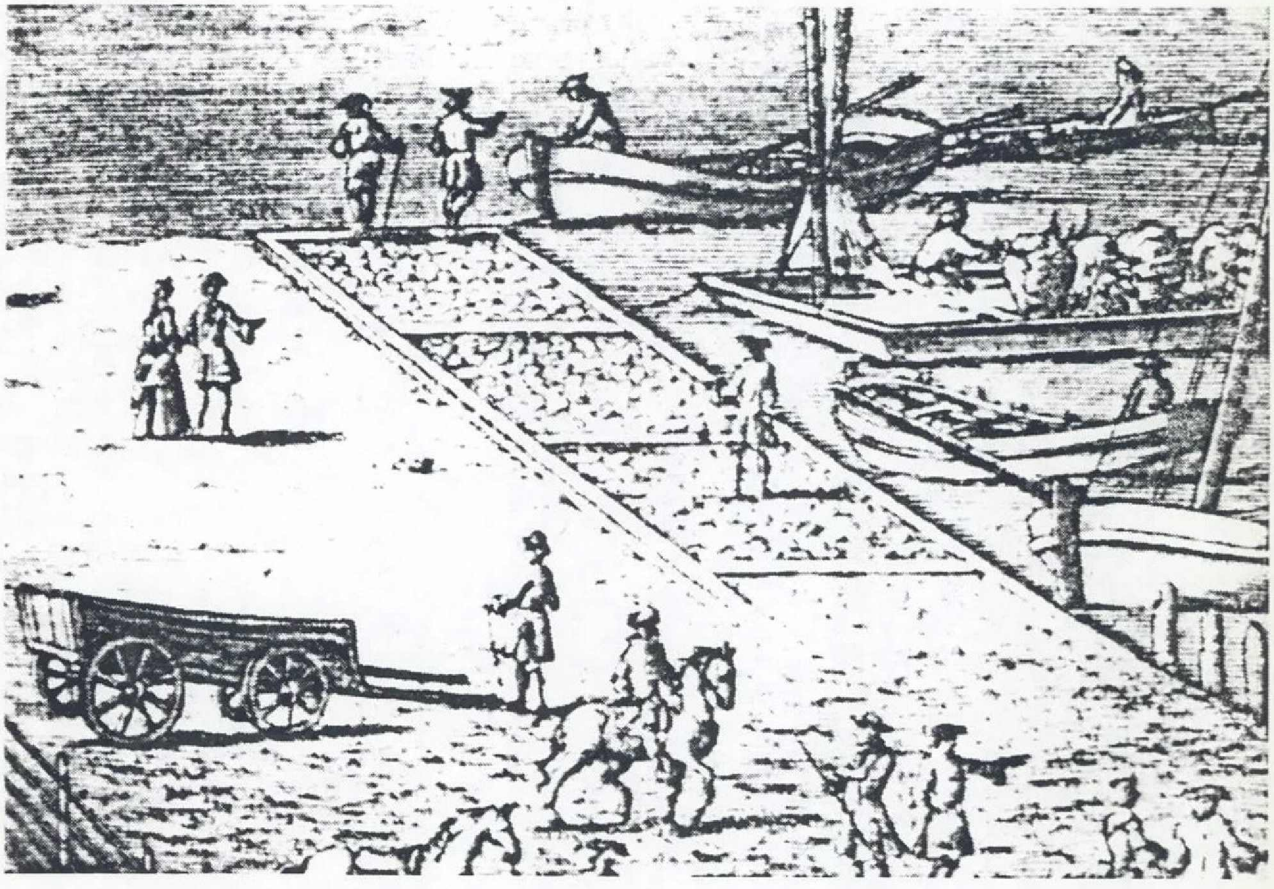


Figure 3.16. A detail of the 1717 Burgis View, showing a cobb wharf on the Brooklyn side of the harbor. (Courtesy of the South Street Seaport Museum)

Waterfront excavation in both Newburyport, Mass. and Portsmouth, New Hampshire uncovered remnants of wharves having the same crib and ballast stone construction recorded for the Backhoe Trench I and Backhoe Trench J structures (Harrington 1981; Faulkner et al. 1978). Kardas and Larrabee (1979), working on the Schermerhorn Row Block immediately east of the Telco Block, also encountered similarly constructed features. The "cribbing" recorded in their report (1979:198) may actually represent the eastward extension of the Bowne/Byvanck wharf described above. Additional crib and ballast stone constructed features were recorded at the 175 Water Street site as well (Joan Geismar, personal communication).

Such construction techniques may have originated in Medieval Europe. A crib-constructed wharf dating to the thirteenth century was unearthed in Norway and its appearance was strikingly similar to the eighteenth century New York wharves described in this report (Baart et al. 1977:29). Fenimore Cooper (above) cited the availability of wood (as well as the high cost of labor) as a factor contributing to the city's tendency to install crib and "cobb" wharves rather than stone wharves as in London. Thirteenth-century Norway, like eighteenth century America was heavily forested. The similarity of the Telco Block's cobb wharves to the Norwegian one would tend to confirm Cooper's observation.

The Telco Block contained two large eighteenth-century "cobb" wharves which were exposed and recorded. Two lines of plank bulkhead were also exposed. These features have been described above. A brief summary follows below.

A 9.5 ft by 15.5 ft horizontal section of what is believed to be either Van Cortlandt's or John Barrien's wharf was exposed in Backhoe Trench I. It paralleled what had once been Beekman's Slip (now Fulton Street) along the northern edge of the 1750 Van Cortlandt Water Lot Grant.

A second wharf was found in Backhoe Trench J. This 20 ft wide structure was also identified as a "cobb" wharf. Many details of its construction were similar to the wharf in Backhoe Trench I, along Fulton Street. Its alignment with the Lot 25/26 boundary enabled us to identify it as the Bowne/Byvanck Wharf, which was probably built in the 1750s.

Associated with this wharf were three sets of plank bulkheads which were conterminous with the boundaries of documented water lot grants. We were thus able to assign them a mid-eighteenth century construction date. The configuration of the bulkhead lines suggests that the filling of the eastern end of Parcel C post-dates the filling of the eastern end of parcels A and B.

The two wharves excavated on the Telco Block extended easterly towards Front Street. Late eighteenth century maps depict extensions of these structures within the bounds of what is now the Schermerhorn Row Block across Front Street, just to the east of the Telco Block.

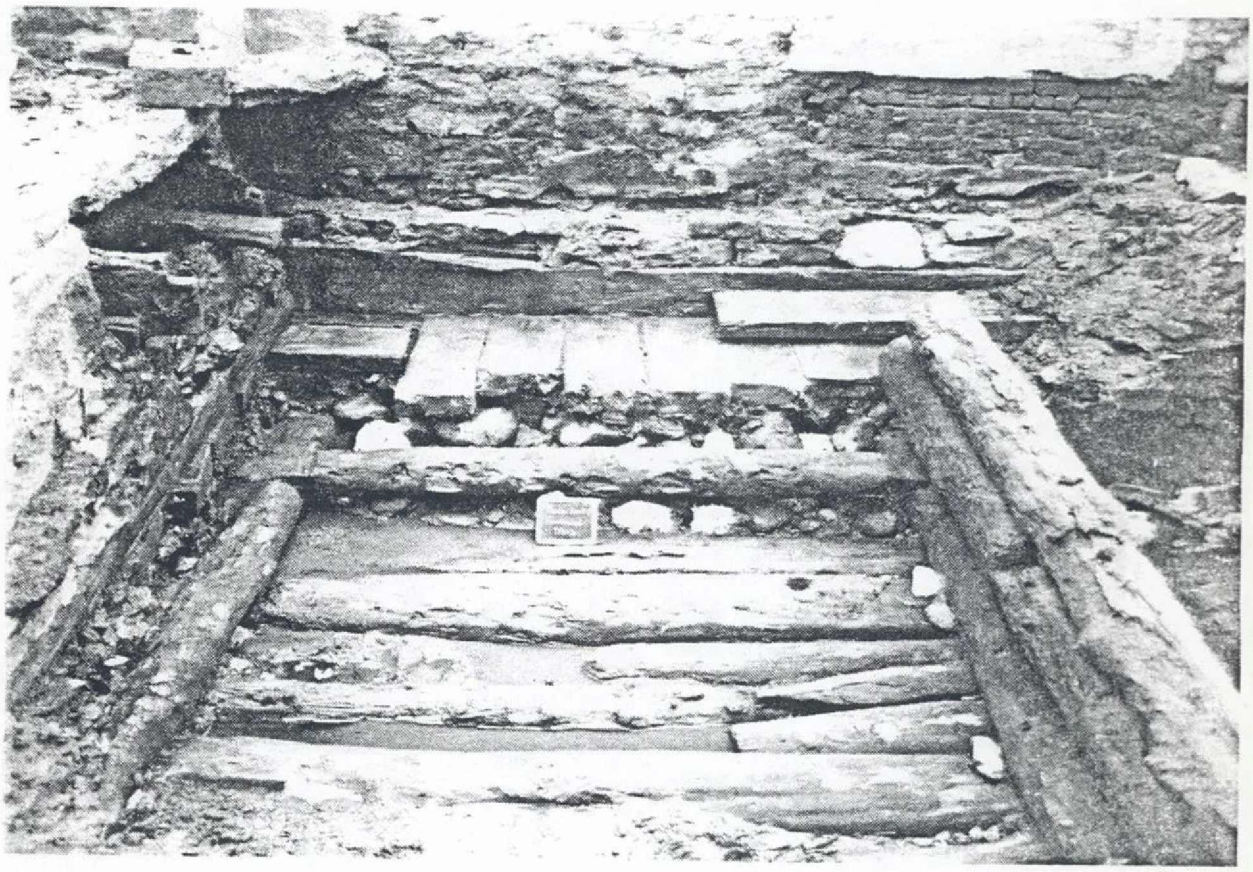


Figure 3.17. The cobb wharf found in Backhoe Trench I in Lot 47, looking east. Note the large stones under the spread-footer complex at the top of the picture.

The recognition of deposits directly attributable to landmaking activities was possible both during excavation (in the Lot 40 backyard area which is described in Section IV and in the backhoe trenches) and later during the analysis phase of this project. However, the distinction between early to mid-eighteenth century landfill and the overlying mid to late eighteenth century occupation deposits was clearest in the Lot 40 backyard area which was excavated stratigraphically. The backhoe trenches were excavated in 1-ft arbitrary levels and although this technique allows excavators to probe and profile extensive areas of landfill it does not provide adequate stratigraphic control. Therefore much of the discussion of fill content is based on the analysis of Lot 40 strata. In addition to distinguishing the landfill from the overlying deposits we have also isolated different fill types, which we infer to have come from different sources. Factors considered include elevation, soil description, organic/artifactual density and ceramic content.

Elevations are discussed throughout the text. The top of strata determined to represent the landfill surface were found to be as high as 1 ft above mean sea level. The landfill was excavated to a depth of 9 ft 5 in. below mean sea level (in Backhoe Trench I). This was thought to be the point where landfill and river bottom met. Deposits found between these points were either landfill or intrusions into the landfill.

The ceramic content of the fill deposits differed temporally from the overlying occupation levels. A marked paucity of types introduced after the 1740s was noted in the former. Types introduced after the 1740s begin to appear in those Lot 40 strata described as "orange, rust colored silt and sandy silt", thought to represent eighteenth and early nineteenth century occupation levels (see Table 4.1). These dates agree with Lot 40's pre-1740s filling date suggested in the course of documentary research (see above).

Landfill deposits observed on the Telco Block fall into three categories. The first includes strata described as dark brown or gray/green sandy silt with shell and wood chips. The second includes strata described as reddish brown or pink sand. The final type includes a series of thin strata characterized by a matrix of whitish and green coarse sand containing small, water worn pieces of shell and coral. These strata were hand excavated in Units AC, AD, AF and AH in Lot 40. Similar strata were and observed in the landfill levels of the backhoe trenches. Strata similar to the first category were exposed in Backhoe Trench K, Section 4; Backhoe Trench M, Section 2 and Backhoe Trench J, Sections 1 and 2. Strata similar to the second category wre observed in Backhoe Trench K Sections 1 and 4 and in Backhoe Trench M, Sections 1 and 2. Strata corresponding to the third category were less noticeable due both to the thinness of these deposits and also to the condition of the Backhoe Trench wall profiles.

Lot 40 strata representing the first two fill categories are compared in Table 3.1. Stratum 26 in Unit AC is representative of a level of greenish gray sandy silt which also appeared in Units AD (Stratum 14) and AF (Strata 11 and 12) and which has been characterized as fill category 1. Fill category 1 was underlain by a level of pink and gray sand. However, this level (designated Category 2) was excavated only in Unit AH. Table 3.1 indicates that fill categories 1 and 2 differed not only in soil type but also in their respective organic and artifactual densities. The density of organic and artifactual materials per cubic inch is much greater in the stratum which is representative of fill category 1. The combination and density of material in this latter category suggests that it is composed of redeposited refuse. Questions thus arise as to the source of this refuse.

Archaeologists working at Lower Manhattan's landfill sites all note the presence of large quantities of leather and shoe fragments in excavated deposits. Henn, Askins, Levin and Schuyler (n.d.) at the 209 Water Street Site, Kardas and Larrabee at Schermerhorn Row (1979:154) and Pickman and Rothschild (1981:71-73) at the 64 Pearl Street Site have suggested that tanners and shoemakers, many of whom were located near the above sites, may represent a possible fill source.

The amounts of leather recovered at the 64 Pearl Street Site led Pickman and Rothschild (1981:71-73) to correlate landfill deposits with specific tanners and shoemakers who could be traced to nearby properties. Since the completion of the excavations at 64 Pearl Street, large quantities of leather in the form of shoe fragments and unworked scraps have also appeared at the Hanover Square Site (Rockman, personal communication), the 175 Water Street site, and at the Telco Block Site. The density of leather per cubic inch within the Telco Block's landfill category 1 deposit is comparable to the densities of other material in the same deposit. The results of excavations at six lower Manhattan sites simply suggest that the inclusion of leather in these sites is the norm. An eighteenth century 10 block square Tanners' District, "The Swamp", adjacent to the Telco Block Site may well be the source of the sites' leather (Kate Morgan, personal communication). However, Table 3.1 suggests that this tannery refuse has been mixed with both domestic and commercial refuse which may have originated from other sources.

The category 1 landfill deposits contained twigs, bark and leaves (Appendix F) and this indicates that much of this material may have had its origin within a ground surface context. As at the 64 Pearl Street Site we can contrast these darker, artifactually denser category 1 fill deposits with the underlying red brown/pink deposits which have been designated as representative of the category 2 landfill deposits. This latter category, which has a much lower density of organic and artifactual material, was sampled in Lot 40 Units AC, AD, AF and hand excavated in Unit AH (Table 3.1). These strata, like the 64 Pearl Street Site's medium brown sand strata, probably represent redeposited local subsoil (Pickman and Rothschild 1981:31). Such deposits, which may be characterized as clean fill, can be correlated with the city's well documented eighteenth century land leveling and construction activities.

Table 3.1: Organic and Artifactual Density of Two Fill Categories (per cubic inch)

Fill Type/ Material	Fill Category #1 possible source: refuse Stratum 26, Unit AC, Lot 40 Soil Description: Greenish gray sandy silt Volume :4788 cubic inches	Fill Category #2 possible source: local subsoil (land leveling, construction) Stratum 12, Unit AH, Lot 40 Soil Description: pink & gray sandy sand Volume :3682 cubic inches
Ceramics	.018	.007
Leather	.010	0
Bottle/Glass	.005	.002
Building Materials	1.258	.228
Unshaped Wood Fragments	.012	.004
Shell	.626	.002
Floral	.007	0

Traces of an additional fill type were found during the hand excavation of Lot 40. Several thin lenses and pockets of this material occurred in the easternmost units of Lot 40, AH and AF. It was decribed as a mixture of whitish and green coarse sand with a very high content of eroded shell and coral, and was found at depths ranging from 12 in above mean sea level to 7 in below mean sea level. Lenses of this sand lay roughly between the late eighteenth, early nineteenth century occupation levels and the landfill deposits and occurred again, deeper in the landfill deposits (Strata 6 and 11 in Unit AF and Strata 4, 10 and 11 in Unit AH).

Similar sand deposits were noted at the 175 Water Street Site, immediately south of the Telco Block. These were tentatively identified as Caribbean in origin. Such material may have been brought to New York in the form of ship ballast (Joan Geismar, personal communication), and may have originated as Caribbean beach sand.

All three distinct fill types were isolated during the hand excavation of Lot 40 indicating that a combination of fill sources were exploited during the circa 1730s filling of the western section of Parcel C.

Analysis of landfill flotation samples from across the site (see Appendix C) and representative of the known fill episodes yielded some interesting results.

Representation of weedy species was much higher in the fill than in the site's cisterns and privys. Those species present are characteristic of disturbed but well drained habitats. The samples contained no aquatic species. The analyzed seeds were in a relatively good state of preservation and although they had obviously been in a wet environment, they were not particularly water worn or scarred as would be expected in either a river or harbor bottom situation, or from continual redeposition. These observations would tend to eliminate slip and harbor dredging as a major landfill source (Josselyn Moore, personal communication).

An overall decline through time in the oak content of the analyzed flotation samples may reflect the relatively early depletions of mature stands of oak in Manhattan. Moore (in Appendix C) notes that this was the preferred wood type for barrel making and shipbuilding, two early New York City industries. In one case floral analysis suggested a fill source distinct from the others. This occurred in the sample from Backhoe Trench N located in Water Lot Grant 5, filled between 1750 and 1755. The samples' bark content was much higher than in the other areas tested. Botanical analysis of samples from the fill and overlying deposits has proven to be quite valuable and hopefully this technique will be applied at other landfill sites.

The block's landfill sequence was initially established through documentary research. Further refinement was possible once the analysis of landfill stratigraphy, and landfill features, as well as the analysis of the fill's organic and artifactual content, was completed. The proposed post-fieldwork landfill sequence follows below.

The western sections of Parcels A, B, and C were filled in the mid-to-late 1730s and thus represent the block's earliest fill episode. This would include the backyard areas of Lots 37, 38, 39 and 40. During this period, Parcel A belonged to Lewis Gomez, Parcel B to Benjamin Wyncoop and then to Robert Bowne, and Parcel C to the Rennaudet family.

Water Lot Grant 1's boundaries were set in 1740 and, within the next two years, the extreme western edge of the grant adjacent to Water Street was filled. Although the lot was originally granted to the Van Borsam family, it belonged to the Remsem family by the mid-eighteenth century.

All but the extreme eastern end of Stephen Van Cortlandt's Water Lot Grant 5 was filled between 1750 and 1755. The eastern sections of Parcels A, B, and C, lying between what is now the backyard area and the Backhoe Trench J north/south bulkhead, were completed by 1756 and possibly as early as 1742. However, an east/west bulkhead along Parcel C's southern boundary suggests that this part of this latter parcel was filled in a separate and slightly later episode than Parcels A and B. Additional filling was also done in Water Lot Grant 1. The 1756 shoreline corresponds to the north/south bulkhead line exposed in Backhoe Trench J. The area lying between this bulkhead line and the present site of Front Street remained unfilled as late as 1767. We have correlated the hiatus in landmaking activities with the 1760s Depression which followed the Seven Years War.

The Bowne/Byvanck wharf projected east from the above bulkhead along the Lot 25/26 boundary. Exposed in Backhoe Trench J, this wharf dates, at the earliest, to the 1740s. Another mid-eighteenth century wharf, exposed in Backhoe Trench I, paralleled Van Cortlandt's Water Grant 5.

The last filling episode occurred between 1767 and 1776. This included the eastern ends of Water Lot Grants 1 and 5 as well as Water Lots 2, 3, and 4 (the latter being granted in 1756 to inland owners). The bulkhead line and exposed section of the Bowne/Byvanck Wharf were thus not used after this date. The Van Cortlandt/Berrien Wharf was no longer in use by the 1780s, the adjacent slip having been filled. The eastward extensions of these wharves (at the present site of the Schermerhorn Row Block) reamined in use throughout the remainder of the eighteenth century.

Analysis of landfill features and stratigraphy in conjunction with documentary research has proven to be a productive approach. Observed alignments of fill-retaining structures, as well as the stratigraphy and ceramic content (where applicable) of the different episodes, supplemented the fill scenario initially proposed. The wharves and other fill-retaining structures excavated in this phase of the project represent part of a vernacular building tradition. A body of literature exists devoted to wharves and waterfront construction (see sources quoted above and Albion 1970:445-449). Hopefully

the documentation presented in this report will prove useful. However, the landfill and the wharves are best viewed within the context of the social matrix which created them. The writings of historians such as Albion (1970), Gordon (1978), Harrington (1935), and Nash (1979) attest to the critical importance of New York's eighteenth century waterfront, represented in this case by the Telco Block's buried wharves and landfill deposits. Political and economic aspects of the landfilling process and suggestions for further research are presented in the concluding sections of this report.

IV. THE OCCUPATIONAL REMAINS ON THE TELCO BLOCK

A. Introduction: The Sampling Strategy and Field Methodology Used in Excavating the Occupational Remains on the Block

Before fieldwork began, the results of the documentary study indicated that the occupational remains on the Telco Block should be relatively undisturbed and that particularly the backyards were highly likely to yield significant resources reflecting the use of the block from the mideighteenth through the nineteenth centuries (Harris 1980). This in fact proved to be the case. These occupational remains included: 1) undisturbed deposits and features, most of which were located in backyard areas, and 2) the remains of earlier structures. The sampling strategies and field methodologies varied when applied to these different resources.

In evaluating the resources in the backyards, a backhoe was used to clear areas of recent demolition rubble down to the level of undisturbed archaeological deposits and features. In all, more than 2600 sq ft of backyard areas was examined. Part or all of three of the backyards (in Lots 25, 39, and 47) had been heavily disturbed by earlier excavations for the construction of deep basements in what were originally backyard areas. These areas were not tested further.

Each of the remaining backyards was then explored with test trenches, shovel tests, and/or test cuts, so that an evaluation of their archaeological potential could be made.

Test trenches 1 ft wide were excavated across the length of four of the backyards (in Lots 41, 42, 48, and 24). These trenches were trowelled down stratigraphically, and the artifacts were collected as they were encountered. In five of the backyards, 1 by 1 ft shovel tests were dug (in Lots 26, 27, 37, 40, and 46) in order to provide a preliminary evaluation of deposits present and to act as stratigraphic control. These tests were dug stratigraphically, and the material from them was screened through quarter-inch wire mesh.

Exploratory test cuts were dug in six of the backyards (in Lots 25, 26, 27, 28, 37, and 40). These units, which were of various sizes, were excavated stratigraphically, and by 4 in. arbitrary levels within strata; the deposits were screened through quarter-inch wire mesh.

As a result of this preliminary evaluation of the backyards, 21 features (11 privies, eight cisterns, a flue for an oven, and a dry well) were identified. Two other features (a wooden box and a wooden barrel) were found in Backhoe Trench (BT) K in Lots 38 and 39, and undisturbed deposits were found on a wooden floor in Lot 26. Subsequent excavation was concentrated on these features, because we felt that the sealed, undisturbed deposits which they contained would yield the greatest amount of information relevant to our research questions. All 24 of these features were sampled. On an average, two features were sampled from each of the 11 relatively well-preserved backyard areas on the site, and, in all of these lots, at least one feature was sampled.

In addition, the backyard of Lot 40 was chosen for almost 100 percent excavation in order to provide a general context within which to interpret the construction, placement, and use of backyard features. This specific backyard was selected because, according to exploratory excavation, it was the largest yard containing undisturbed, stratified deposits.

Three backhoe trenches were excavated in order to look for structures which had been recorded on the block in the mid-eighteenth century; these were Backhoe Trench H and Backhoe Trench AO in Lots 38 and 26, respectively, to look for the remains of a warehouse recorded in this area in 1763, and Backhoe Trench I in Lots 46 and 47, to locate the remains of a building recorded here in 1755 (see Section III, above). None of the remains of these buildings were found.

Spread-footer complexes were uncovered in all but one of the backhoe trenches (Backhoe Trenches J, K, M, and N) which crossed the modern lot lines and in several of the test cuts (Test Cuts V, AC, AG1, and AS), and details of their construction were recorded.

Three wooden floors were found during the excavation of the backhoe trenches in Lots 26, 46, and 47. Two of these floors, in Lots 26 and 47, were exposed and recorded.

The following section consists of a lot-by-lot description and analysis of the occupational remains excavated on the Telco Block. The goal of this section is to date the deposits and to provide an interpretation of the history of the use of each of these lots as it was documented by the excavations.

The Arabic numerals shown in parentheses after strata descriptions in this section designate each stratum as referred to on the profiles and in Appendix F.

B. The Results of the Excavation of the Occupational Remains in Lot 40 (Figs 4.1-4.8)

1. Background

The Lot 40 backyard area was chosen for total excavation because it was the largest backyard (ca. 375 sq ft) containing undisturbed stratified deposits. It was hoped that the yard's complete excavation would provide a context for the features excavated in the other backyards.

This area falls within the bounds of Landfill Parcel C which was probably filled between 1732-35 and 1755. Backhoe Trench K, Section 4 also generated samples of this same fill episode (see Section III above). Eighteenth century maps show warehouses along the block's western edge on Water Street but their relationship to modern lot lines is unclear. Early occupancy data are unavailable, but it is known that by 1786 the lot had become the site of a boardinghouse. From this date until the end of the century, the lot was occupied by a shoemaker. Early nineteenth century residents included a surgical instrument maker, a gunsmith, a series of grocers and fruiterers, and a cabinetmaker. In 1816, the building burned and the lot remained vacant

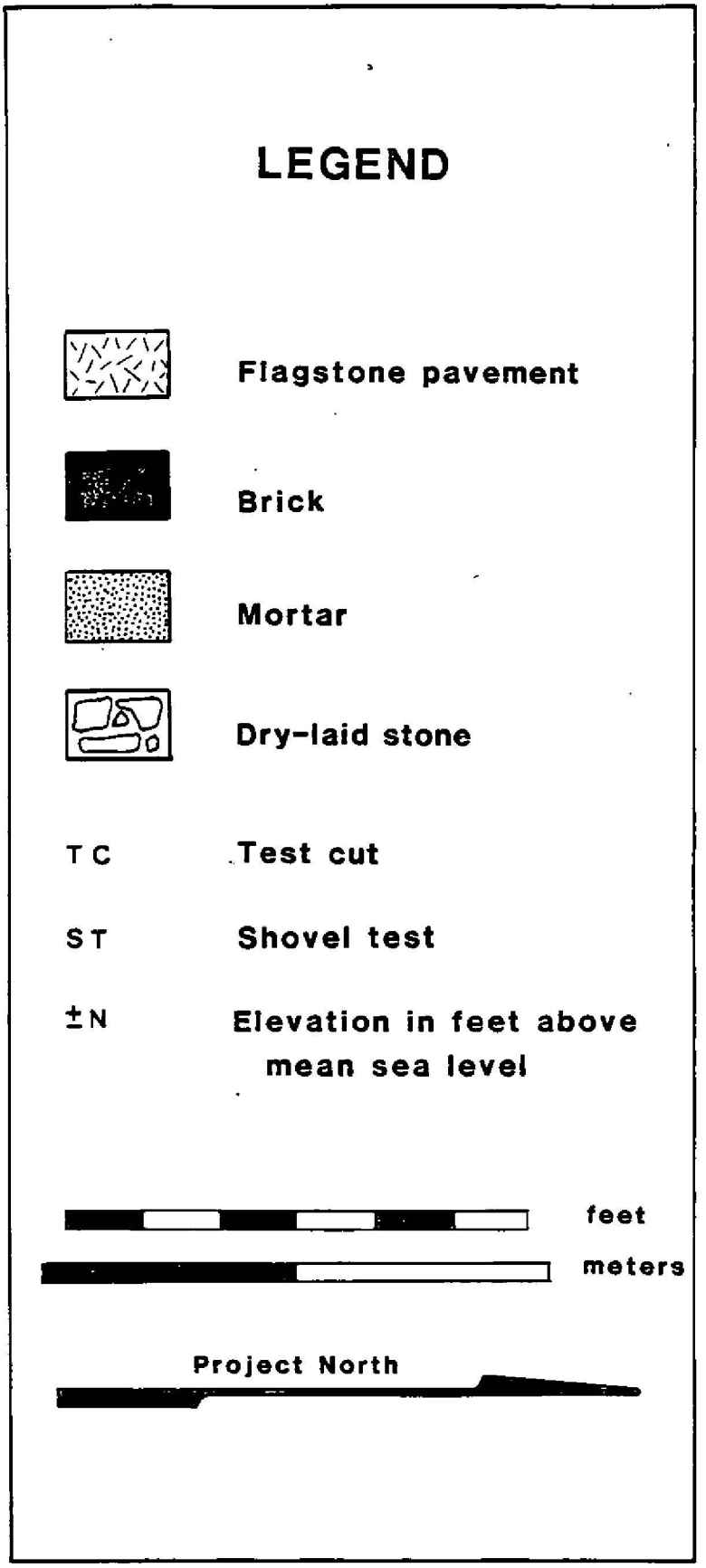


Figure 4.1a. Key to the plan view, Lot 40.

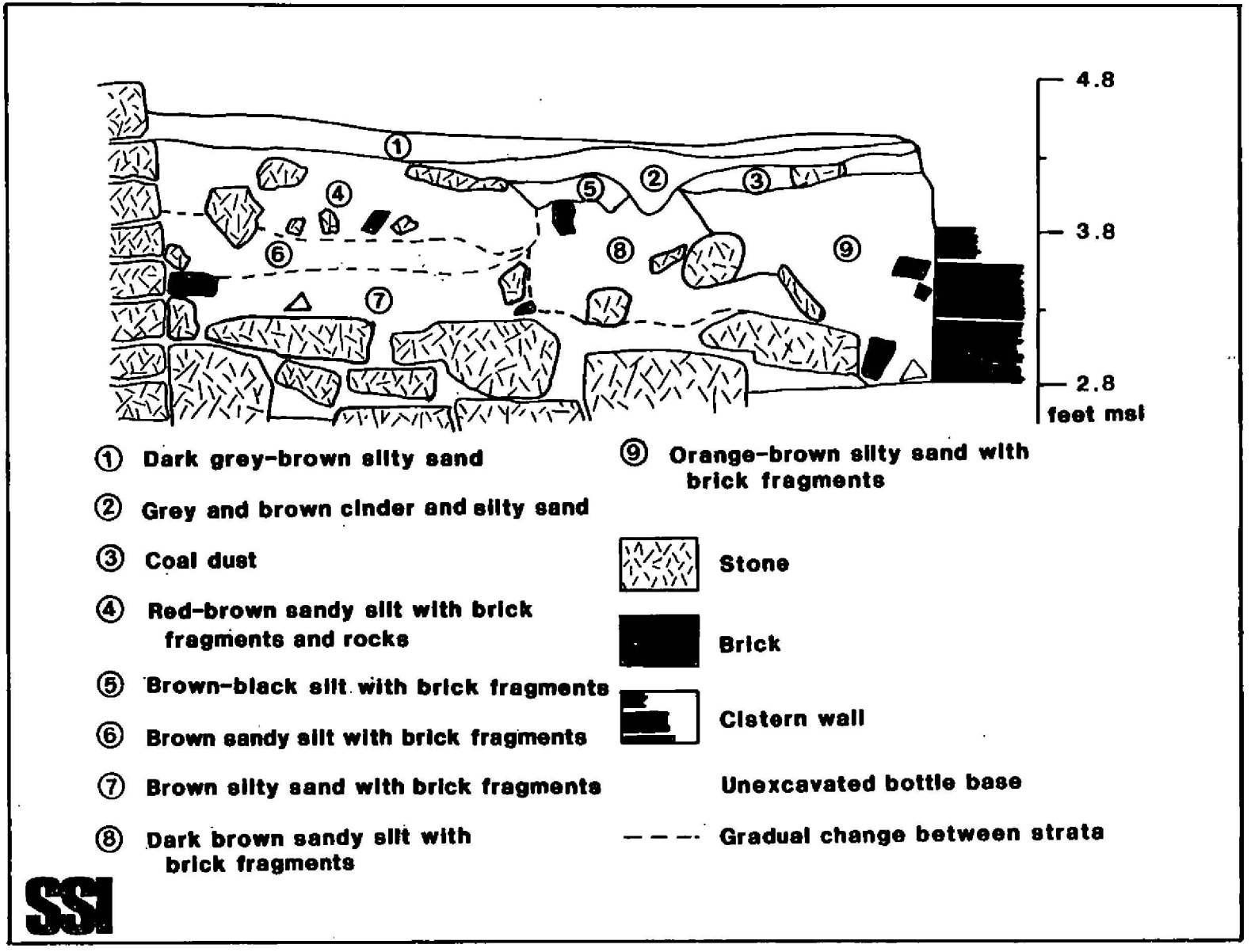


Figure 4.16. Profile, north wall of Test Cut F1 in Lot 26, showing wall of cistern, Test Cut F2.

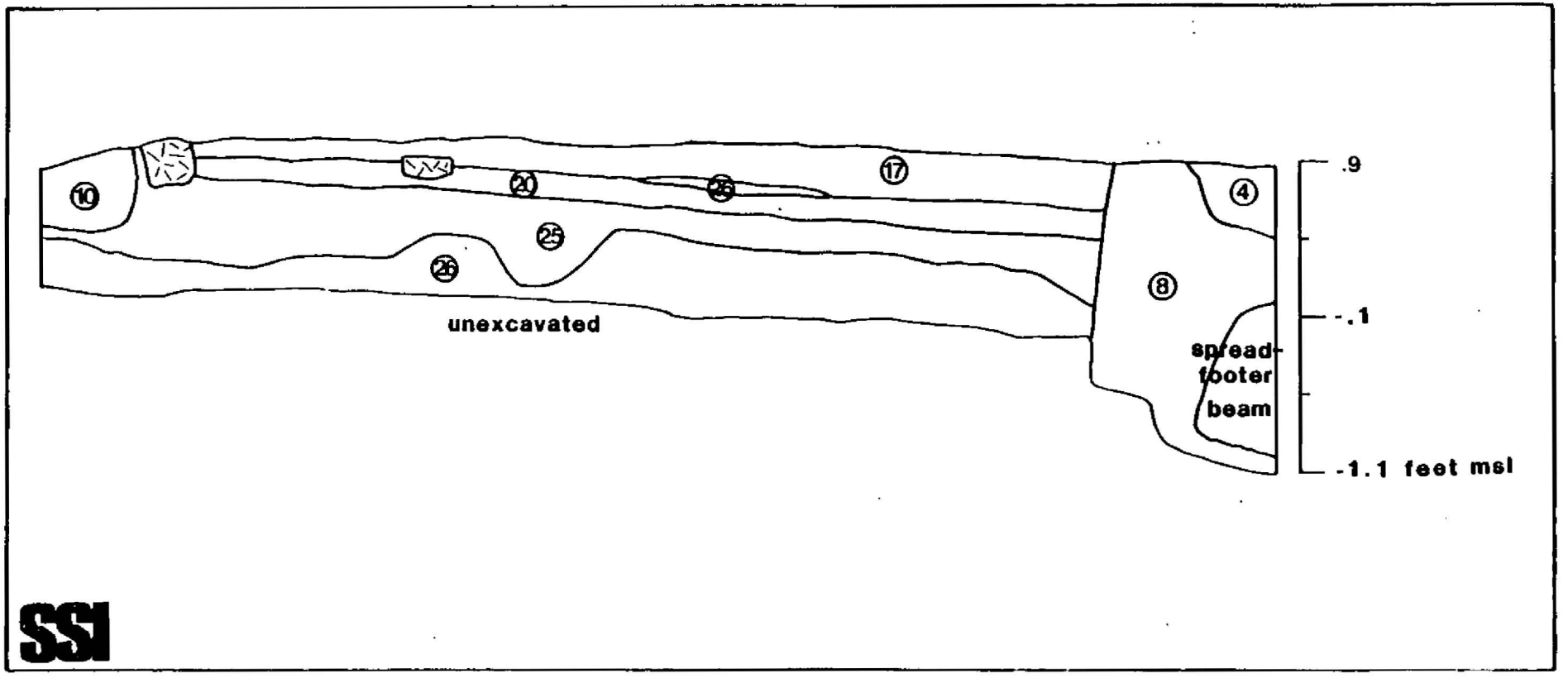


Figure 4.2a. Profile, south wall of Test Cut AC in Lot 40.

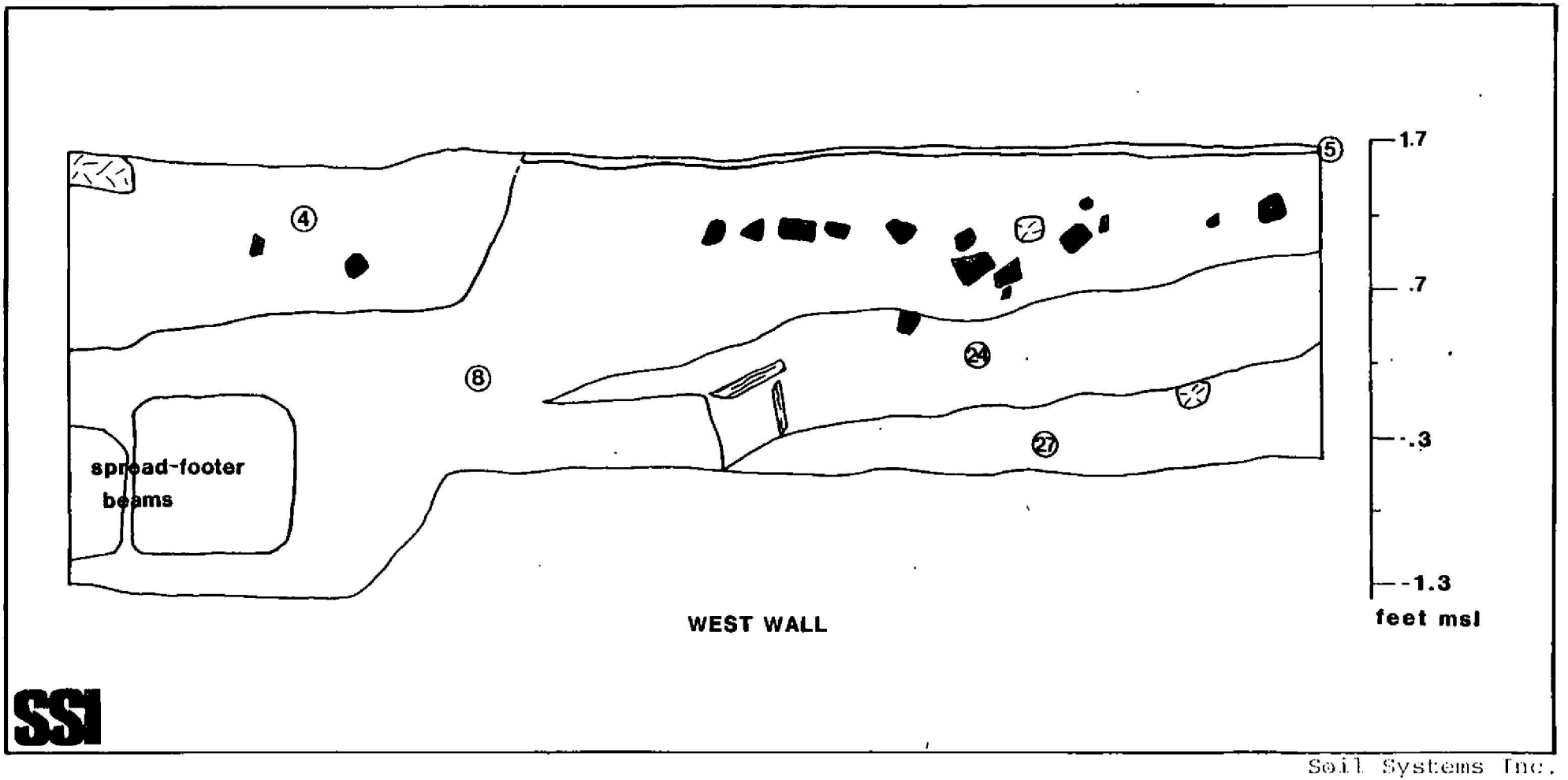


Figure 4.2b. Profile, west wall of Test Cut AC in Lot 40.

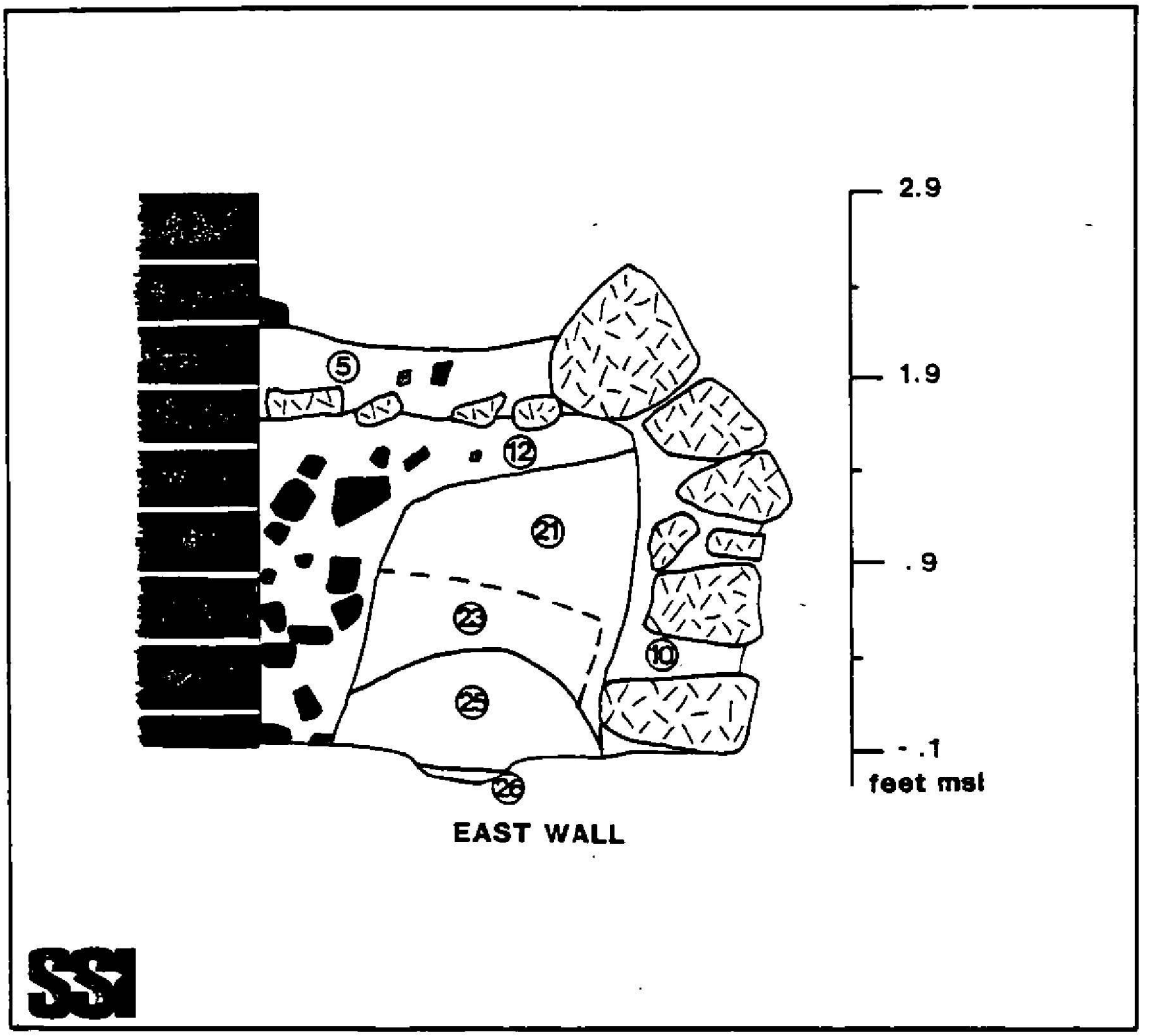


Figure 4.2c. Profile, east wall of Test Cut AC in Lot 40, showing wall of cistern, Test Cut Y, and privy, Test Cut R.

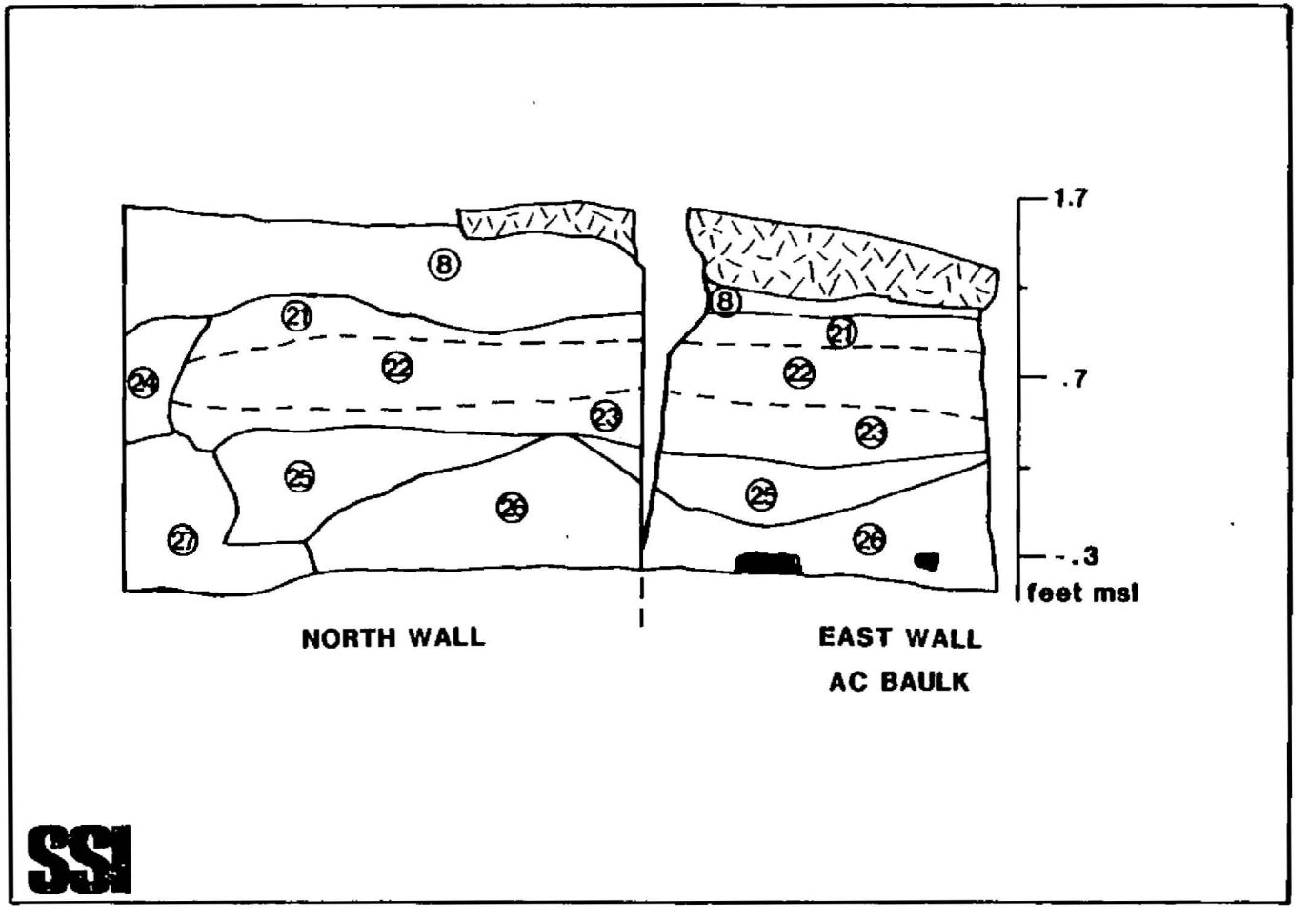


Figure 4.2d. Profiles, north wall of Test Cut AC in Lot 40; east wall of baulk, Test Cut AC in Lot 40.

④ **Dark grey, hard-packed yellow and brown sandy silt with brick, charcoal and mortar**

⑤ **Grey, black and reddish-brown sandy silt with coal dust**

⑧ **Dark grey and grey-brown sandy silt with brick, coal and mortar**

⑩ **Black-grey sandy silt and silt with organic material**

⑫ **Grey-brown sandy silt with brick and mortar**

⑰ **Yellow-grey sandy silt with pebbles**

⑳ **Yellow mortar with charcoal**

㉑ **Brown silt with organic material**

㉒ **Brown sandy silt with lenses of orange silt**

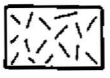
㉓ **Rusty orange silt with organic material**

㉔ **Orange-brown sandy silt with brick, mortar and charcoal**

㉕ **Pinkish-brown sandy silt**

㉖ **Greenish-grey sandy silt with wood chips**

㉗ **Fine pink sand**

 **Stone**

 **Brick**

 **Wood**

Gradual change between strata

Figure 4.2e. Key to the profiles, Test Cut AC in Lot 40.

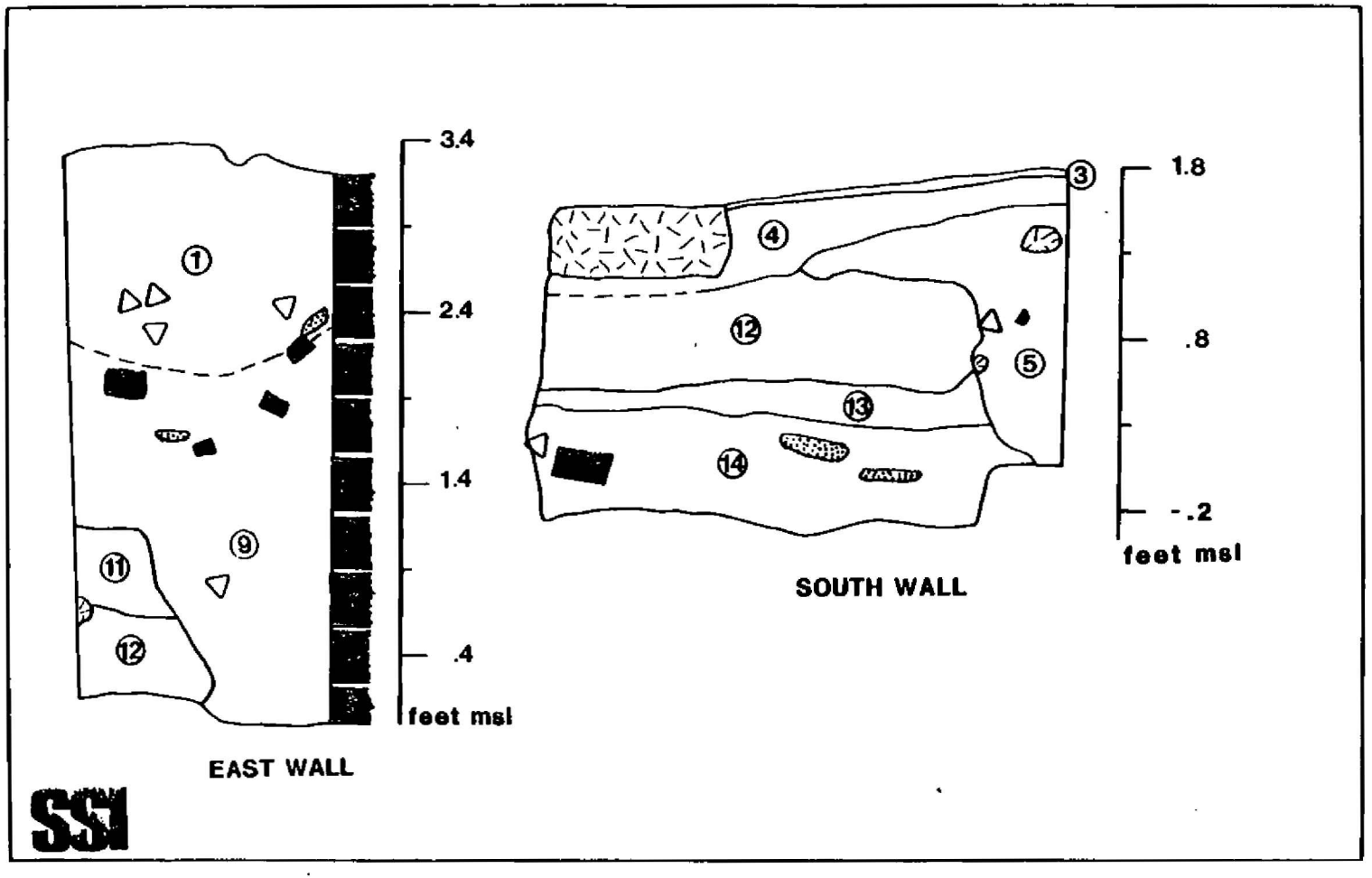


Figure 4.3a. Profile, east and south walls of Test Cut AD in Lot 40.

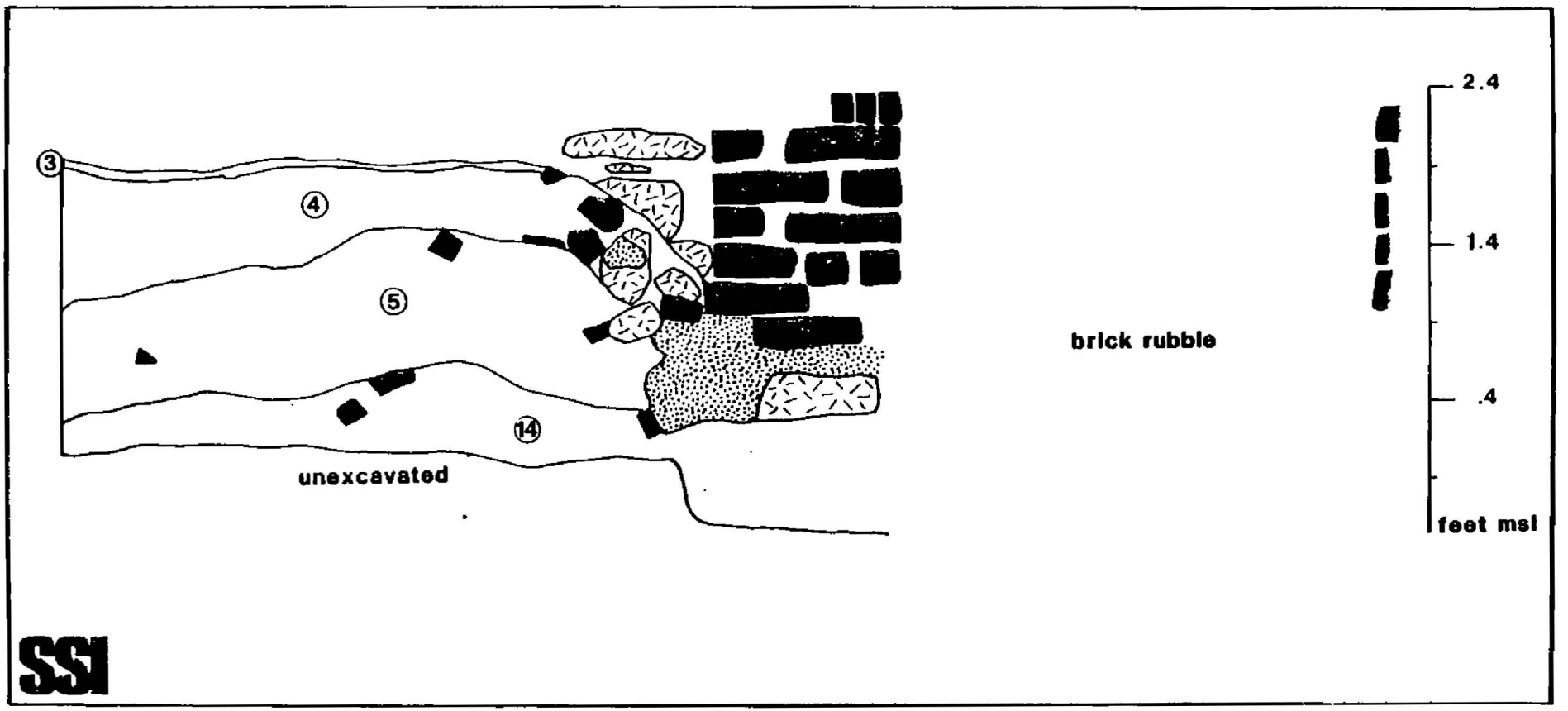


Figure 4.3b. Profile, west wall of Test Cut AD in Lot 40.

① Brown and grey-brown silty sand with construction rubbie

③ Coal dust

④ Grey-brown sandy silt with brick, charcoal, shell, mortar and pockets of pinkish-tan silt

⑤ Light grey-brown sandy silt with brick, charcoal, shell, mortar and pockets of pinkish-tan silt

⑨ Dark grey-brown sandy silt with brick, charcoal, shell, mortar and pockets of pinkish-tan silt

⑪ Black silt with organic matter

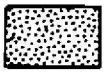
⑫ Bright orange silt

⑬ Light grey-brown sandy silt with brick, charcoal, shell, mortar and pockets of tan silt

⑭ Greenish-grey sandy silt

 Stone

 Brick

 Mortar

---- Gradual change between strata

Figure 4.3c. Key to the profiles, Test Cut AD in Lot 40.

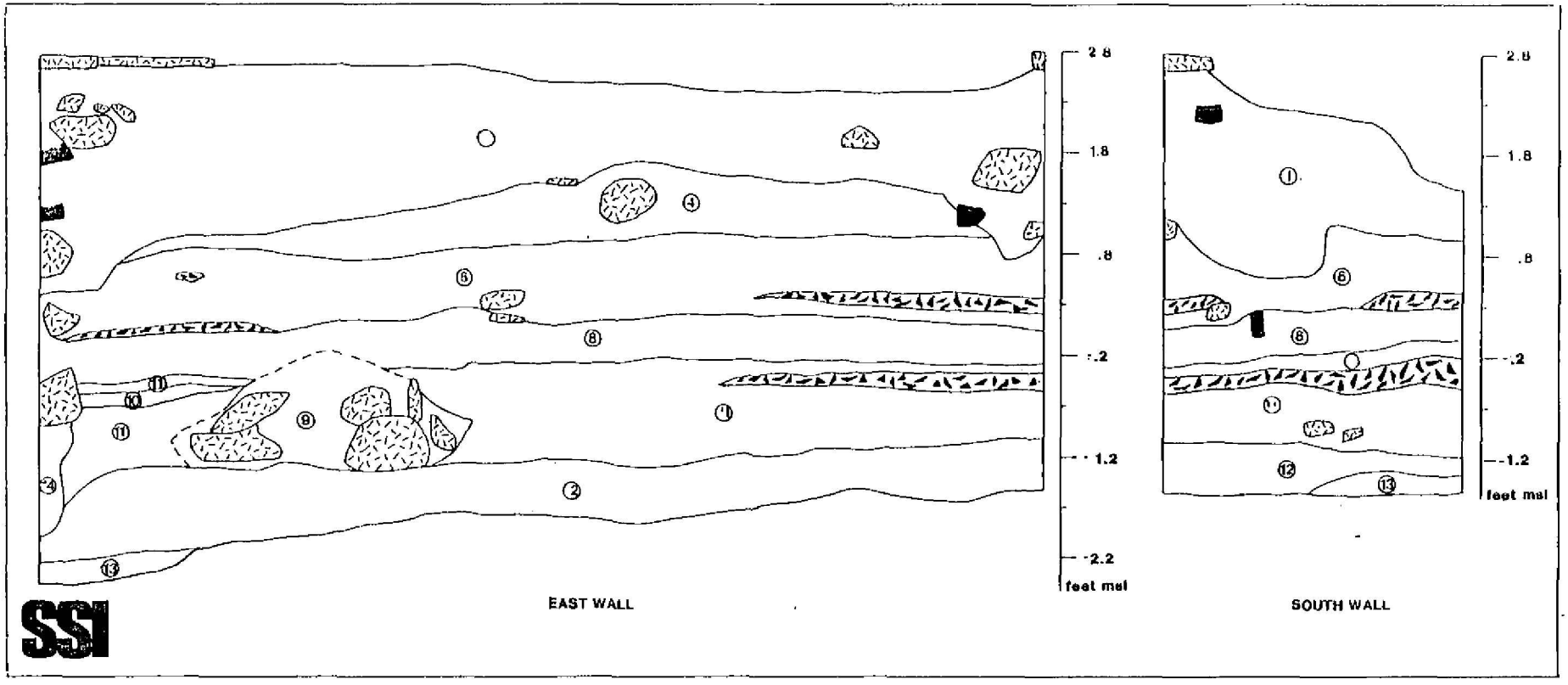


Figure 4.4a. Profiles, east and south walls of Test Cut AF in Lot 40.

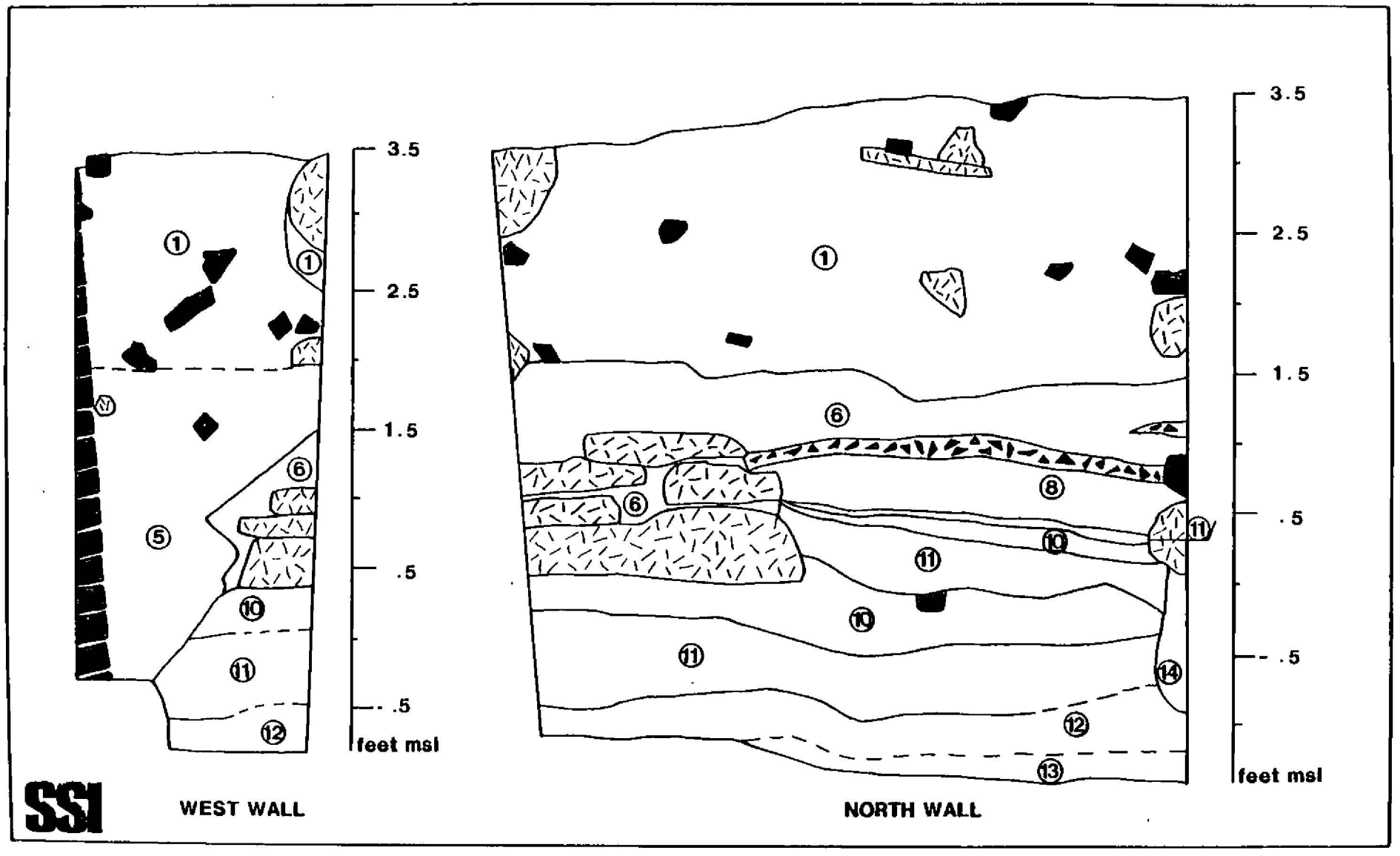


Figure 4.4b. Profiles, west and north walls of Test Cut AF in Lot 40.

① Brown and grey-brown silty sand overburden with construction rubble

④ Bright green-yellow silty sand with gravel

⑤ Mixed brown, tan and orange silty sand with brick

⑥ Brown sandy silt with rust staining and decomposed coral and pebble gravel

⑧ Greyish-brown sandy silt mottled with pink and grey

⑨ Greyish-brown sandy silt mottled with pink and grey: intrusive

⑩ Fine pink sand

⑪ Mottled dark brown clayey silt with red clay and bands of burnt wood chips

⑫ Grey-brown sandy silt

⑬ Reddish-brown coarse sand

⑭ Grey-brown silty sand with brick and mortar rubble

 Stone

 Brick

 Coral, lens of coral in green sand and gravel

 Cistern wall

▽ Shell

---- Gradual change between strata

Figure 4.4c. Key to the profiles, Test Cut AF in Lot 40.

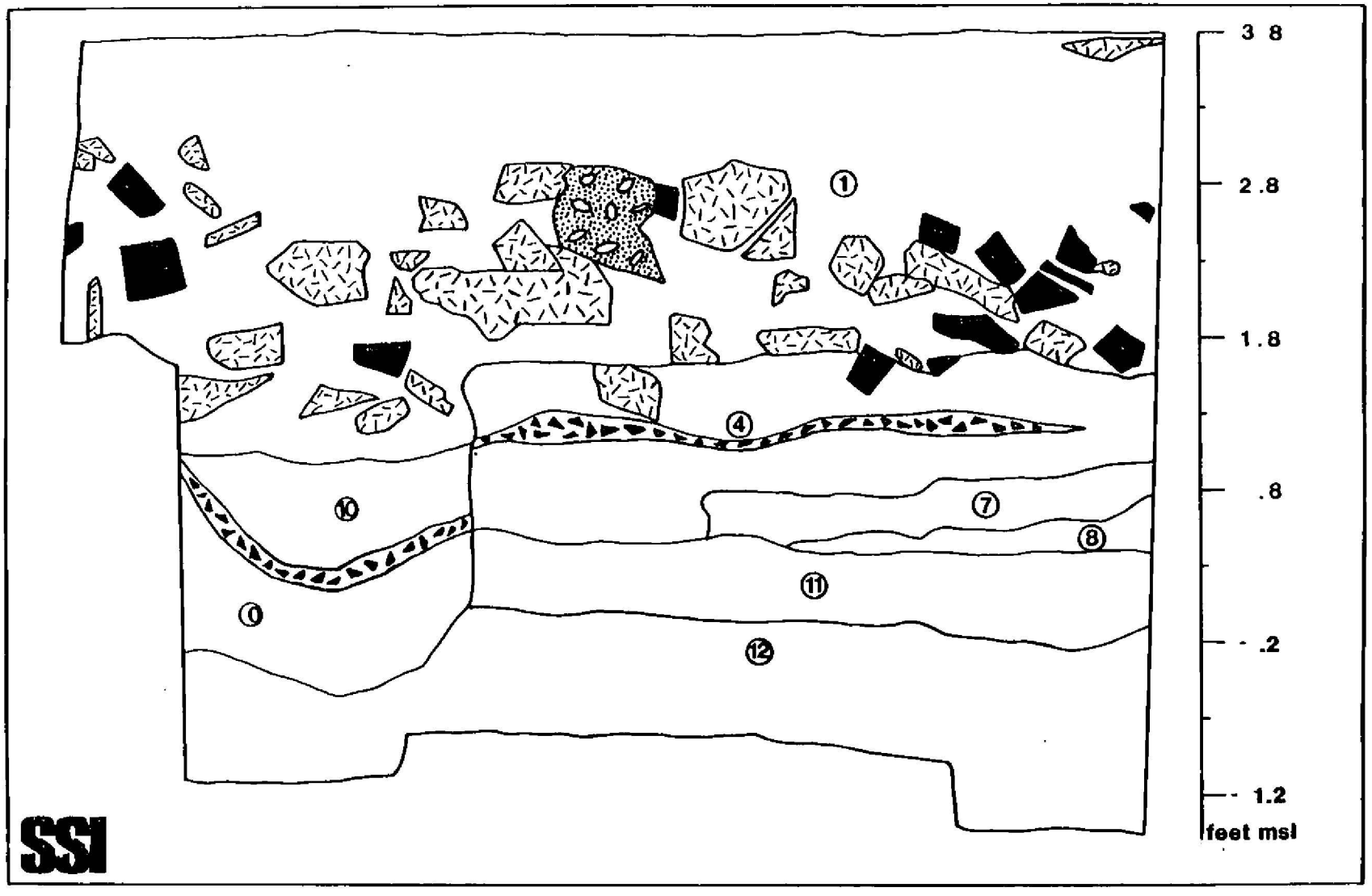


Figure 4.5a. Profile, east wall of Test Cut AH in Lot 40.

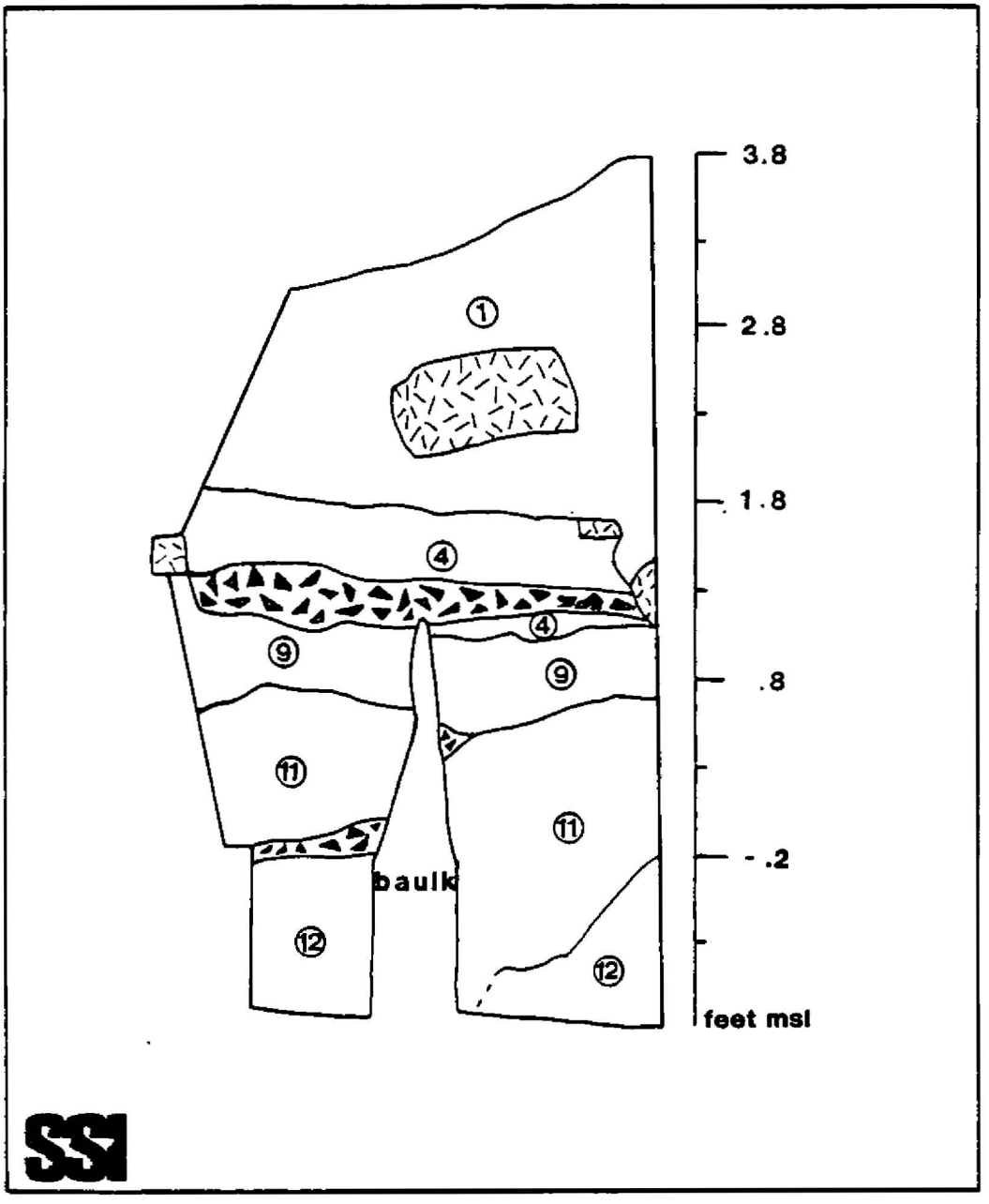


Figure 4.5b. Profile, west wall of Test Cut AH in Lot 40.

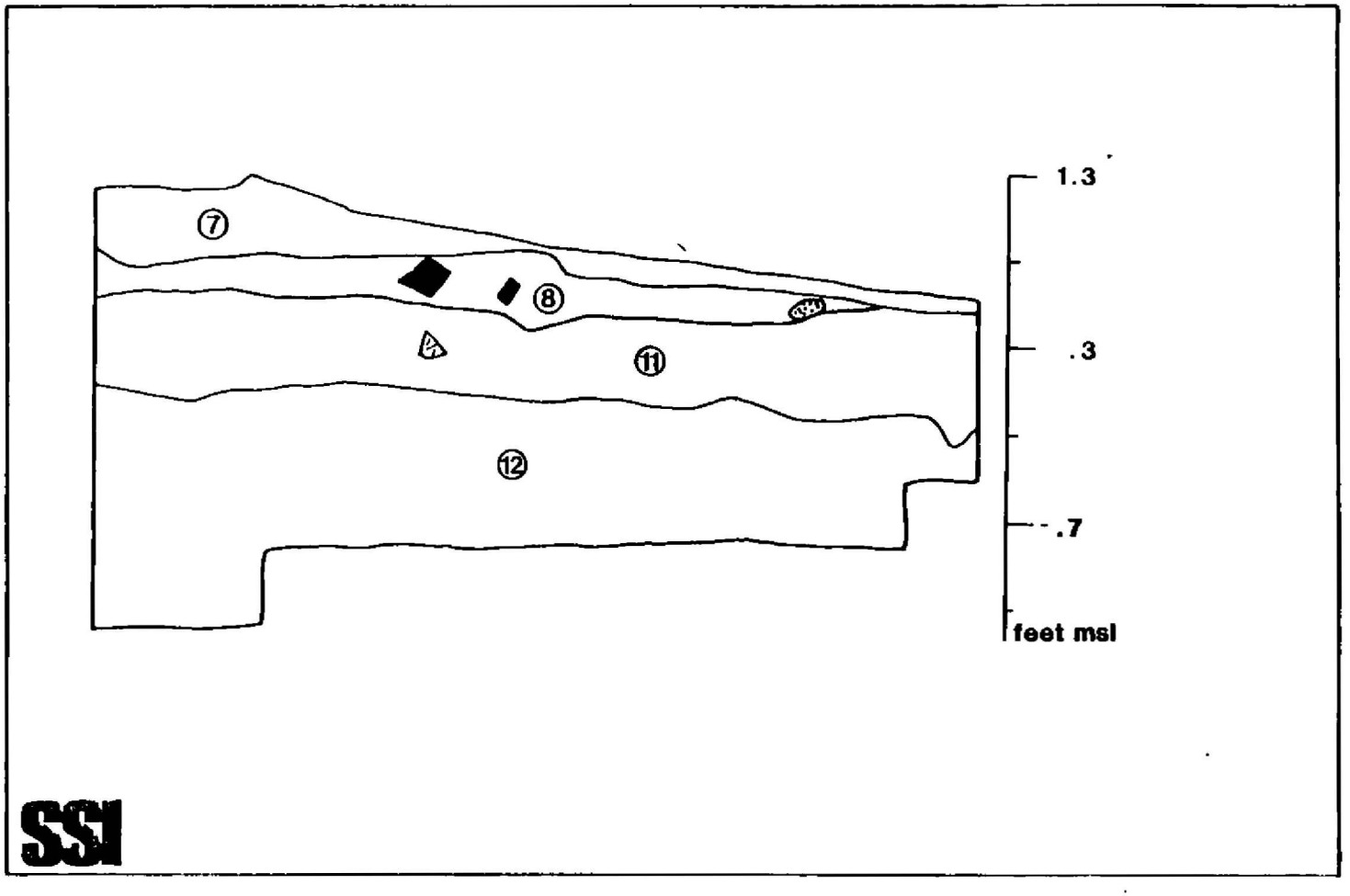


Figure 4.5c. Profile, south wall of Test Cut AII in Lot 40.

① Brown and grey-brown silty sand overburden with construction rubble

④ Brown sandy silt with lenses of orange silt

⑦ Pink sand

⑧ Grey-brown sandy silt mottled with tan silt with pockets of mortar and shell

⑨ Dark brown sandy silt

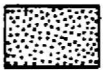
⑩ Heavily mottled brown sandy silt with coral

⑪ Pinkish-brown sandy silt mottled with tan silt and coral

⑫ Pink and greyish-pink clayey silt

 Stone

 Brick

 Mortar

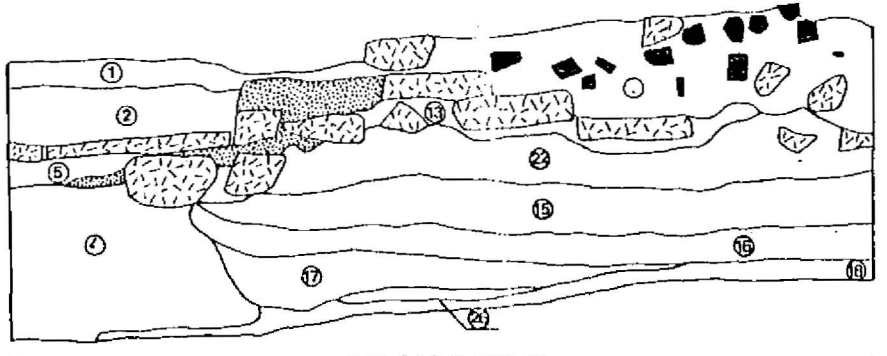
 Concrete

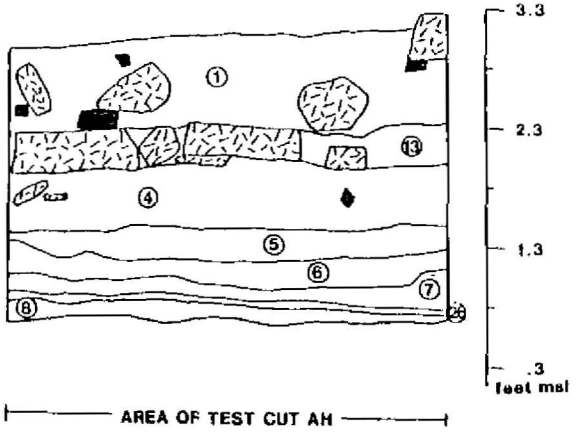
 Shell

 Gradual change between strata

 Coral, lens of coral in green sand and gravel

Figure 4.5d. Key to the profiles, Test Cut AH in Lot 40.





① Brown and grey-brown silty sand overburden with construction rubble

② Coal dust

④ Dark grey, hard-packed yellow and brown sandy silt with brick, charcoal and mortar

⑤ Grey, black and reddish-brown sandy silt with coal dust

⑬ Black-brown sandy silt

⑮ Yellow silt mottled with grey sandy silt

⑯ Mixed black sandy silt and yellow silt

⑰ Yellow-grey sandy silt with pebbles

⑱ Yellow mortar with charcoal

㉒ Brown sandy silt with lenses of orange silt

㉙ Greenish-grey sandy silt with wood chips

① Brown and grey-brown silty sand overburden with construction rubble

④ Brown sandy silt with lenses of orange silt

⑤ Black silt mottled with yellow with a lens of decayed wood

⑥ Grey-brown sandy silt with rust staining and slag

⑦ Pink sand

⑧ Grey-brown sandy silt mottled with tan silt with pockets of mortar and shell

⑬ Black-brown sandy silt

㉙ Greenish-grey sandy silt with wood chips

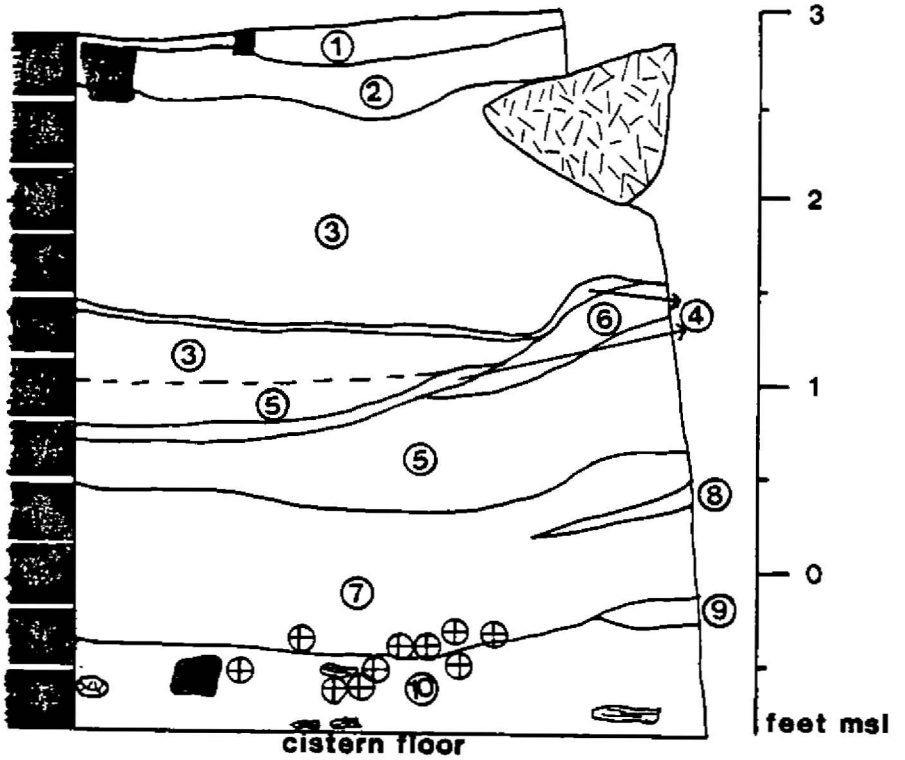
Stone

Mortar

Brick

SSI

Figure 4.6. Profile, south face of Lot 40.



① Dark brown sandy silt mottled with grey-brown sandy silt, mortar, brick, coal dust

② Light brown sandy silt mottled with mortar and brick

③ Coal dust

④ Black silt lenses

⑤ Coal dust with lenses of black silt and brown sand

⑥ Coal dust with lenses of black silt and fragments of cinder

⑦ Fine black silt mottled with coal dust

⑧ Coarse grey-brown sand with black silt

⑨ Fine white-orange sand mottled with black silt, coal, rust and decayed organic material

⑩ Fine black silt

Stone

Brick

Wood

Cork

Gradual change between strata

Figure 4.7. Interior profile, cistern, Test Cut Y in Lot 40.

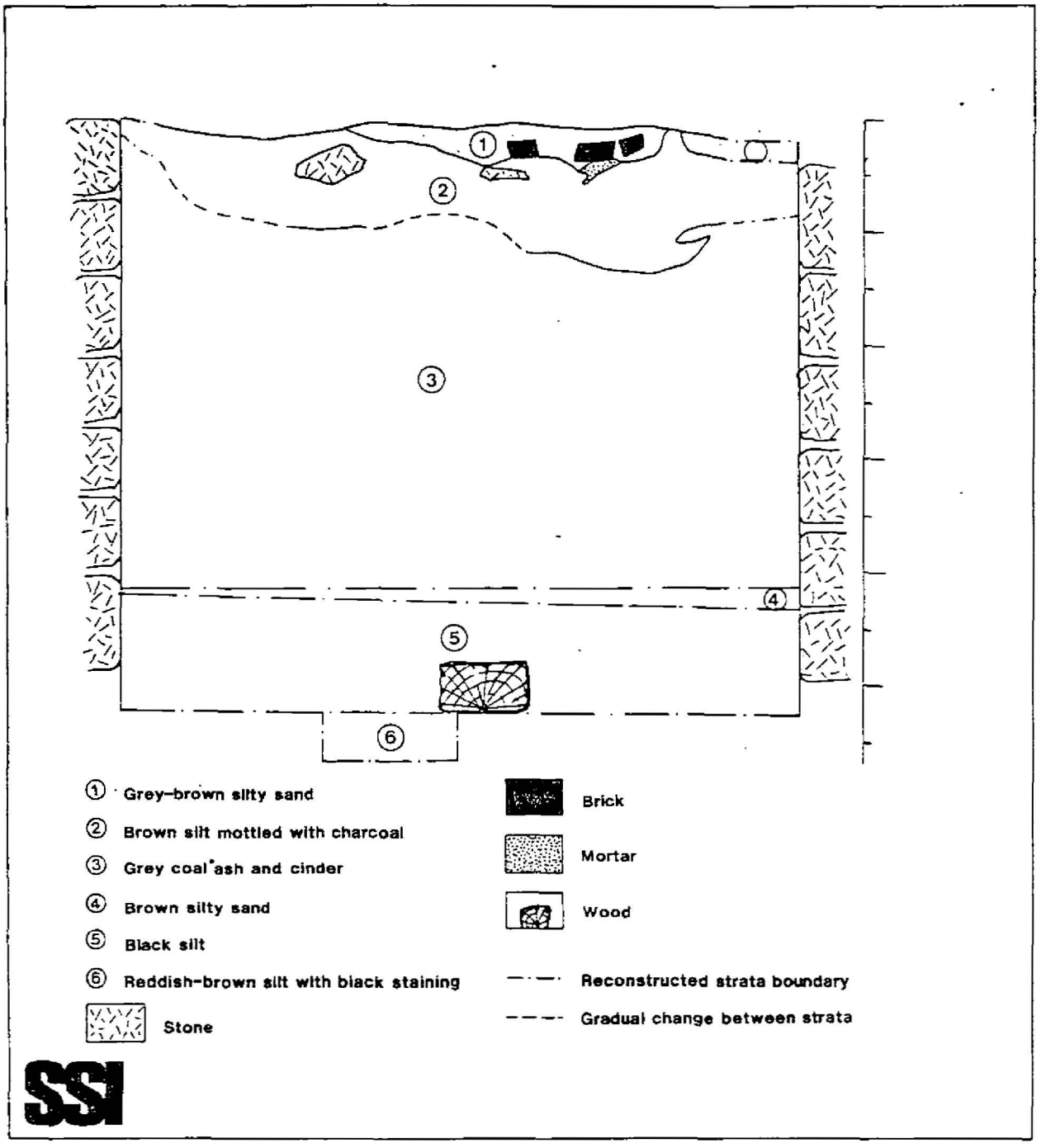


Figure 4.8. Interior profile of Test Cut R2, the privy in Lot 40, looking east.

until 1826. Occupants of the new building included furriers and manufacturers of wire and tinware. In 1860 a cork importer took up residence in Lot 40 and remained there throughout the rest of the nineteenth century (See Appendix B).

2. Methodology

Excavators working in Lot 39, immediately to the south of Lot 40, exposed a profile along the southern edge of Lot 40, in which approximately 30 in. of stratified deposits were visible. Shovel Test S, measuring 1 ft by 1 ft, was placed so that the depth of the stratified deposits could be assessed and the strata individually sampled. Shovel Test S and the completed profile drawings served as stratigraphic control for subsequent excavation in Lot 40.

Test Cut R was placed within the backyard area in order to locate features and to evaluate deposits within the backyard area. Two features were uncovered; these were a privy, excavated as Test Cut R, and a cistern, excavated as Test Cut Y. A brick and stone trough connecting the privy to the cistern was also found in Test Cut R.

The backyard area was subsequently divided into four roughly equal areas. Each quadrant was assigned an individual test unit designation and excavated, and a single datum point was used for the whole yard. The individual units, Test Cut AC in the southwest, Test Cut AD in the northwest, Test Cut AF in the northeast, and Test Cut AH in the southeast (Fig. 4.1), were separated by 1-ft balks. Other features, such as a dry-laid stone wall and a series of builder's trenches, occurred in the quadrants. Definable strata include those associated with the deposition of landfill and the eighteenth and nineteenth century occupation of the block. As these strata reflect distinct events in the lot's history, we will discuss the stratigraphy of the four quandrants together, in the context of these events.

3. Results of the Excavation of the Backyard of Lot 40

a. Materials Deposited Prior to the 1816 Fire Episode

i. Landfill (see also Section III, Landfill Features and Stratigraphy: Summary and Conclusion)

The earliest event discernible in the hand excavation of the four units in Lot 40 is the deposition of the landfill. These strata include 25 and 26 in Test Cut AC; 13, 14, and 15 in Test Cut AD; 11 and 12 in Test Cut AF; and 9, 11, and 12 in Test Cut AH. These and other Lot 40 backyard strata were compared with landfill deposits from Backhoe Trench K Sec. 4, which was located in Lot 40 approximately 14 ft to the west underlying the basement floor of the Lot 40 structure. Similarities in ceramic content and soil description and comparable elevations for the strata in Test Cuts AC, AD, AF, AH, and Backhoe Trench K led us to identify the deepest backyard deposit excavated as undisturbed landfill.

The backyard landfill ranged from approximately 12 in. above mean sea level (at its highest point) to the bottom of the excavated areas (ca. 10 in. below mean sea level or msl). The landfill samples from Levels 1 and 3 in the backhoe trench came from depths ranging between mean sea level to approximately 27 in. below mean sea level. Elevations at the top of the landfill deposits appear slightly higher in AF (6 in. above msl) and AH (11 in. above msl), as compared to AC (2 in. above msl) and AD (4 in. above msl). The landfill surface thus seems to slope downward from east to west in the backyard area. AF and AH, the two units with higher elevations, occupy the rear or eastern end of Lot 40 while AC and AD occupy an area adjacent to the rear wall of the Lot 40 structure (Fig. 4.1). Construction activities here could have disturbed the top of the original deposits.

These backyard landfill deposits were described by excavators in AC, AD, and AF as consisting of a greenish gray or brown clayey silt mixed with shell and wood chips. The mean ceramic dates (Table 4.1) of these strata are as follows: Stratum 26 in AC had a mean ceramic date of 1731.89 (s = 7.48); Stratum 14 in AD had a mean ceramic date of 1728.65 (s = 21.21); and Stratum 11 in AF had a mean ceramic date of 1734.46 (s = 13.60). A pinkish or pinkish brown sandy silt appeared in AC and AD overlying the greenish gray clayey silt. In AF, a fine pink sand overlay the brown clayey silt with wood chips. The fill deposits in AH differed from that in the other quadrants in that there was no sign of the greenish gray or brown clayey silts mixed with shell and wood chips. Possibly AH represents the edge of a fill area with a different depositional history than the rest of Lot 40. The early eighteenth century mean ceramic date for these pinkish sandy silt strata suggest that they also be grouped with the landfill. These dates are as follows: Stratum 10 in AF had no datable ceramics, however no later eighteenth century creamware or pearlware was recovered; Stratum 12 in AH had a mean ceramic date of 1734.6 (s = 7.21); and Stratum 11 also in AH had a mean ceramic date of 1736.65 (s = 13.45). An additional unexcavated pinkish sand level underlaid all four units. This may represent redeposited local subsoil, listed here as a landfill.

ii. Occupation

The deposits occurring between mean sea level and 22 in. above mean sea level differ from the underlying landfill deposits by virtue of their soil matrices and their mean ceramic dates. The appearance of pearlware and creamware, in marked contrast with the deeper strata, and a series of late eighteenth century mean dates indicate that these strata were deposited subsequent to the landfilling of this area. Contamination from the earlier fill period ceramics resulted in earlier mean ceramic dates than were expected. However, with the exception of Stratum 23 in AC, which produced a very small sample of ceramics, the mean ceramic dates for these deposits are consistently later than the underlying fill deposits (see Appendix F and Table 4.1).

TABLE 4.1: MEAN CERAMIC DATES, LOT 40 STRATIGRAPHIC EVENTS

Events/Units	AC Stratum	AC Date	AC Count	AD Stratum	AD Date	AD Count
Fill	26	1731.89 s=7.48	n=49	15	1737.17 s=13.36	n=51
	25	1738.04 s=13.49	n=42	14	1728.65 s=21.21	n=20
				13	1732.60 s=18.08	n=10
Orange, rust colored silt and sandy silt; 18th and early 19th century occupation (pre-1816 fire)	23	1733.00	n=2	12	1759.87 s=26.11	n=8
	22	1763.00	n=2			
	21	1769.36 s=24.67	n=17			
18th century main structure rear wall builders trench	24	1758.86 s=38.26	n=46			
Dry-laid stone foundation wall	13	1779.07 s=33.66	n=15	10	1801.56 s=45.21	n=16
19th century main structure rear wall builders trench	9	1788.05 s=19.18	n=80	5	1779.91 s=40.76	n=73
	8	1793.49 s=28.77	n=418			
Cistern builder's trench	12	1772.60 s=34.55	n=10	9	1779.19 s=32.26	n=120
Privy builder's trench	10	1782.36 s=29.71	n=167			
Flagstone paving	5	1782.40 s=22.64	n=15	4	1784.77 s=29.29	n=45
Coal dust overlying flagstones	2	1860	n=1	3	undatable	
Overburden	1	1799.85 s=38.92	n=161	1	1780.00 s=32.01	n=4
				2	(rubble assoc. with Fea. 31) 1808 s=33.33	n=5

TABLE 4.1 (continued)

Events/Units	AF Stratum	AF Date	AF Count	AH Stratum	AH Date	AH Count
Fill	12	1733.00	n=2	12	1734.76 s=7.21	n=17
	11	1734.96 s=13.60	n=96	11	1736.65 s=13.45	n=40
	10	no datables				
Orange, rust colored silt and sandy silt; 18th and early 19th century occupation (pre-1816 fire)	6	1780.91 s=25.39	n=376	4	1775.30 s=25.21	n=258
Dry-laid stone foundation wall				2	1782.18 s=22.33	n=77
Cistern builder's trench	5	1778.86 s=26.75	n=36			
Privy builder's trench				3	1789.97 s=26.57	n=49
Overburden	1	1786.06 s=22.95	n=15.45	1	1788.19 s=24.16	n=466

The soil in this deposit was a bright orange or rust color. These strata (21, 22, and 23 in AC; 12 in AD; 6 in AF; and 4 in AH), like those underlying them, sloped downward from east to west. The top of the deposit was almost 10 in. higher in the eastern units (AF and AH). One possible interpretation is that these late eighteenth century, early nineteenth century occupation levels were truncated in the western front section of the yard by activities associated with the 1826 construction of the main structure. The eighteenth century occupation deposits in the rear of the lot (AF and AH) remained relatively undisturbed.

Also of note is the presence of burnt creamware and pearlware probably associated with the 1816 fire, an event which occurred at the end of this occupation period.

iii. Remains of Eighteenth Century Construction Activities: Builder's Trench and Spread-footer Complex

A double builder's trench was noted in both Backhoe Trench K Section 4 (Strata 18-27) and Test Cut AC (Strata 8 and 9). In Test Cut AC the ceramics from the underlying trench (Stratum 24) predated the ceramics from the uppermost trench (Strata 8 and 9) (see Table 4.1). In the backhoe trench, two sets of spread-footer planks were evident, one overlying the other. The double spead-footer complex and the ceramic content of Strata 8 and 9 indicated that the uppermost spread-footers and builder's trench were associated with the 1826 Lot 40 structure (see Appendix B). The earlier underlying spread-footers were not reused in the construction of the nineteenth century building.

The earlier spread-footer complex, although it is clearly eighteenth century in origin, does not seem to represent the lot's first building episode. The builder's trench (Stratum 24) contained creamware of a type not produced until the 1760s. This part of the block was filled between the 1730s and 1755. Maps depict warehouses here in the 1740s and 1750s (Maps 2 and 3). We would not expect to see post-1760s creamware in the builder's trenches of these warehouses. We have therefore concluded that the structure associated with the lower spread-footer complex and earlier builder's trench (Stratum 24) replaced the mid-eighteenth century warehouse sometime later in the century. This building (whose occupants are listed above and in the appendix) was destroyed in the 1816 fire. The builders of the 1826 structure seem to have added new spread-footers (or new sections of spread-footers) rather than reusing the older system.

b. Materials Deposited During and After the 1826 Building Episode

i. Remains of Nineteenth Century Construction Activities

A series of nineteenth century structural remains were found intruding into the eighteenth-century builder's trench and associated eighteenth century occupation and landfill deposits. These later features include the 1826 structure's builder's trench, the privy, the cistern, and the flagstone paving. They are described below. The mean ceramic dates for these features have all been included in Table 4.1.

Lot 40 Structure's Rear Wall Builder's Trench

In 1826 James Burling built a new structure in Lot 40, which had been vacant for 10 years (see Appendix B). The rear wall builder's trench for this new structure was clearly defined in Test Cut AC (Stratum 8) and Test Cut AD (Stratum 5). These strata contained a mixture of redeposited landfill and artifacts dating to the late eighteenth, early nineteenth century (pre-1816 fire) occupation of the block. This latter category included burnt ceramics (a legacy of the 1816 fire), pearlware, and whiteware. We have therefore assigned Stratum 8 in AC and Stratum 5 in AD to the 1826 structure.

A 34 in. vertical section of the Lot 40 structure's rear wall was exposed in AC. The uppermost section contained a doorsill which extended from 30 in. to 24 in. above mean sea level. This was carried by a mortared stone wall (the stones measuring 2 in. to 4 in. in thickness) extending from 24 in. to 4 in. above mean sea level. Immediately beneath this wall section was a large stone slab (probably Manhattan Schist) and this in turn extended from 4 in. above to 6 in. below mean sea level. The slab was carried by a spread-footer beam which extended from 6 in. to 18 in. below mean sea level. The beam rested on spread-footer planks at 18 in. below mean sea level. This section described here is similar to foundation footings excavated at the adjacent Schermerhorn Row Block by Kardas and Larrabee (1979). A description of this and related methods of foundation construction can be found in Stewart (1981:143-148).

The spread-footer complex described here is part of the same system uncovered in Backhoe Trench K Sec. 4. It replaced an earlier spread-footer complex and this has been discussed above in the section entitled "Eighteenth-Century Construction Activities".

It should also be noted that the Lot 40 rear wall had two doorways. One doorway was located at the southern end of the wall; its stone sill formed the uppermost section of the wall described above. This southern doorway seems to have opened at grade, which is defined in the Lot 40 backyard by the flagstone paving which rests at approximately 20 in. above mean sea level. The base of the northernmost doorway (exposed Test Cut AD Stratum 6) rested

at approximately 5 in. above mean sea level and may have been a basement entrance.

*Privy and Cistern

Lot 40's stratigraphy and the artifactual content of the builder's trenches associated with these features indicate that they were probably built ca. 1826 along with the main structure. The following is a discussion of their construction. An analysis of their contents is presented in the section covering the nineteenth century occupation of Lot 40.

The privy, built of large dry-laid cobbles, occupied the southern half of the backyard. Its walls and builder's trench were removed as Stratum 10 in AC and Stratum 3 in AH. The cistern, which occupied the northern part of Lot 40, was constructed of mortared brick. Its walls and builder's trench were removed as Stratum 12 in AC, Stratum 9 in AD, and Stratum 5 in AF. A brick and stone trough connected the two and was excavated as part of Test Cut R. The trough seems to have channeled rain water overflow from the cistern to the privy.

Backyard disturbance resulting from the construction of the privy and cistern is limited. Both features measured approximately 5.5 ft in diameter and extended to a depth of approximately 8 in below mean sea level, which is within the landfill deposits. The surrounding eighteenth century stratigraphy remained relatively intact. The builder's trenches associated with the features were quite thin (approximately 6 in. wide).

Based on these observations, we can eliminate a construction scenario in which a large area in the backyard was "scooped out" and then redeposited after the features were completed. It seems more likely that two areas, not much larger than the features themselves, were excavated by the builders, who then laid the privy and cistern walls, leaving only a small space between the inside of the opened area and the exterior of the feature. These spaces or builder's trenches were then backfilled with a combination of eighteenth century landfill and more recent material associated with the late eighteenth and early nineteenth century occupation of the backyard. This same mixture was found in the Lot 40 structure's rear wall builder's trench which has been assigned to the 1826 building episode. Cistern and privy trench strata in all four units also contained much greater quantities of burnt ceramics, pearlware, and whiteware than the adjacent landfill deposits and greater amounts of whiteware (though the overall counts of whiteware for the nineteenth century structure's builder's trench, cistern builder's trench, and privy builder's trench were relatively low) than the orange/rust-colored silt, eighteenth century and early nineteenth century occupation deposits. The burnt ceramics indicated that the trenches had been filled after the 1816 fire. We also noted that sections of the cistern builder's trench (Stratum 9 in AD and Stratum 5 in AF) were intrusive through the eighteenth century strata (Stratum 12 in AD and Stratum 6 in AF). The top of Stratum 9 in AD is at approximately 20 in. above mean sea level, which is 4 in. higher than the top of the bright orange silt pre-1826 building episode level. This implies that when the trench was dug, the bright orange silt was either a ground surface or underlaid a ground surface. This further confirms our assigning the Lot 40 backyard features to a nineteenth rather than a eighteenth century building episode.

Dry-Laid Stone Foundation

Excavation of the Lot 40 backyard also exposed sections of a dry-laid stone foundation (see Fig 4.1). This feature partially enclosed the privy and cistern and occupied much of the Lot 40 backyard area. Unit AC contained a 7 ft long north/south section of the foundation and an 11 ft long east/west section (Stratum 13). Unit AD contained an 8 ft long north/south section (Stratum 10). AH contained an additional 5 ft east/west section (Stratum 2).

The base of the foundation was at approximately 16 in. above mean sea level. Its builder's trench, which terminated at approximately 12 in. above mean sea level, was slightly intrusive into the bright orange silt eighteenth century occupation levels described above. These latter levels extended from 2 in. above mean sea level to approximately 16 in. above mean sea level in AD. The foundation's stratigraphic location and the mean ceramic dates (Stratum 13 in AC:1779.07 [s = 33.66]; Stratum 10 in AD:1801.56 [s = 42.21]; and Stratum 2 in AH:1782.18 [s = 22.33]) suggest that it is the remains of an outbuilding associated with the nineteenth century occupation of the lot and that it was constructed to protect the privy and cistern. The west wall contained an opening or doorway at its midpoint. The configuration of bricks and foundation stones adjoining this opening suggests that there were some sort of interior walls separating the privy from the cistern (Fig. 4.1). The flagstone paving (described immediately below) extended to the east of the doorway; thus, a portion of the structure's interior was paved. The north and east foundation walls were absent.

Flagstone Paving

Stratified occupation deposits comparable to those dating to the eighteenth and early nineteenth centuries (see preceding sections) were absent in all of the Lot 40 quadrants. This is because most of the backyard was covered with flagstone paving which prevented the accumulation of sediments and artifactual material.

Although there were no flagstones in Test Cuts AF and AH, nineteenth century deposits (and even the flagstones themselves) seem to have been removed, possibly during demolition of the Lot 40 structure. Units AC and AD, both of which adjoined the Lot 40 structure's rear wall, contained a level of flagstone paving at approximately 20 in above mean sea level.

Strata directly beneath the flagstone slabs (Stratum 5 in AC and Stratum 4 in AD) contained a mixture of redeposited fill, burnt ceramics, pearlware, and whiteware similar to the material from the 1826 structure's rear wall builder's trench, privy, and cistern builder's trenches. The strata overlying the flagstones (Strata 1 and 2 in AC and Strata 1 and 3 in AD) contained large quantities of coal dust and artifacts of relatively recent manufacture such as linoleum, asbestos insulation, plumbing fixture porcelain, electrical wire, and tar paper. None of this late nineteenth-twentieth century material was present beneath the flagstones. The dry-laid foundation wall partially overlaid the flagstones and the flagstones extended into the outbuilding's interior. The mean ceramic dates and the structural relationships between the nineteenth century features indicate that the flagstones were installed at the same time as the cistern, privy, and outbuilding.

ii. Remains of Nineteenth-Century Occupation of Lot 40

Test Cut Y: The Abandonment and Filling of the Cistern in Lot 40 (Fig. 4.7)

Three-quarters of the deposits in the cistern in Lot 40 were excavated as Test Cut Y. Below the gray-brown and brown sandy silt overburden (1), which was deposited in the mid-twentieth century (see below) and was found throughout Lot 40, lay a lens of brown sandy silt with brick, mortar, and coal dust (2). This lens contained safety glass, which indicates that it was deposited after ca. 1891, when safety glass was introduced (Lorrain 1968:44). Beneath this, the cistern contained two primary strata of deposits, each of which contained lenses of other materials. The uppermost stratum consisted of coal dust (3,5) and was about 26 in thick. It contained lenses of black silt and brown sand (4) and a lens of cinder and black silt (6). The bottommost stratum consisted of black silt mixed with coal dust (7, 10), which became finer with depth and was about 18 in thick. This stratum contained lenses of fine white sand (9) and gray-brown sand (8), both of which were mottled with black silt.

Under these strata lay the mortared cistern floor, with wood and bricks lying on it. A slab of stone was laid on the eastern part of the cistern floor. This slab was similar to those found in many of the cisterns and may have been used as a footing for a pump.

The deeper strata in this feature (3, 5, 7, and 10) all contained large quantities of corks, suggesting the cistern was filled in while the lot was the site of the cork importers and warehouses which were on this lot from 1860 until after 1907. The latest temporally diagnostic materials in these strata could date from the late nineteenth to the twentieth century. These materials included plastic or celluloid, objects made of rubber, electric wire, and a typewriter ribbon. Typewriters were introduced ca. 1874 (Anon. 1967:288), so this artifact, which was found in Stratum 7, must have been deposited after this time.

This cistern, then, could have been filled as early as the mid-1870s and perhaps as late as the twentieth century. However, the absence of certain types of materials which became popular in the later 1870s, such as Putnam and Hutchinson stoppers (Munsey 1970:104, Lief 1965:14) suggests that it may have been abandoned and filled during the later part of the 1870s.

Test Cut R2: The Abandonment and Filling of the Privy in Lot 40 (Fig. 4.8)

As Test Cut R was being excavated to evaluate the deposits in Lot 40, the northern portion of the circular, dry-laid stone wall of a privy was uncovered. Test Cut R was then extended as Test Cut R2 so that this privy could be excavated.

The uppermost deposit associated with this feature consisted of the gray-brown silty sand (1) which was found throughout the backyard of Lot 40 and was deposited in the mid-twentieth century (see below). Beneath this layer, four strata and one lens of deposits were excavated. The uppermost deposit consisted of brown sandy silt, mottled with charcoal and coal dust (2). This stratum contained many large rocks and was about 12 in. thick. These rocks were similar to those which made up the privy wall and may, in fact, have been the upper courses of the privy wall that were deposited into the privy when it was no longer in use. Below this stratum was a 3-ft thick layer of coal ash (3). Only about half of this deposit was screened. Beneath the ash was a stratum of brown silty sand (4), which ranged in thickness from 1 in. to 15 in., being deeper in the northern portion of the feature under the trough connecting the adjacent cistern to the privy. Under this stratum was a layer of fine black silt (5), probably nightsoil, which was 11 in. thick. This stratum was underlain by a lens of brownish-black sand (6) which was confined to the northern part of the privy and which contained very few artifacts. Below this lens and the stratum of black silt was a layer of reddish-brown sandy silt (7), the eighteenth century landfill in this area.

The privy wall extended down for 59 in., stopping close to the bottom of the black silt stratum and resting on the reddish-brown landfill.

The strata inside the privy did not contain many tightly datable artifacts which reflected the use and filling of this feature, and most of the deposits were mixed with earlier fill materials. However, some of these artifacts and the results of a cross-mend study on this feature allowed us to make some inferences about the dates when these strata were deposited. Stratum 2 contained machine-made bottles, plastic, and electrical fixtures, which suggests that it was deposited after ca. 1889, when machine-made bottles were first introduced (Meigh 1960). Stratum 3, the ash layer, contained several artifacts dating to a similar period: electrical wire; two Carter's master ink bottles made with a dip-mold body in a three-piece mold, popular between ca. 1870 and 1910 (Toulouse 1969); and a machine-made bottle, made after ca. 1889 (Meigh 1960). The presence of these artifacts and the fact that the pieces of two mended vessels came from Strata 2 and 3 suggest that this ash layer was deposited at the same time as Stratum 2, and that these strata were deposited after ca. 1889 and possibly before 1910.

Stratum 4, like Test Cut Y, the adjacent cistern, contained large quantities of corks, suggesting that it was deposited after 1860, when the cork dealers moved onto the lot. Stratum 5, the nightsoil reflecting the use of the privy, also contained cork and a beer or ale bottle marked "1860", both of which indicate that the privy was still in use after this date. It also contained a hock-shaped bottle identical to one found in the adjacent cistern. The absence of any later diagnostic materials, such as Putnam and Hutchinson stoppers, introduced in the mid- and late 1870s, respectively (Munsey 1970:104, Lief 1965:14), suggests that the privy was probably not still in use in the later 1870s (there was a minimum of 17 bottles in this stratum, so the absence of these closures should not be attributable to a small sample size). The similarity of both the bottles and the corks from this stratum of the privy to those in the cistern indicates that these features may have been abandoned at roughly the same time.

This privy, then, apparently was filled in several episodes. The bottommost lens (6) of deposits under the nightsoil and on top of the landfill lay directly under the trough connecting the cistern to the privy; this lens may be the result of sediments accumulating from the overflow of the cistern, which occurred before the last episode of the privy's use. Stratum 5, the nightsoil, represents the final episode of the privy's use. Stratum 4 is an early fill layer, added possibly shortly after the privy was abandoned. This stratum is also much thicker in the northern part of the privy under the trough, and may have been the result of the accumulation of sediments from the cistern overflow, like Stratum 6. This suggests that the cistern was still functional for at least a short time after the privy was abandoned. Strata 2 and 3 represent a later episode of fill, added probably in one episode after ca. 1888 and possibly before 1910. The ash in these strata may have been added for drainage. The uppermost stratum is the result of the demolition of the structure on Lot 40 in the mid-twentieth century (see below).

It seems apparent, then, that although the artifactual materials suggest that these features were abandoned at roughly the same time, the stratigraphic evidence indicates that the privy was abandoned shortly before the cistern ceased to function. Stratum 4, the layer above the nightsoil, seems to have been deposited as a result of the overflow from the cistern. This privy, then, was definitely abandoned after 1860 and probably before the mid- to late 1870s when Test Cut Y was filled; the similarity of the artifacts in the nightsoil and cistern fill, however, suggest that it may have ceased being used closer to the time of the cistern's filling, perhaps in the early to mid-1870s.

Resetting of Flagstones

A clearly defined intrusion (Stratum 4) is visible in the southwest corner of Test Cut AC within the 1826 structure's rear wall builder's trench (Stratum 8). The intrusion (a hardpacked yellow silt mixed with brick, charcoal, and mortar) underlaid the brick doorstep adjoining the southernmost doorsill. The artifactual content of the intrusion included plastic and electrical wire. The disturbance, which was about 12 in. deep, seems to be the result of twentieth century resetting of the flagstones, possibly during repairs to or insertion of the underlying brick doorway.

Covering of Backyard Features

Analysis of the privy and cistern contents (described above) indicates that they continued to receive discarded material throughout most of the nineteenth century. This implies that they remained open for a period of time following abandonment in the 1870s. However, the absence of twentieth century bottles and other diagnostic materials predating the circa 1960 overburden suggests that for most of the twentieth century they were covered by an extension to the main structure. The dry-laid stone wall, the cistern, and the privy remained intact at least 10 in above grade (defined by the flagstone paving). Therefore, this extension was elevated and some support could have been provided by the dry-laid foundation wall, whose upper course was slightly higher in elevation than the top of the privy and cistern. Possibly the brick doorstep and the reset flagstones described above were part of a stairway leading to the extension.

iii. Demolition

The structures in Lots 37-47 were demolished circa 1960 and the rubble was ultimately paved over for a parking lot. When the asphalt was removed in the course of excavations the Lot 40 backyard features were found to be covered with a brown and grey brown silty sand overburden (Stratum 1 in all units). Much of the artifactual content consisted of building debris and late nineteenth and twentieth century material.

4. Conclusion

The land use history of Lot 40 is reflected in the thirteen distinct stratigraphic events described above. This sequence includes the following: the eighteenth century landfill deposit, a disturbed eighteenth and early nineteenth century occupation level containing artifacts associated with the 1816 fire; a builder's trench associated with the lot's eighteenth century main structure; the builder's trench of the lot's 1826 main structure; the foundation walls of a nineteenth century outbuilding; a privy; a cistern; resetting of a section of flagstones; the addition of an elevated backyard extension covering the open privy and cistern, and the mid-twentieth century demolition of the 1826 structure.

A number of issues were clarified in the course of excavating the Lot 40 backyard. Landfill deposits in the backhoe tests were sampled in arbitrary levels and this presents problems of contamination. In Lot 40, we were able to hand excavate landfill deposits stratigraphically which enabled us to compare the landfill matrix and artifactual content with overlying strata deposited during the occupation of the block. Table 3.1 suggests the nature and extent of these differences. The highly organic composition of some of these fill deposits suggests that refuse rather than clean fill was the primary source material in Lot 40. Landfill in Lot 40 had been dated by documents to between 1732-35 and 1755. We had hoped to further refine these dates. The mean ceramic dates presented here for the landfill deposits suggest that this western section of Parcel C was filled earlier rather than later within the above time frame.

An eighteenth century and early nineteenth century occupation level overlies the landfill strata and contains large amounts of burnt ceramics attributable to the 1816 fire. The fire and the rebuilding efforts which followed affected most of the lots in the project area. Excavations in Lot 40 demonstrated that the disturbance resulting from these activities was fairly extensive and would thus tend to limit the questions which could be asked of data derived from eighteenth century occupation levels in other lots.

The survival of an eighteenth century main structure rear wall builder's trench in what is an otherwise nineteenth century backyard is of interest. Three distinct building episodes have been proposed for Lot 40 and this sequence probably holds for the rest of the block. Maps exist which show structures during the first episode (mid-eighteenth century warehouses) and the third, or most recent (the 1826 structure). No plans or maps have been found depicting the configuration of structures during the later eighteenth and early nineteenth century. However, the earlier builder's trench indicates that at least one of these earlier Water Street buildings occupied a portion of the lot equal to that of their nineteenth century counterparts.

In the case of Lot 40, the nineteenth century main structure shared the lot with an outbuilding located in the backyard. Although extensions are shown on the nineteenth century maps, outbuildings seldom appear. Thus, much of the lot's structural history was accessible only through excavation.

C. The Results of the Excavation of the Occupational Remains in Lots 24 & 25

Lots 24 and 25 are treated together here because they were commonly owned from before 1789 until 1844 and were occupied by the same tenant from 1821 until 1826. One of the features excavated in these backyards straddled the property line between the two lots. These lots are among the few on the block that were not damaged or destroyed by the fire that swept most of the block in 1816.

The backhoe was used to clear off the backyard areas in Lots 24 and 25. In Lot 24 and the northern half of Lot 25, this clearing was halted at a depth of ca. 4.5 ft above mean sea level, when a bluestone paving was found. The grade of this pavement was extremely uneven, and it had sunk in places.

In Lot 25, the basement of the main structure had been extended over the southern half of the backyard area. The backhoe was used to clean off the basement floor, which was at a depth of 2.1 ft above mean sea level. This floor, which was 2 ft thick with its cobble bedding, was made of brick and concrete. This floor was removed and the top of the underlying deposits was cleared off by hand. Although large rocks were found in this area, they did not form any discernible pattern. They could have been the remains of a deep feature, such as a privy, which was destroyed when the basement floor was put in, or they could have been rocks which had been incorporated into the landfill (many such rocks had been found in the landfill in Lot 26, the adjoining property to the south). The deposits here consisted of a grayish brown silty sand, somewhat similar to the landfill deposits found in Backhoe Trench AO in Lot 26. As no features could be defined in this area, which was 0.1 ft above mean sea level, no subsequent work was done here.

The flagstone paving was removed and a small 3 ft by 3 ft cut (Test Cut W) was placed in the southern portion of the elevated backyard area. A portion of a cistern was uncovered in this test cut. Test Cut W was then extended so that the cistern could be excavated. The bluestone paving was also removed in the backyard of Lot 24. Hand clearing exposed the top of a privy (Test Cut AV) in this northern area.

1. Test Cut W: The Cistern on the Lot 24/25 Lot Line (Fig. 4.9)

The deposits excavated in Test Cut W included about 12 in of yard deposits under the bluestone paving, the contents of the cistern, and about 24 in of deposits excavated beneath the cistern.

The deposit which underlaid the bluestone paving consisted of a stratum of black very fine sand with brick rubble (1), which contained lenses and pockets of black coal dust with oxidized metal (2), dark brown silty sand mixed with yellow sand (3), dark brown silt (4), and yellow sand (5). This stratum extended down into the upper portion of the cistern.

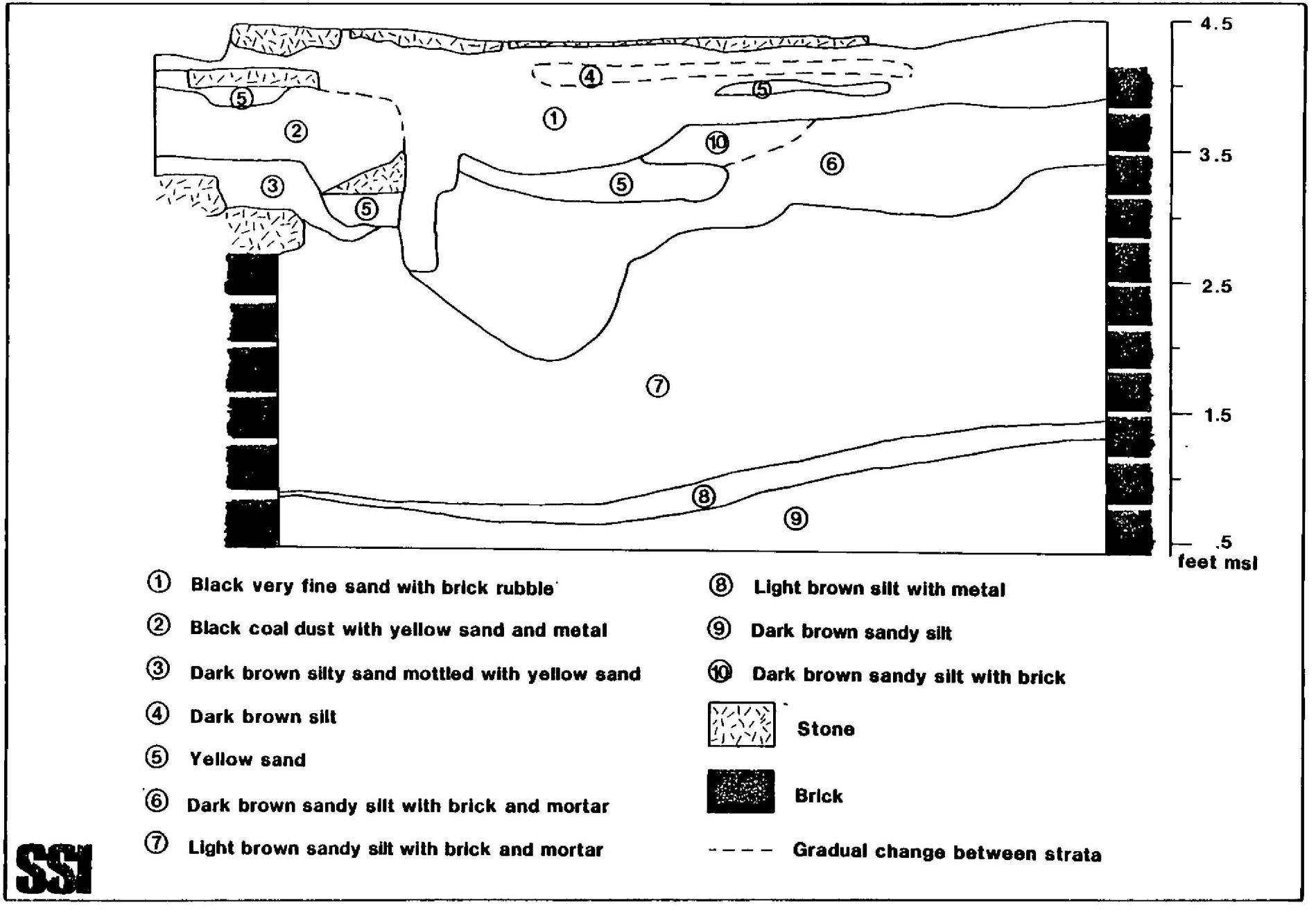


Figure 4.9a. Interior profile, cistern, Test Cut W in Lots 24 and 25, above concrete floor.

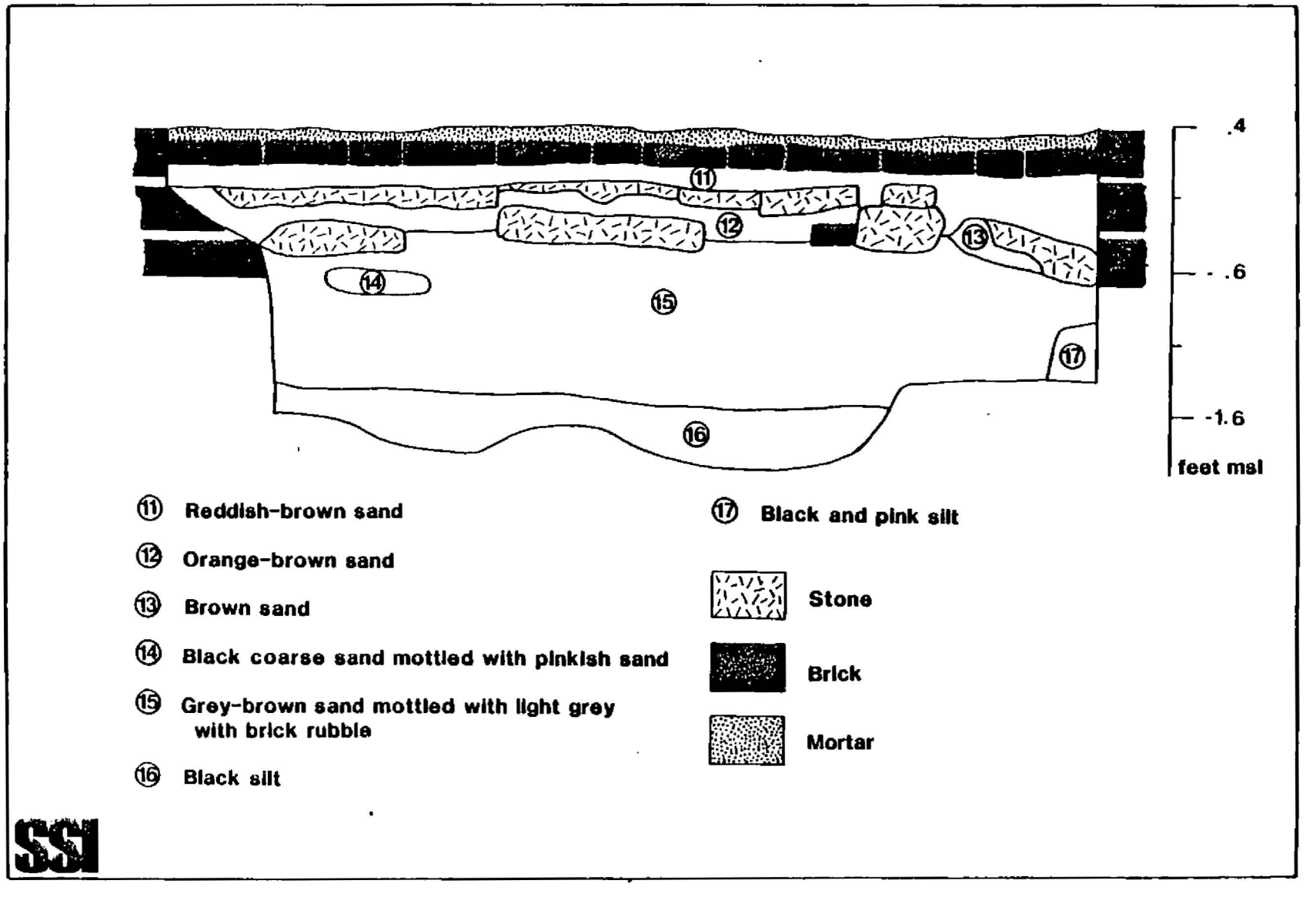


Figure 4.9b. Interior profile, cistern, Test Cut W in Lots 24 and 25, below concrete floor.

At the depth of 3 in. to 5 in. below the top of this stratum, the flat brick cover of the cistern was found in the northeast part of the feature. This cistern was the only one on the site which still had a portion of its cover intact. The cap was composed of bricks laid in mortar, forming a circular pattern. The deposits which made up Stratum 1 extended both above and below the cistern cover as well as inside and outside of the feature. This stratum and its pockets and lenses was therefore the uppermost layer of fill within the cistern as well as the uppermost layer of fill in the backyard area. The artifacts in this stratum indicate that it was deposited no earlier than the late nineteenth century (Table 4.2), as several of them have beginning dates of manufacture within the 1880s. It may have been deposited as late as the early twentieth century. In addition, pieces of plastic were recovered in the upper levels of Stratum 1, suggesting that the upper portions of these deposits were disturbed in the twentieth century, presumably to reset the flagstone paving.

Beneath this layer was a stratum of dark brown sandy silt with mortar and brick (6), which reached a maximum depth of ca. 30 in. The ceramics in this deposit had a mean date of 1794.29 (s = 28.9) and contained no diagnostically later materials.

This stratum was underlain by a thick layer of light brown sandy silt with mortar and brick (7), which extended to a depth of 44 in. Although the ceramics in this layer had a mean date in the late 1760s, this stratum also included some temporally diagnostic later materials (Table 4.2). These included a bottle marked with the name and address of a company which could be dated, on the basis of city directory research, to around 1872-1875. Although most of the materials in this deposit suggest that it could have been deposited in the 1850s, the presence of this bottle indicates that, in fact, it was deposited later, in or after the 1870s.

Adjacent to this stratum in the northern half of the feature was a lens of black soot with yellow sand (18), which contained no temporally diagnostic material. Below this stratum and lens was a thin layer of oxidized metal, 1 in to 3 in thick.

The lowermost stratum inside the cistern was a layer of dark brown sandy silt (9), 3 in to 10 in thick, which contained an extremely high density of beer, ale, and/or stout bottles, and bottle glass fragments. The ceramics from this stratum provide a mean date of 1859.4 (s=21.47), and several of the temporally diagnostic artifacts have dates which suggest that these materials could have been deposited in the 1850s (Table 4.2). However, the presence of 37 bottle bases made in a three-piece mold with a dip mold body suggests that this stratum was actually deposited after ca. 1870, when the use of these bottles became widespread (Toulouse 1969:578). The absence of diagnostically later artifacts, like the lightning and Hutchinson stoppers introduced in the mid- and late 1870s (Munsey 1970:104, Lief n.d.) suggests that this stratum was probably deposited in the early to mid-1870s.

TABLE 4.2. Artifacts used for dating the deposits inside Test Cut W, the cistern on the Lot 24/25 Lot line.

Stratum	n	Dating Evidence	Suggested Date
1	1	Bottle marked with "W.T. & Co." produced by Whitall, Tatum & Co.	1857-1901[1]
	1	electric light bulb filament	late 19th-20th c.
2	1	Bromo-Seltzer bottle	post 1887[2]
	1	Putnam-type jar lid	post-1882[3]
3-6	-	--	--
7	1	Bottle marked with "John Koster, 85 & 87 Chatham St., NY"	1872-1875[4]
	1	Master ink bottle marked: "J. Bowne & Son," made at "Denby & Codnor Park Potteries"	post-1850[5] pre-1861[6]
	1	Bottle with bare-iron pontil	ca. 1845-1870[7]
9	2	London-shaped painted cups,	ca. 1840-1860[8]
	1	"Toby" jug with Benjamin Franklin likeness; like those made at Bennington Pottery	1849-1858[9]
	1	Lea & Perrin Worcestershire sauce bottle-letter configuration	ca. 1840-1890[10]
	1	Washington flask	post-1847-1848[11]
	1	U.S. Silver three-cent piece	1851-1873[12]
	37	bottle bases made in three-piece mold with dip mold body	post ca. 1870[13]
	5	Stoneware bottles with "Murray & Co." mark	1851-1895[14]
	1	Mason jar	post 1858[15]

1- Whitall, Tatum & Co. 1971:np; 2- Adams 1975:135; 3- Lief 1965:13; 4- New York Directories; 5- Godden 1964; 6- Jewitt 1972:173; 7- Munsey 1970:48; 8- Lofstrom et al. 1976:16; 9- Camehl 1971:170; 10- Stockton 1981:64; 11- McKearin & Wilson 1978:513; 12- Yeoman 1981:90; 13- Toulouse 1969:578; 14- Jewitt 1972:220; 15- Anon. n.d.:np..

Below this stratum at a depth of 48 in., the mortared cistern floor was located. Part of this floor, in the western side of the feature, had been broken through. The remainder of the western side of the floor was removed, and the excavation was continued.

The floor was made of a thin layer of mortar or cement, which sealed a single layer of bricks. These bricks were set in a stratum of reddish-brown sand (11) that rested on slabs of bluestone set in an orange-brown sand (12). The sides of the cistern extended to a depth of 12 in. below the floor. Below the slabs was a stratum of gray-brown and light gray sand with brick rubble (15), which contained a lens of black coarse sand (14). These deposits contained a mixture of materials associated with the construction of the cistern and with the landfill. Therefore, the mean ceramic dates for these strata need to be interpreted. Although one piece of whiteware was found in the uppermost of these strata, that there was only one piece of this ware suggests that it was probably intrusive from the contents of the cistern above. These strata contained high proportions of cream-colored wares, many of which were burnt. This indicates that the cistern was installed after the 1821 fire on Lot 24. The absence of any later temporally diagnostic artifacts in these lower strata further suggests that the cistern may have been installed shortly after this fire.

The bottommost excavated stratum consisted of black silt (16) and contained a large number of cobbles. It was excavated to a depth of 78 in. below the top of the cistern and, although mixed with some later material, represents the upper portion of the landfill.

The deposits in Test Cut W document the early nineteenth century construction and the subsequent nineteenth century abandonment of this cistern. The strata below the cistern floor were deposited at the time of the feature's construction, possibly in the early 1820s, while those inside it were deposited after it was no longer in use, in the early 1870s. The lowermost stratum inside the cistern contained relatively unmixed deposits which reflect the use of Lots 24 and/or 25 when the cistern was filled in. The three strata directly above this layer are heavily mixed, with materials from the early to late nineteenth century and the eighteenth century landfill, and constitute a secondary deposition.

This interpretation is supported by the results of a cross-mend study of the artifacts from these strata in Test Cut W (Table 4.3). All of the temporally diagnostic vessels composed of pieces which came from Stratum 8 and above date to the early nineteenth and eighteenth centuries, while all of the temporally diagnostic vessels formed from pieces which came from Strata 8 and 9 date to the late nineteenth century.

The uppermost stratum, with its pockets and lenses, was deposited both to fill the upper portion of the cistern and to level out and raise the elevation of the backyard in the late nineteenth or early twentieth century. This stratum was disturbed later in the twentieth century, probably in an effort to reset and level the bluestone paving which covered this backyard.

TABLE 4.3. Cross-mended vessels from Test Cut W, the cistern on the Lot 24/25 lot line, indicating the number of sherds by vessel and stratum.

Vessel/ Stratum	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
5		1																				
6																						
7	4	2	1	1	2	2			1						1							
8	1		1	1	2	1	1	1	1	1	1	1	1	1	1	3	7	3	1	2	1	1
9							4	7		2	3	3	8	1	2	2	8	4	1	2	5	1

2. Test Cut AV: The Privy in Lot 24

This privy in the northern part of Lot 24 was not excavated. However, a grab sample of some of the materials which came from it was collected after pothunters had dug through and destroyed it. The pothunters were interested in whole bottles only, and they left almost 200 pieces of largely mendable ale, beer, stout, and wine bottles behind.

Although this feature was destroyed and the provenience of the artifacts within it was lost, some inferences can be made as to the date when the feature was abandoned and filled. The data from some of these bottles are summarized in Table 4.4.

This feature was abandoned and filled in the 1870s to early to mid-1880s, and probably as early as the early to mid-1870s. This inference is based on two lines of evidence. First, the dates of introduction of four of the marks on the bottles and one of the bottle types date from the late 1860s to ca. 1870 (Table 4.4). Second, there were no definitely later materials in the collection. For example, all of the closures on these bottles were designed for corks. All of the later types of closures, such as the lightning stopper, introduced ca. 1875 (Munsey 1970:104) and the Hutchinson stopper, introduced ca. 1879 (Lief 1965:14), are absent.

3. The Interpretation of the Occupational Remains in Lots 24 and 25

The chains of title for Lots 24 and 25 are summarized in Appendix A and the documented occupants of these lots are listed in Appendix B.

The cistern on the Lot 24 and 25 lot line was constructed early in the nineteenth century, probably in the early 1820s. From 1807 to 1846, both of these lots were held by a single owner, the Mott family. During this period, each of the lots was occupied by merchants. The cistern was abandoned and filled later in the nineteenth century (probably in the early 1870s) and may have been used by the occupants of both lots, although the lots belonged to different owners throughout this period. The privy (Test Cut AV) was abandoned during the same period and was located well inside Lot 24. It apparently was intended to be used by the occupants of this lot only, while the privy used by the occupants of Lot 25 was presumably destroyed by the extension of the basement into the southern portion of Lot 25.

The documentation on the occupants of these lots during the early 1870s, when these features were abandoned and filled, is scanty. The latest occupant documented for Lot 24 in the late nineteenth century is a guano dealer, who moved from the lot in 1864. No data were available for Lot 24 from 1865, when the lot was occupied by a commission merchant, until 1890, when it was the site of a tobacco warehouse. The large number of bottles in both of these features, the presence of bottle finishes with corks and wires intact, and the large number of bottles which were marked with British company names, all suggest that commission merchants who may have handled liquors occupied these lots in the early 1870s when these features were filled.

TABLE 4.4. Artifacts used for dating the deposits from Test Cut AV, the privy in Lot 24

Bottle Type	N	Dating Evidence	Suggested Date
Bristol/brown	39	Marked bottle: W.F. Murray & Co. Caledonian Pottery; Glasgow	1851-1895[1]
	2	Marked bottle: Port Dundas Pottery Co., Ltd; Glasgow	1850-1905[2]
	1	Marked bottle: Henry Kennedy & Sons Glasgow	1866-1900[3]
	3	Marked bottle: F. Grosvenor Bridgeton Pottery	ca. 1869-ca.1899[4]
Glass	37	three-piece mold with dip mold body	ca. 1870-ca.1910[5]
	1	Cork seal mark: Burke, Dublin Cork seal mark: Betts & Co.	post-1868[6]
	2	Cork seal mark: Daukes & Co. Exeter Hall Vaults, Strand	?

Sources: 1. Jewitt 1972:220, 2. Jewitt 1972:187, Godden 1964:504, 3. Jewitt 1972:18, 4. Godden 1964:295, 5. Toulouse 1969:578, 6. Stockton 1981:151.

D. The Results of the Excavation of the Occupational Remains in Lots 26 and 27

The excavations in Lots 26 and 27 are discussed together because both lots were the site of a single structure until 1816, when this building was burned in the fire which swept through much of the block. Several of the features excavated here reflect the earlier use of this structure. The features sampled in these lots include deposits on a wooden floor in Lot 26, and three privies, a cistern, and a dry well in the backyards. In addition, a backhoe trench (Backhoe Trench AO) was dug from west to east across Lot 26, in order to look for the remains of a mid-eighteenth century warehouse that had been documented here (see Section III).

1. The Wooden Floor (Figs. 4.10-4.15)

In the course of excavating Section 1 of Backhoe Trench J near Front Street, a wooden floor was found under the concrete basement floor of the most recent building on Lot 26. Test Cut X (Fig. 4.10) was then excavated in order to determine whether or not any occupational deposits were preserved on this floor. Such deposits were found, and five additional test cuts (Test Cuts Z, AB, AE, AJ, and AL) were excavated in this area in order to sample them. Three of these test cuts were arranged along the mid-line of the lot, so that the extent of the floor deposit could be determined, and two were placed adjacent to the side walls of the lot, so that the floor's relationship to these walls could be ascertained. These tests cuts constituted a sample of ca. 110 sq ft (or an 8.5% sample) of the ca. 940 sq ft of deposits on the floor.

The stratigraphy in these units was relatively consistent; a summary of it follows. A cinder bedding (2) ca. 6 in. thick lay immediately below the concrete basement floor. In some areas, an additional stratum of overburden (1) was above this cinder. Below the cinder was a layer of reddish-brown sandy silt with brick and mortar rubble (3, 4, 5, 12, 13, 20: excavated as 3 and 13), which ranged in thickness from 4 in. to 13 in. This stratum was underlain by a layer of dark sandy silt with charcoal that was composed of bands of gray, brown, and black sandy silt (7, 8, 10, 11, 14, 19: excavated as 7, 8, 14, and 19), with lenses of ash (6). Beneath these strata were the remains of the wooden floor.

In Test Cut Z (Fig. 4.11), the westernmost unit in the lot, the planking from the floor was absent, and the strata were not as clearly defined as in the other units. These strata may have been disturbed. Parts of a small trench were found in Test Cuts X (Fig. 4.10) and AJ (Fig. 4.14); this trench contained a small lead pipe which was laid east-west across the northern part of the lot.

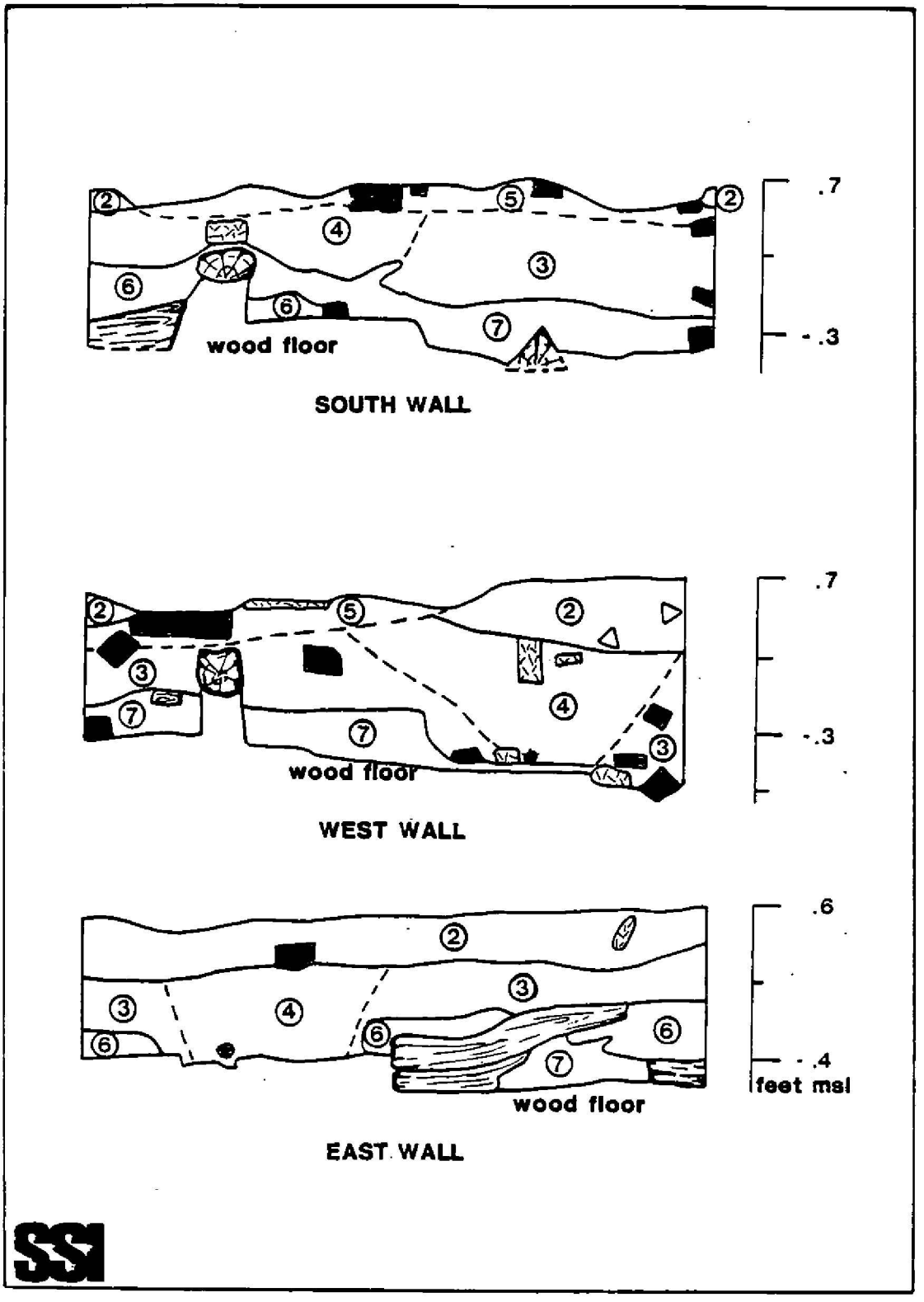


Figure 4.10a. Profiles, Test Cut X in Lot 26.

② **Grey cinder bedding**

③ **Reddish-brown sandy silt with brick and mortar**

④ **Less heavily mottled reddish-brown sandy silt with brick and mortar**

⑤ **Brownish-red sandy silt with brick and mortar**

⑥ **Charcoal and ash lens**

⑦ **Brown-grey black sandy silt with charcoal, brick and mortar**

 **Stone**

 **Brick**

 **Wood**

◁ **Shell**

⊛ **Metal pipe**

– – – – **Gradual change between strata**

Figure 4.10b. Key to the profiles, Test Cut X in Lot 26.

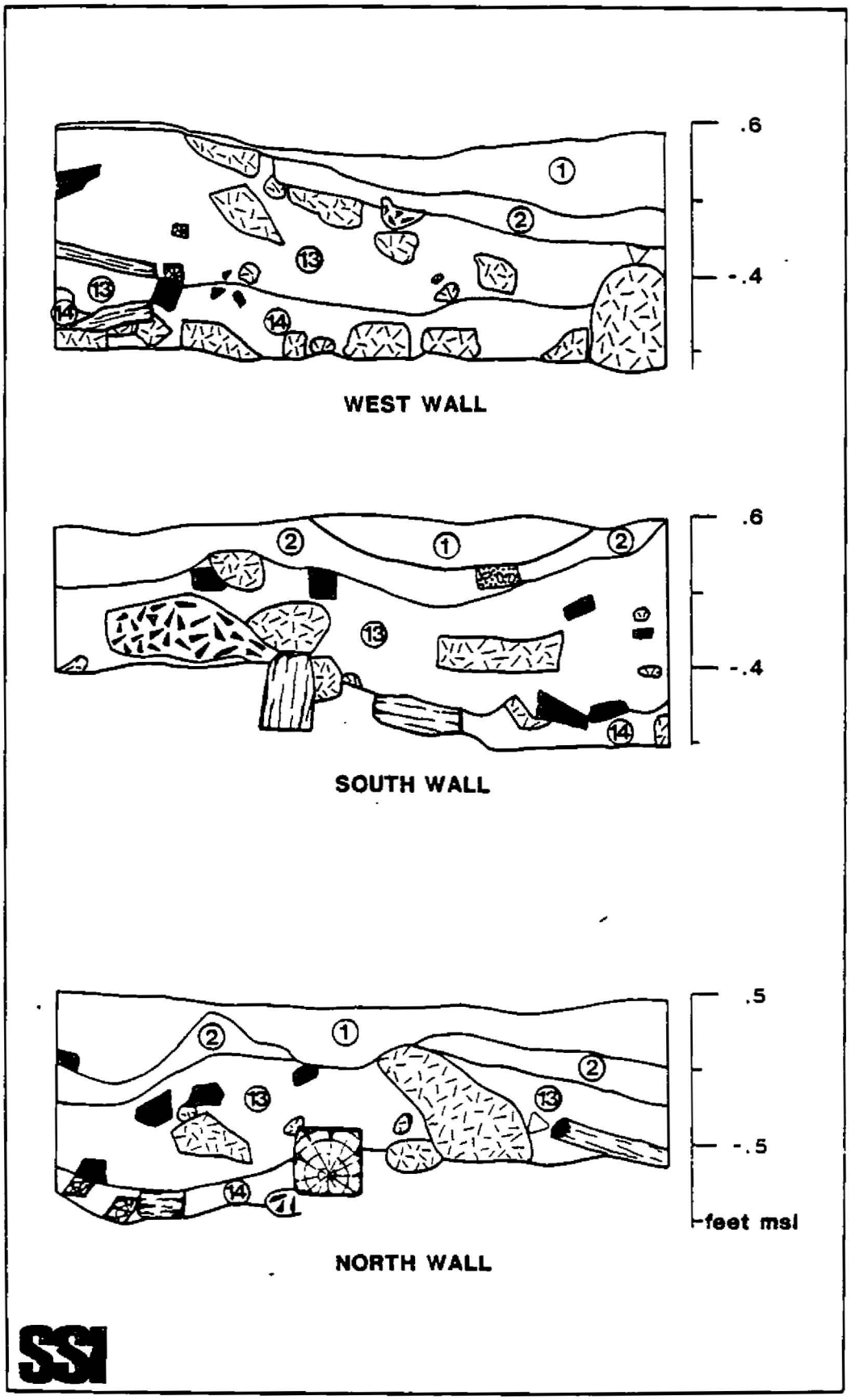


Figure 4.11a. Profiles, Test Cut Z in Lot 26.

① **Overburden**

② **Grey cinder bedding**

⑬ **Reddish-brown grading to grey sandy silt with brick and mortar**

⑭ **Dark grey-black sandy silt with charcoal and rocks**



Stone



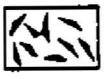
Brick



Wood



Concrete



Coral



Shell

Figure 4.11b. Key to the profiles, Test Cut Z in Lot 26.

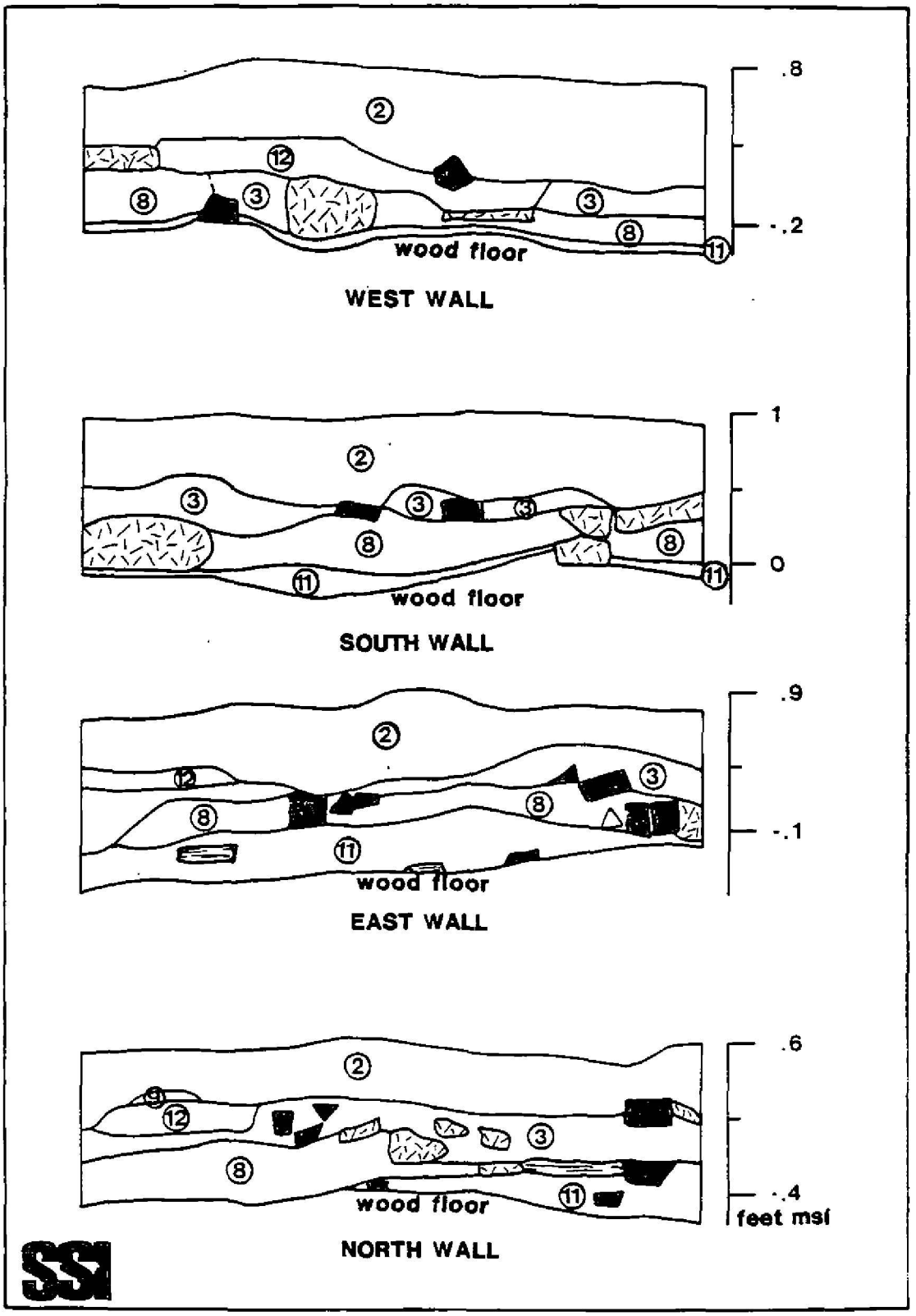


Figure 4.12a. Profiles, Test Cut AB in Lot 26.

② Grey cinder bedding

③ Reddish-brown sandy silt with brick and mortar

⑧ Grey and brown sandy silt

⑨ Tar

⑪ Dark grey and light grey sandy silt

⑫ Decomposing brick rubble

 Stone

 Brick

 Wood

▽ Shell

---- Gradual change between strata

Figure 4.12b. Key to the profiles, Test Cut AB in Lot 26.

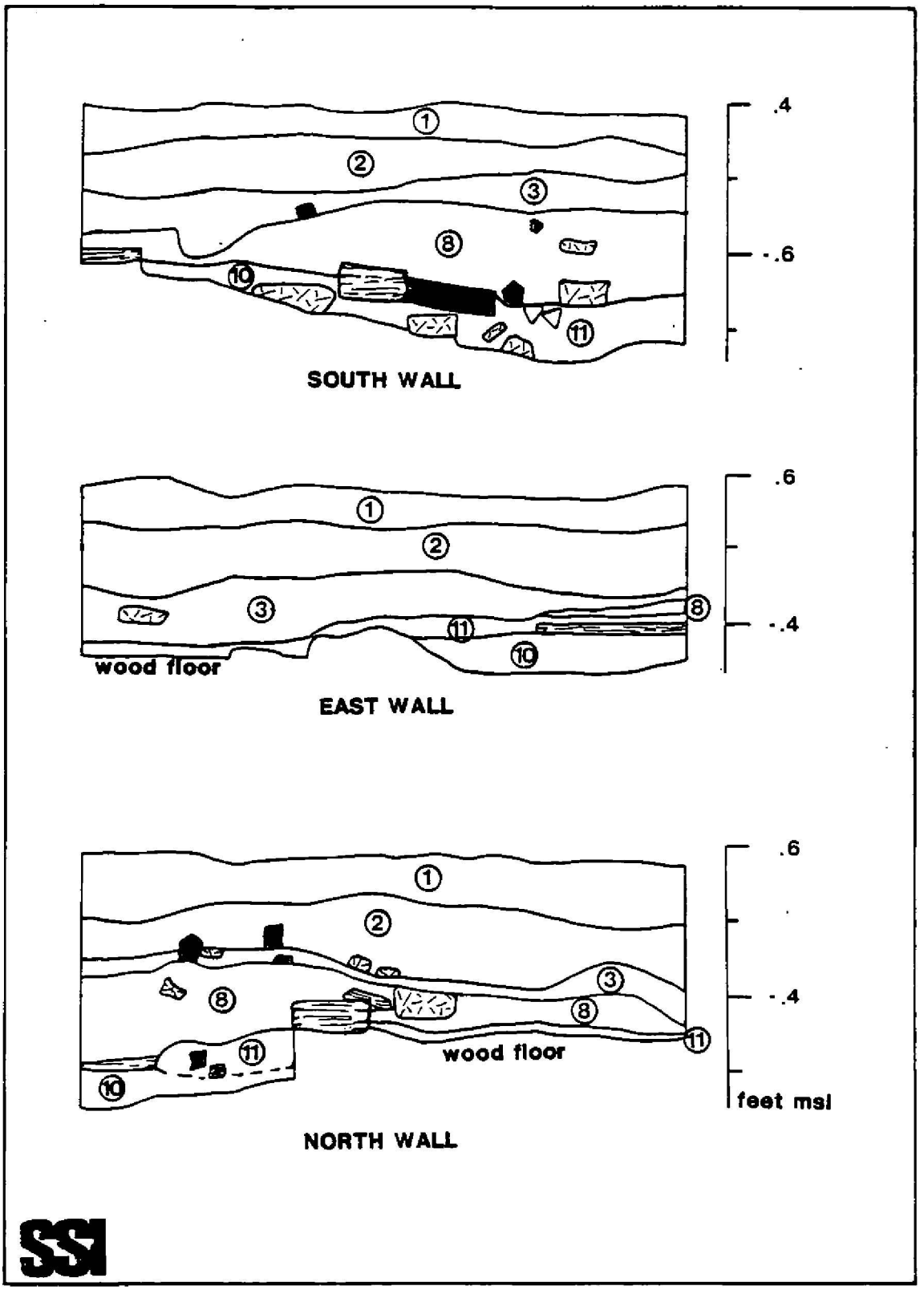


Figure 4.13a. Profiles, Test Cut AE in Lot 26.

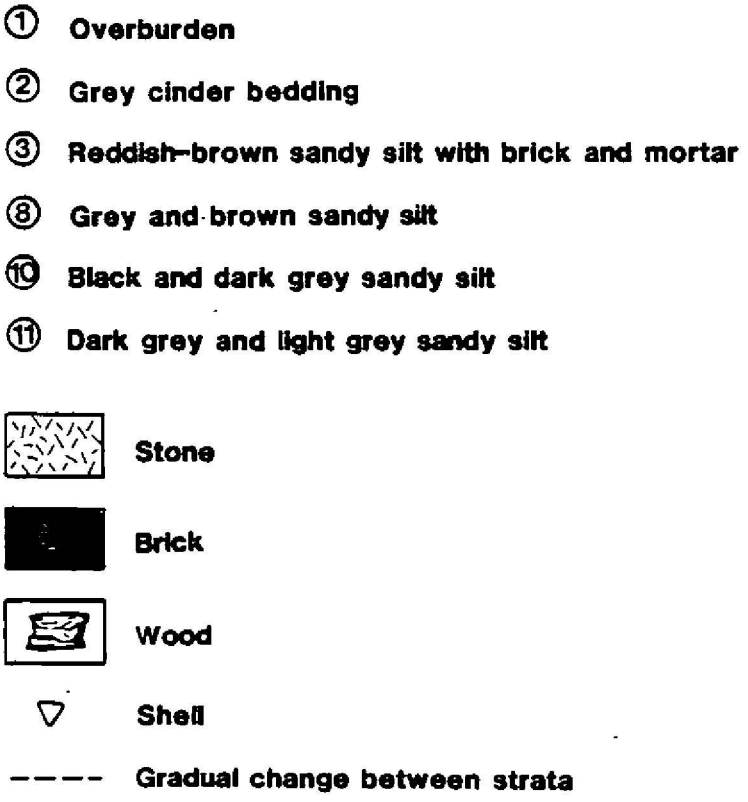


Figure 4.13b. Key to the profiles, Test Cut AE in Lot 26.

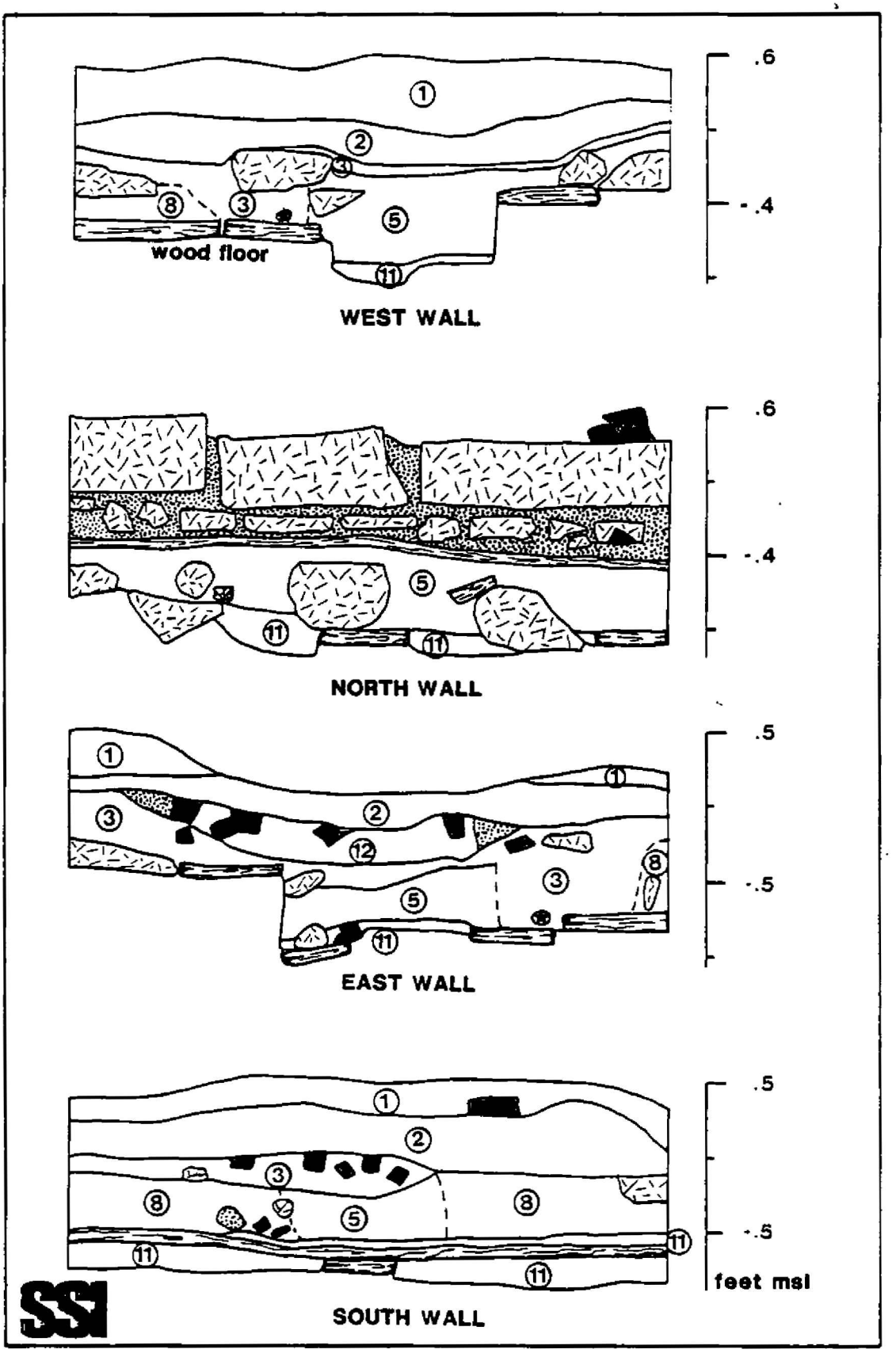


Figure 4.14a. Profiles, Test Cut AJ in Lot 26.

① **Overburden**

② **Grey cinder bedding**

③ **Reddish-brown sandy silt with brick and mortar**

⑤ **Brownish-red sandy silt with brick and mortar**

⑧ **Grey and brown sandy silt**

⑪ **Dark grey and light grey sandy silt**

⑫ **Decomposing brick rubble**

 **Stone**

 **Brick**

 **Mortar**

 **Wood**

Lead pipe

Gradual change between strata

Figure 4.14b. Key to the profiles, Test Cut AJ in Lot 26.

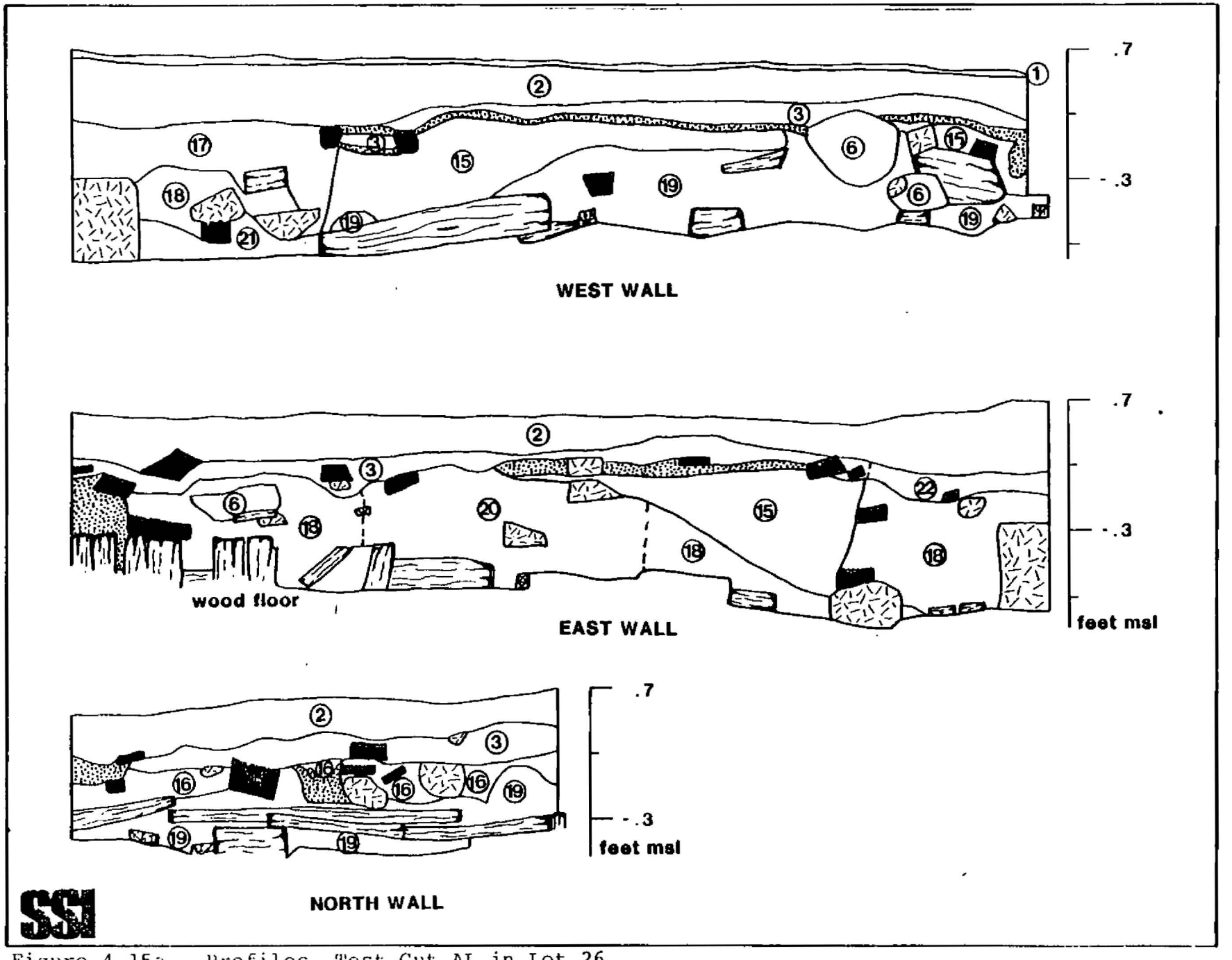


Figure 4.15a. Profiles, Test Cut AL in Lot 26.

① Overburden

② Grey cinder bedding

③ Reddish-brown sandy silt with brick

⑥ Charcoal lens

⑮ Brown and grey sandy silt

⑯ Mottled brown and grey sandy silt

⑰ Reddish-brown silty sand

⑱ Reddish-grey silty sand

⑲ Dark grey sandy silt with charcoal

⑳ Mottled reddish-grey silty sand

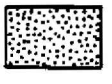
㉑ Dark grey silty sand mottled with brown

㉒ Reddish-brown silty sand with brick

 Stone

 Brick

 Wood

 Mortar

---- Gradual change between strata

Figure 4.15b. Key to the profiles, Test Cut AL in Lot 26.

Builder's trenches were found adjacent to the side foundation walls in both Test Cuts AJ and AL. Test Cut AL (Fig. 4.15) contained two of these trenches, one intrusive into the other. These trenches apparently document two separate events. One trench, consisting of deposits of brown and gray sandy silt with mortar (15), extends about 5.5 ft from the wall and is associated with the construction of a later structure on Lot 26. The layer of reddish brown sandy silt (3) extends over this trench. The other trench, composed of reddish brown and gray silty sand (17, 18, 21, 22), is intrusive through, and later than, all of the strata in this square except for the cinder bedding; it may be the result of repairs on the later foundation wall.

In Test Cut AJ (Fig. 4.14), the floor planks had been removed in an area about 2 ft wide adjacent to the north foundation wall. The strata in the northern portion of the square were composed of a brownish red silty sand with brick and mortar (5). The reddish brown sandy silt stratum (3) extends over this trench. This deposit is therefore probably also associated with the building of a later structure on Lot 26.

The ceramics from the six excavation units in Lot 26 provide only limited insight into the dating of this building and the later construction episode (Table 4.5). The dates associated with the floor's use (level of dark sandy silt with charcoal, Strata 7, 8, 10, 11, 14, and 19) range from 1763 to 1788, clustering in the 1770s. However, the inclusion of 19 sherds of ware types which were introduced in 1780 and two sherds of ware types introduced in 1795 indicate that the span of use for this basement extended into the very late eighteenth and probably into the early nineteenth centuries.

The ceramics in the reddish brown sandy silt (3 and 13) give mean dates which range from 1773 to 1792, clustering in the 1780s. The great amount of brick and mortar in these strata suggest that it was deposited in association with a building construction episode. The inclusion in these strata of 10 sherds of ware types introduced in 1795 and two others introduced in 1800 indicates that this event actually occurred in the early nineteenth century. The earlier mean dates for the ceramics from both these strata and the builder's trenches are the result of the inclusion of sherds of earlier ware types introduced from both the eighteenth century landfill and the use of the earlier building. The documentation on the use of this lot is clear for the period extending from 1887 to 1817 (Appendix B). The only documented construction episode for this period is that of the rebuilding of the structure on Lot 26 after the 1816 fire.

The wooden floor, which appeared burned, was the basement floor of the early building which was destroyed in the 1816 fire. The strata of dark sandy silt with charcoal was deposited as a result of this fire, and the artifacts included in them reflect the use of this early basement. The reddish brown sandy silt with brick and mortar strata were deposited while the recent building on this lot was under construction.

TABLE 4.5. Mean ceramic dates and terminus post quem dates for the deposits on the wooden floor in Lot 26, by Stratum and Test Cut.

Strata/ Test Cut	Reddish-brown sandy silt with brick and mortar		Dark sandy silt with charcoal		Trench 1		Trench 2	
	MCD[1]	TPQ[2]	MCD	TPQ	MCD	TPQ	MCD	TPQ
X	1787.3 s=20 n=20	1795 n=3	1776.8 s=22.3 n=6	1780 n=1	-	-	-	-
Z	1780.6 s=23.3 n=140	1795 n=3	1770.1 s=22 n=7	1762 n=3	-	-	-	-
AB	1784.9 s=22.3 n=54	1795 n=1	1763.9 s=34.68 n=11	1780 n=2	-	-	-	-
AE	1773.4 s=29.2 n=14	1780 n=4	1775.39 s=27.07 n=62	1795 n=2	-	-	-	-
AJ	1792 s=19.6 n=48	1800 n=2	1775.7 s=29.79	1780 n=11	1775.3 s=26.9 n=26	1780 n=2	-	-
AL	1791.2 s=13.3 n=50	1795 n=3	1788.4 s=13.4 n=30	1780 n=5	1781.2 s=24.3 n=17	1780 n=5	1786.85 s=27.42 n=16	1795 n=1

[1] mean ceramic date
[2] terminus post quem

After the test cuts were completed, the wooden floor was cleaned off and the floor's construction detail was recorded. The burned floor was composed of one layer of wooden planks ranging from 8 in. to 15 in. in width and 1 in. thick which were laid east-west. These planks were supported by joists, which measured about 4.5 in. to 6 in. wide and were laid north-south. Unlike the joists supporting the wooden floor in Lot 47 (see below), these beams were not supported by the footing stones of the foundation's walls on the northern and southern side of the building; rather, they appeared to have been cut off adjacent to these walls. The planking in the northeastern section of the lot was best preserved. Also in this section, an unburnt circular area, which perhaps had been covered by a barrel, provided further evidence that the building associated with this floor was burned.

The spread-footers associated with the western, or rear, and northern, or side, foundation walls were examined. The beams associated with the rear wall had been cut off near the side walls of the building. The spread-footer beam supporting the side wall extended far beyond those which supported the backyard wall of the building.

Both the structural and archaeological data indicate that this floor was the basement floor of the late eighteenth and early nineteenth century structure on this lot, which is documented as having been destroyed in the 1816 fire. The strata composed of gray, brown, and black sandy silt with ash lenses and charcoal were probably deposited as a result of the fire. Subsequently, the lots were divided, and a new building was built on Lot 26. The joists (which presumably had rested on the footing stones of the side foundation walls of the early building) and rear wall spread-footers were then cut off, so the side wall spread-footers and foundation walls could be replaced for the new building, which extended further into the lot. As these side walls were replaced, builder's trenches were dug alongside the walls. These trenches were sampled in Test Cuts AL and AJ. The strata associated with the construction of the new building consisted primarily of reddish brown sandy silt with brick and mortar. This layer extended over the builder's trenches in Test Cuts AJ and AL. The other, smaller, builder's trench in Test Cut AL, which is interpreted as having been dug for later foundation repairs, cuts through these reddish brown sandy silt strata. The uppermost cinder layer was laid down as a bedding for the modern concrete basement floor. This stratum contained carbon rods, which suggests that it was deposited after the mid-nineteenth century.

2. Backhoe Trench AO in Lot 26

After the wooden floor in Lot 26 was recorded, it was removed and Backhoe Trench AO was excavated from the rear wall of the building to Backhoe Trench J, near Front Street, in order to look for the remains of a warehouse which was recorded on this lot in 1763 (see Section III above). No remains of this building were found. The fill in this lot consisted of gray brown sand with large rocks and coral.

3. The Excavation of the Backyards in Lots 26 and 27

In the course of the exploration of the backyards in Lots 26 and 27 with the backhoe, a concrete paving was found and cleaned off. The paving was removed and two shovel tests (Shovel Tests B and C) were dug to assess the deposits beneath this paving. Each of these tests contained only one stratum of brown sandy silt with construction rubble and modern materials, such as refrigerator glass and electrical fixtures. At depths ranging from 17 in. to 20 in., another paving, made of bluestone slabs, was found. The backhoe was then used to remove the modern deposits overlying this bluestone pavement.

Two small test cuts (Test Cuts D and E) were then opened to sample the deposits under this backyard surface. After the bluestone paving was removed from Test Cut E in Lot 27, an impenetrable deposit of stone and brick laid in concrete was found. An attempt was made to remove this deposit with the backhoe, but, as this effort was unsuccessful, the test cut was abandoned. A new test cut (Test Cut F) was opened to the north of Test Cut E.

Later in the project, a backhoe with a breaker bit attachment was used to remove this brick, stone, and concrete feature. The feature was approximately 2 ft thick and may have been used as a platform for supporting heavy machinery. Immediately beneath it, the lower portion of a privy (Test Cut AU) was found.

In the course of excavating Test Cut F, both a privy (Test Cut F1) and a cistern (Test Cut F2) were found and excavated. During the excavation of Test Cut D, another privy was exposed and sampled. Subsequent hand clearing in the Lot 26 yard also exposed a dry well, which was excavated as Test Cut AR.

Each of these five features (the three privies, Test Cuts F1, AU, and D; the cistern, Test Cut F2; and the dry well, Test Cut AR) will be treated separately in the following discussion.

a. Test Cut F1: The Privy on the Lot 26/27 Lot Line (Fig. 4.16)

Beneath the bluestone paving, the uppermost stratum in Test Cut F1 consisted of a dark gray-brown silty sand (1) with brick and mortar, which was about 2 in. thick and extended over the whole unit. Underneath this layer were lenses of ash and cinder (2) underlain by a layer of black coal dust (3) in the eastern part of the square.

Below these lenses were pockets of red brown, brown, and dark brown sandy silt, and brown black silt (4, 6, 8, and 5, excavated together as Stratum 4). These deposits were ca. 1 ft thick.

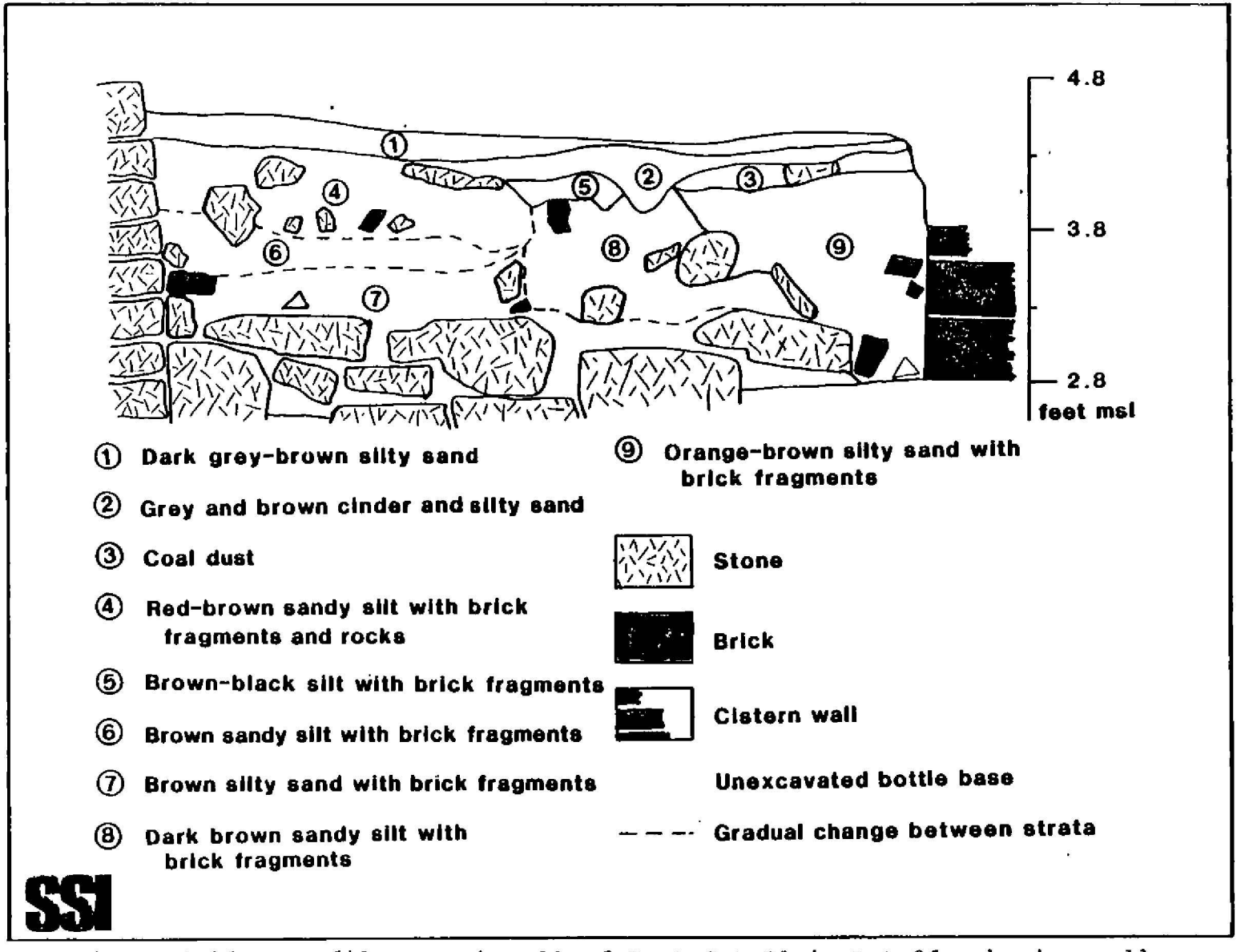


Figure 4.16. Profile, north wall of Test Cut F1 in Lot 26, showing wall of cistern, Test Cut F2.

Beneath these pockets, dry-laid stone walls were uncovered which formed the northern and western walls of a square privy. The deposits in this feature consisted of a 10 in. thick stratum of dark brown silty sand (7) which was underlain by a layer of gray brown coarse sand with pebbles (10), ca. 20 in. thick. Beneath this stratum was a layer of medium brown sandy silt (11), which was only excavated to a depth of ca. 8 in.

Only portions of the northern and western walls of this privy remained. To the east, the privy had been disturbed by the construction of the cistern (Test Cut F2, discussed separately below with Stratum 9, the cistern's trench). To the south, the privy had been disturbed first by the construction of another, later privy (Test Cut AU, discussed below), and subsequently, by the installation of the concrete, brick, and stone platform discussed earlier.

The uppermost 24 in of these privy deposits were screened; the underlying deposits were simply trowelled through, with the artifacts being bagged separately for each level and stratum. At a depth of ca. 3 ft below the bluestone paving, the area of excavation was contracted to a 12 in. by 27 in. area in the northwest corner of the unit, so that the relationship between these walls could be explored. This feature was excavated to a depth of 54 in. below the bluestone paving, but not to the bottom of the privy walls, as the feature was so disturbed that we decided that limited excavation time would be better invested, in terms of information return, by concentrating on less disturbed features.

The ceramics from the lower three strata of deposits excavated from inside the privy itself (Strata 7, 10, and 11) provided mean dates of 1794.3 (s = 14.4), 1789.4 (s = 19.20), and 1791 (s = 0), respectively. However, some ware types were included in these deposits which were only introduced after these dates, such as transfer-printed white earthenware, introduced ca. 1795, and underglaze polychrome stenciled pearlware, introduced ca. 1820 (South 1971). This suggests that the date of the abandonment and filling of this feature was somewhat later.

Lots 26 and 27 were the site of a single structure until 1816, when this building burned and the lots were divided (Appendix B). This privy, with its location on the lot line dividing these lots, was probably abandoned and filled after the 1816 fire, when the lots were divided.

The uppermost three strata (1, 6, and 3) extended to the east across the top of the cistern (Test Cut F2), and were probably deposited in association with the later leveling of the backyard area in preparation for the laying of the bluestone paving in this backyard. The ceramics from Stratum 1, the only one that contained these materials, gave a mean date of 1792.8 (s = 16.67), similar to those from the ceramics inside the feature. These deposits, then, contained mixed materials from the underlying feature, as well as later materials such as asbestos and macadam.

The underlying lenses and pockets of deposits excavated as Stratum 4 document the disturbance of the privy during the construction of the cistern (Test Cut F2), the privy (Test Cut AU), and the concrete platform. The ceramics from these deposits gave a mean date of 1796.6 (s = 18.57) which reflected the deposits in the underlying privy. However, there were also materials in these deposits which reflected the later disturbance of the privy, including electrical wire, asbestos, and a porcelain plumbing fixture.

b. Test Cut AU: The Privy in Lot 27 (Fig. 4.17)

After the backhoe had removed the concrete, stone, and brick platform in Lot 27, the area was cleaned off by hand and the lower portion of the dry-laid stone walls which formed a square-shaped privy were uncovered. Only the eastern half of this feature, designated Test Cut AU, was excavated.

The uppermost stratum associated with this feature consisted of a layer of tan mortar and brick rubble (1) which may have been associated with the installation of the concrete platform. It was 2 in. to 4 in. thick. Beneath this layer was a stratum of dark brown mottled with gray and orange sandy silt (2) which graded into an orange brown sand (3, 5). Within the southern portion of this stratum were lenses of dark gray sandy silt with charcoal (4) and yellow brown silt (6). This stratum with its lenses was ca. 14 in. thick.

Below, a stratum of brown and dark gray silt (7), possibly nightsoil, extended across the whole of the excavated portion of the feature and was ca. 4 in. thick. This layer was underlain by a stratum of tan gravelly sand (8), 2 in. to 4 in. thick. Below this stratum was a layer of gray brown sand with gravel and coral. As this deposit was similar to that found at the bottom of Test Cut AR and Backhoe Trench AO in Lot 26, it was interpreted to be the eighteenth century landfill in this area, and the excavations were terminated. The privy's stone walls extended to a depth of 15 in. below the top of the feature, ending 5.5 in. above the bottom of the deposits.

The construction of this privy destroyed portions of the remains of the earlier adjacent privy (Test Cut F1). The materials inside Test Cut AU, deposited after it was abandoned and filled, reflect the proximity of this earlier feature. All of the strata contained ceramics which gave mean dates in the later eighteenth century, similar to those in Test Cut F1. This indicates that Test Cut AU was filled with backyard deposits which contained materials from the earlier privy. However, the inclusion of some later materials in this feature indicate that, in fact, it was filled in the late nineteenth century. These materials include wire nails, introduced ca. 1855 (Fontana 1962:55), in Strata 2 and 5, and a piece from a Bristol brown bottle, introduced ca. 1850 (Munsey 1970:135), in Stratum 2. These artifacts indicate that this feature was filled in the late nineteenth century.

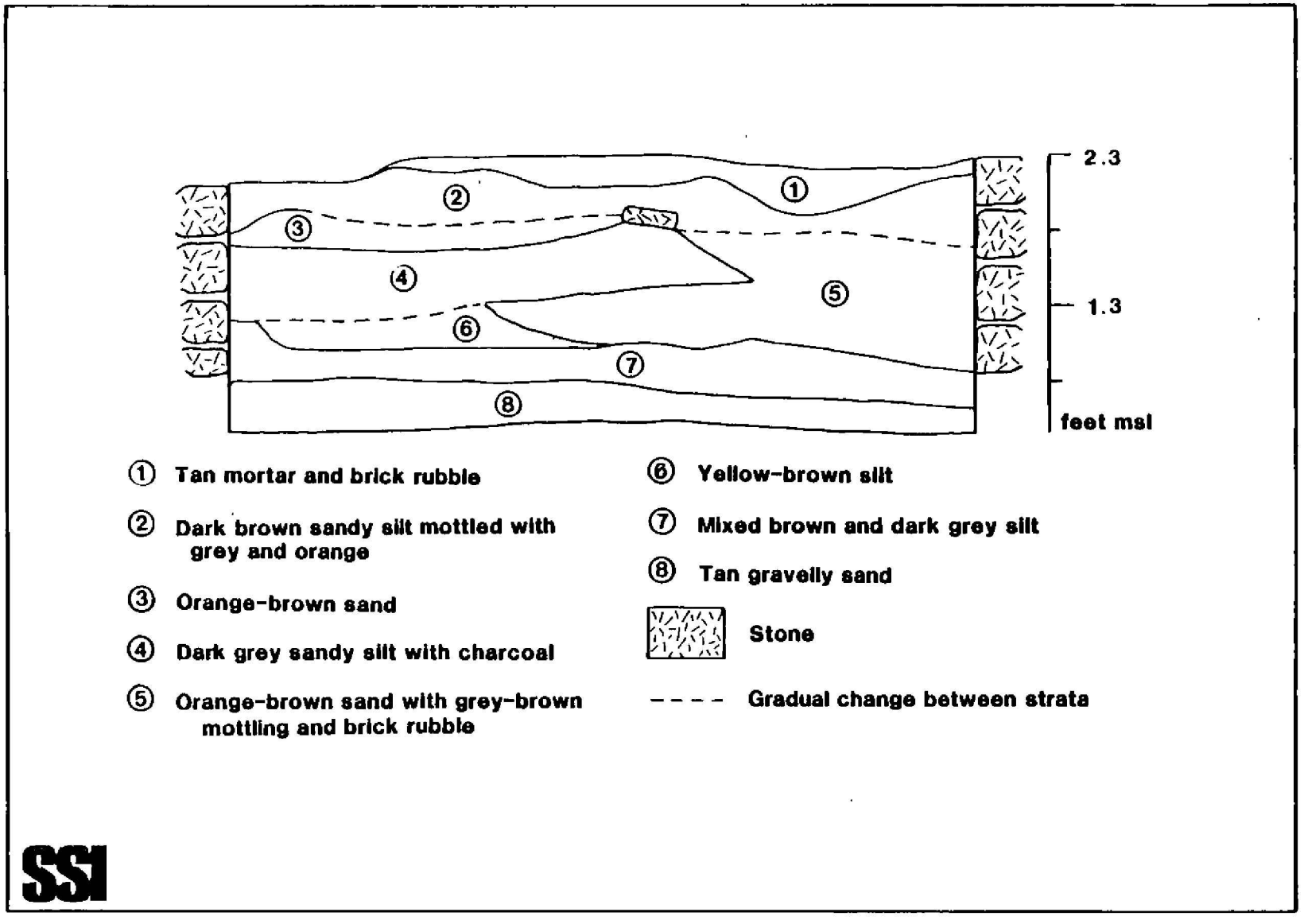


Figure 4.17. Interior profile, privy, Test Cut AU in Lot 27.

In addition, several printers' type slugs were found in Strata 4 and 7. Although it is possible that these slugs were intrusive, their being found at the depth of Stratum 7 suggests that they probably are not, and that they might reflect the use of the lot at the time this feature was filled. The sequence of occupation of Lot 27 is not known for the period after 1890, when the lot was the site of a tobacco warehouse (Appendix B). The structures on Lots 26 and 27 were combined in 1896. Later, in 1920, a printing plant was located on these lots, and presumably was there before, possibly as early as the 1890s. Further documentary research will have to be undertaken in order to determine the date that this feature was filled. However, the presence of these type slugs indicates that this happened no earlier than the 1890s.

c. Test Cut F2: The Cistern in Lot 26 (Fig. 4.18)

As Test Cut F, the privy on the Lot 26/27 lot line, was in the process of being excavated, the edge of a cistern was uncovered in the eastern part of the unit. This feature was excavated as Test Cut F2.

Below the bluestone paving, the upper strata in this test cut consisted of black and brown silty sand with brick and mortar (1), cinder (2), and coal dust (3), which appeared over the top of the adjacent privy. Here, these strata were ca. 8 in. thick. Below them lay a lens of dark brown sandy silt with cinder (13) over the eastern wall of the feature. Beneath these layers was a stratum of orange-brown sandy silt with mortar (4), which extended over the top of the feature and was ca. 7 in. thick. Within the upper portion of this stratum and the overlying cinder, a cast iron pipe, ca. 4 in. in diameter, was found which extended across the top of the brick cistern walls from the southeast to the northwest, draining into Test Cut D, the privy in Lot 26 (see below). The uppermost courses of brick on the northwest side of the cistern had been removed, so the pipe would slope adequately for drainage. Just to the southeast of the cistern, an elbow connection for this pipe was found, which presumably had been connected to the gutter system from the roofs.

Below the pipe in the northeast quadrant of the feature was a layer of brown sandy silt with mortar (15) ca. 2 in. thick, which contained a lens of corroded metal (14) and was underlain by a thin layer of cinder ca. 3 in. thick (16). Beneath these lenses was a deep deposit of brown silty sand (5) ca. 10 in. thick.

Under this sand were several lenses and pockets of ash (6), cinder (8, 9), ash with shell (11), and dark brown silt with white sand (7, 10). The bottommost stratum consisted of a gray-black clayey silt (12) which rested directly on the mortared cistern floor.

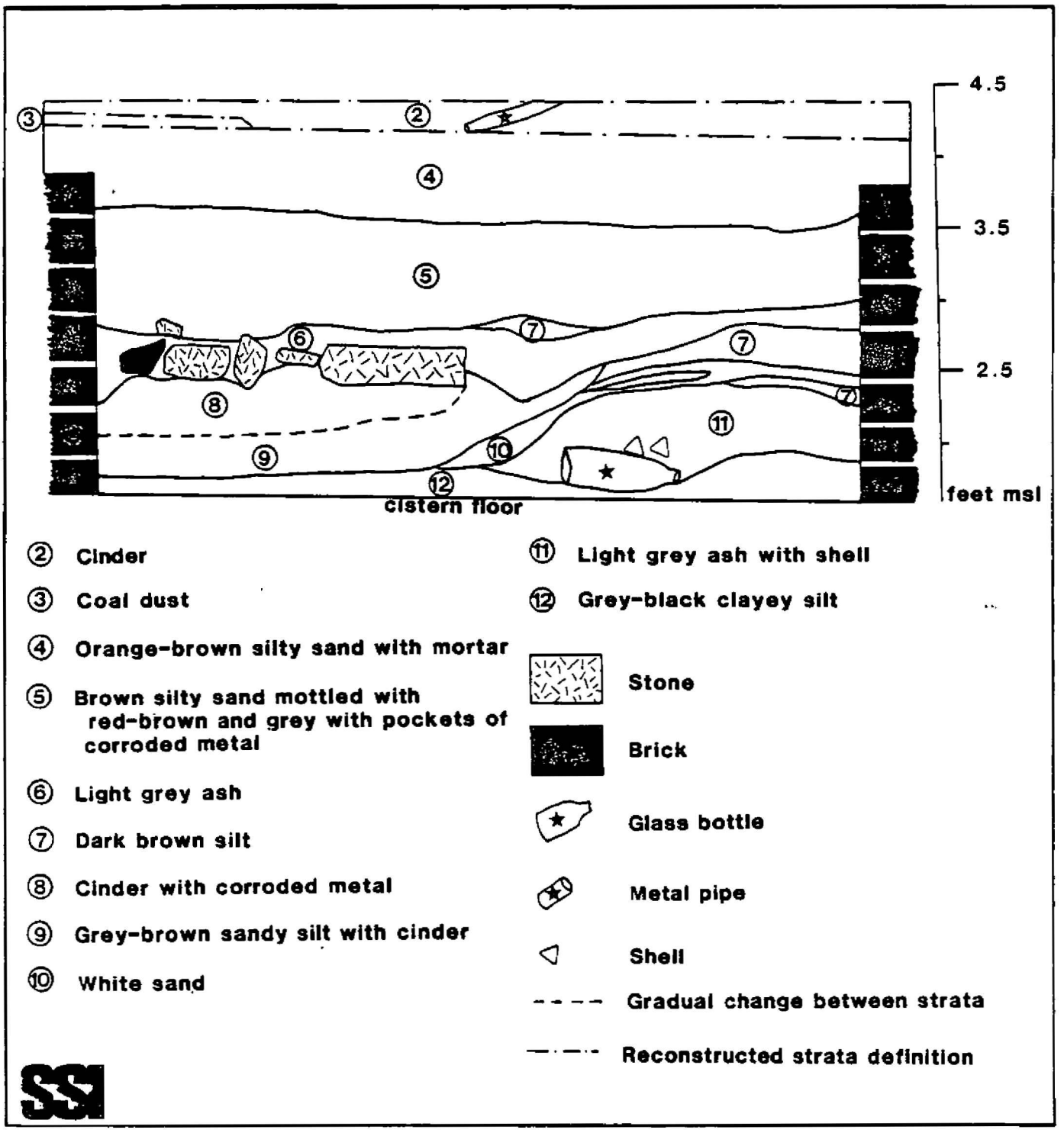


Figure 4.18. Interior profile, cistern, Test Cut F2 in Lot 26.

The trench which was dug to install this cistern was excavated to a depth of 20 in. The strata which composed it consisted of a layer of tan silty sand (17) which was underlain by light brown coarse sand (18). This cistern was built after the nearby privy (Test Cut F1) was no longer in use, as the construction of the cistern destroyed a large part of the stone walls which made up the privy. The materials in this trench suggest that the cistern was built not long after the privy had been filled, as there were no artifacts included in this trench which could not date to the period when the privy was filled.

The cross-mend study done on this feature (Table 4.6) indicates that the deposits in the uppermost 12 in. of the cistern (Strata 4, 14, 15, 16, 5) above the cinder and ash pockets and lenses were deposited together, because pieces of four of the five cross-mended vessels which mended across these strata come only from these higher levels. The lower strata (6-12) were also deposited together in a separate event, as 17 of the 18 cross-mends which came from these strata are confined to these layers of the cistern.

Although some later nineteenth century materials (such as Bristol brown bottles and "hotel china") came from both the upper and lower sets of strata, on the whole, the materials from these strata were quite different. The majority of the artifacts in Strata 4 and 5 were similar to those from the adjacent privy, Test Cut F1, and consist primarily of ceramics from this early period. The artifacts in the lower strata consist predominantly of bottle glass and date to the later nineteenth century.

The approximate date of manufacture of one of the bottles from Stratum 12 allows us to give an approximate date for the abandonment and filling of this feature. This bottle was made at the Ellenville, NY, glass works, which was in operation from 1836-1896 (McKearin and Wilson 1978:221). It has a lettered, Ricketts-type ring on its base. This particular type of Ellenville glass works bottle was made ca. 1880-1890 (Toulouse 1971:179). The presence of this bottle in the deepest stratum of this feature indicates that it was abandoned and filled after ca. 1880. Redeposited materials from the adjacent privy were also used in filling it.

d. Test Cut AR: The Dry Well in Lot 26

After the excavation of the cistern (Test Cut F2) was completed, hand clearing in the backyard of Lot 26 (O) uncovered a small, dry-laid circular stone feature which was connected to the cistern by a brick trough (Fig. 1.2).

Table 4.6. Cross-mended vessels from Test Cut F2, the cistern in Lot 26, indicating the number of sherds from each vessel and stratum, and including the sherds which mended with pieces from Test Cut AR, the dry well in Lot 26.

Cross-mend vessel/ Stratum	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
4	4						1						2												1	1
14		2																								1
15		1								1																
16																										
5	1	7							2	2											2					
6			2												1	1					1	2				
7			10	3	10	11		2				6		1	8	1	1	1	2	5	2	6		8		
8																					13					
9			9	1	6	3		1			1				2		1	1	3		4	2	10	1		
11			1		2							2			1				1				1			
12											14			1						1						
TC AR		4					2		2	2			1												3	

The uppermost stratum in this feature consisted of 20 in. of a tan and brown mottled sandy silt with slag (1), which was underlain by 8 in. of dark brown silty sand (2). The bottommost layer in the feature consisted of 5 in. of brown silty sand with pieces of coral (3). The underlying deposits were composed of gray brown sand with coral, the eighteenth century landfill encountered in other parts of Lot 26.

The stone retaining wall which defined the feature was also excavated. All of the stones, which were four courses deep, had been laid in red clay and brown sandy silt (4). The interior diameter of this feature was 2 ft at the top and became larger, measuring 2.5 ft in diameter below the first course of stone, so that the feature was bell-shaped in section.

The brick trough which connected Test Cut AR with the cistern had a slope of 4 in. along its 2 ft length. This feature, then, was probably used as a dry well to catch the overflow from the cistern.

The materials incorporated into the dry well wall are consistently similar to those in the privy (Test Cut F1). The ceramics from these strata date to the late eighteenth century, and no later materials were present. This suggests that this feature, like the cistern, was installed shortly after the privy was abandoned and filled.

Although the fill inside the dry well also contained materials similar to those from the privy (as well as to those included in the upper portion of the cistern Test Cut F2), the inclusion of some later materials, such as ironstone, introduced ca. 1813 (South 1971), suggests that it was filled later.

The cross-mend study of Test Cut AR (Table 4.7) revealed that the materials from Strata 1 and 2 inside the dry well mended with each other, and that none of this material mended with materials incorporated into the feature wall. This suggests that the artifacts inside the feature were deposited in a separate event from those in the feature wall. In addition, pieces from vessels which came from deposits removed in cleaning off the top of the dry- well (0) and Strata 1 and 2 mended with pieces representing six vessels from the cistern (Test Cut F2). This indicates that the dry well was abandoned at the same time as the cistern and that both of these features were filled in contemporaneously around 1880.

e. Test Cut D: The Privy in Lot 26 (Fig. 4.19)

Test Cut D was begun as an exploratory test to evaluate the deposits in the backyards of Lots 26 and 27. Beneath the bluestone paving which covered the backyards of these lots, a deep stratum of cinders (1) with lenses of brown silty sand (2) was excavated. At a depth of 10 in. below the bluestone paving, the upper portion of the dry-laid stone walls of a square privy were uncovered. The unit was enlarged so that the whole feature could be excavated.

Table 4.7: Cross-mended vessels from Test Cut AR, the dry well in Lot 26, indicating the number of sherds from each vessel and stratum, including sherds which mended with pieces from Test Cut F2, the cistern in Lot 26.

Cross-mend vessel/ Stratum	1	2	3	4	5	6	7
0		1	1	1	1	3	
1	4			1			1
2		1	1				1
3							
4							
TC F2	10	1	2	3	2	1	

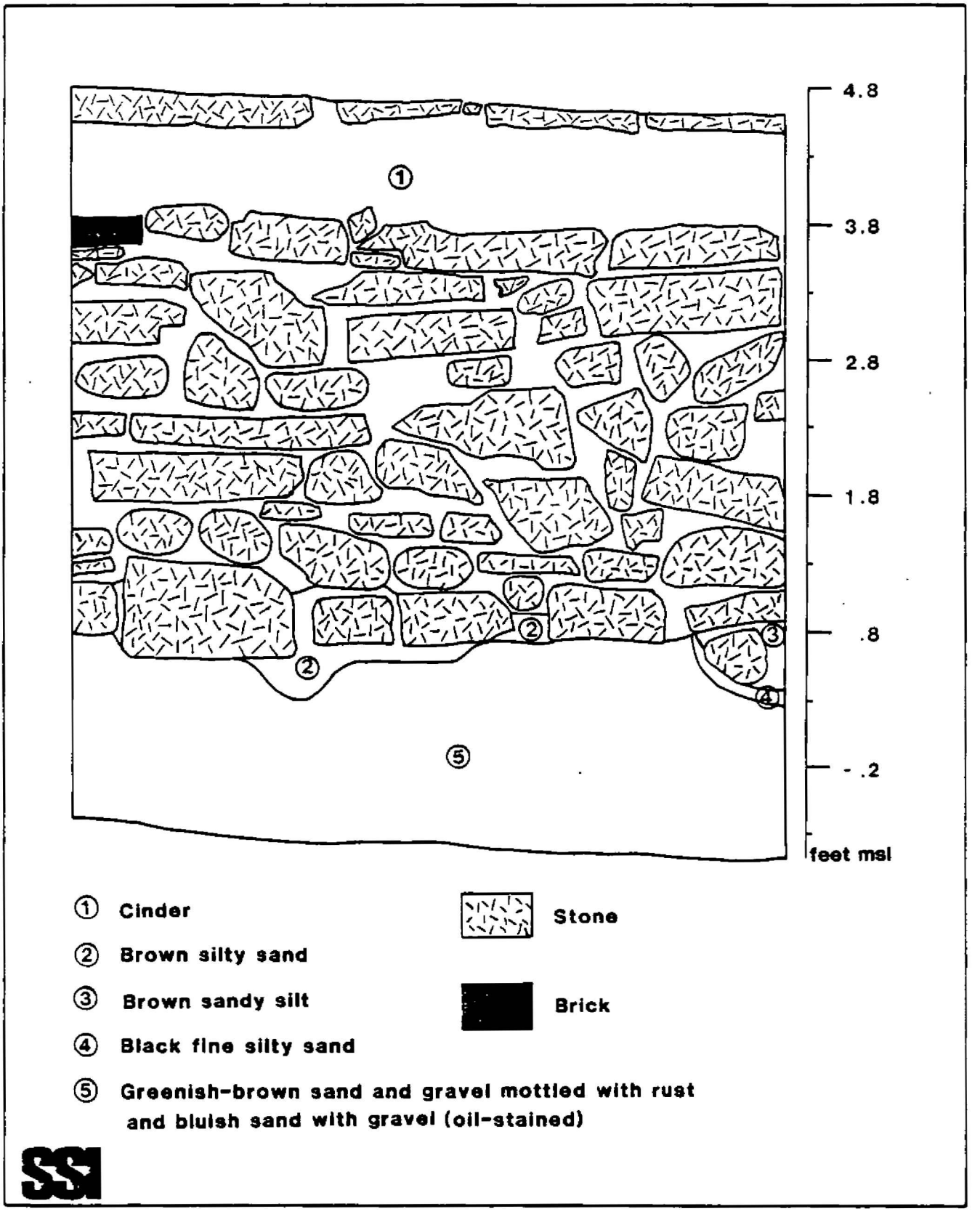


Figure 4.19. Profile, west wall of privy, Test Cut D in Lot 26.

The cinder extended down to a depth of 51 in. at its deepest point and was underlain by more brown silty sand. Below these strata were lenses of black fine silty sand (4) and reddish-brown sand (6), underlain by a stratum of brown sandy silt (3). Beneath this stratum was a layer of gravel with greenish brown sand (5), underlain by lenses of pink, green, and black clay (7). Beneath these lenses was a stratum of pebbles, which extended from 64 in. to 68 in., where the excavations were terminated. The stone walls of the privy extended down to a depth of ca. 48 in. below the bluestone paving, more than 20 in. above the bottom of the deposits.

The end of the drainpipe which had been exposed on top of the cistern in Lot 26 (Test Cut F2) extended into the southeast corner of the privy. The cinders, then, had probably been deposited to facilitate drainage, with the pipe carrying the water from the gutter system on the roofs of the structures in Lots 26/27. These cinders extended well above the walls of the privy and underlaid the bluestone paving.

There were very few temporally diagnostic artifacts in this feature. There was a part of an electric light bulb in a lens of the brown silty sand which was included in the cinder stratum at the top of the feature. This indicates that this stratum was deposited no earlier than the very late nineteenth century, when the use of these bulbs became widespread. Presumably, the pipe and the bluestone paving were laid at the same time this stratum was deposited. Beneath the upper two strata, there were only two temporally diagnostic artifacts which can be used to date the abandonment and filling of this feature: a carbon rod and a bottle base, both from Stratum 4. The bottle base was made in a hinged-bottom mold by the snap case method, which indicates that it was made between the early 1850s and ca. 1880 (Toulouse 1969:535).

There are two possible interpretations for the filling of this feature. First, the privy may have been filled in a single event. In this case, the presence of the light bulb in an upper stratum indicates that the feature was filled in the very late nineteenth or early twentieth century. Alternatively, the feature may have been filled somewhat earlier, possibly before ca. 1880. Later, in the very late nineteenth or early twentieth century, the upper part of the privy was dug out, the cinder was deposited for drainage, and the pipe and the bluestone paving were laid. The lack of any very late nineteenth and/or early twentieth century artifacts (such as machine-made bottles) in the deeper strata suggests that the second interpretation is correct.

4. Lots 26 and 27: Interpretation of the Occupational Remains

The chain of title for Lots 26 and 27 is outlined in Appendix A, and the documented occupants of the lots are listed in Appendix B.

The western halves of Lots 26 and 27, together with Lots 37 and 38, originally formed a single property and were filled in the 1730s. The eastern halves of Lots 26 and 27 were filled between 1767 and 1776.

Lots 26 and 27 were assessed together from 1787, when the tax records begin, until 1816, when the fire that destroyed so many of the buildings on the block destroyed the structure on these lots as well. After the fire, the lots were divided, redeveloped, and leased out separately until 1896, when the buildings on each of these lots were combined into a single structure.

The excavations in Lots 26 and 27 provided data for many of these phases of the lot's history. The early use of Lot 26 was documented by the deposits associated with two features. The deposits on the wooden floor produced data for both the occupation of the early building here and the construction of the most recent buildings on the lot after the 1816 fire. The early structure was built after 1767, the earliest date when the eastern portion of this lot was filled, and was in use until the fire. The occupation of this early structure by merchants and grocers who imported foods is reflected in the presence of almost 5000 coffee beans in the excavated floor deposits. Merchants and grocers occupied this structure from 1787 until 1810 and again in 1815.

The deposits in the privy on the Lot 26/27 property line (Test Cut F1) document the final period of the use of this feature prior to the lots' post-1816 division. At the time the building burned in 1816, this lot was occupied by a shoemaker.

After the lots were divided, two new privies were installed (Test Cut D in Lot 26 and Test Cut AU in Lot 27), and a cistern (Test Cut F2) and a dry well (Test Cut AR) were built in Lot 26. This cistern may have served the occupants of both of the new buildings on Lots 26 and 27, which were still owned by the same people. This interpretation is supported by the cistern's location. It is close to the Lot 26/27 property line and is extremely close to the back wall of the structure in Lot 26, rather than against the back wall of the yard, where almost all of the other cisterns on the block were located (Fig. 1.2). This cistern was connected by a brick trough to the dry well, so that the cistern's overflow would be contained by the dry well in the event that heavy precipitation caused the cistern to fill up. This arrangement would have prevented flooding of the backyard.

The artifacts contained within the deposits inside these later features provided only a general indication of when the features were abandoned and filled: the privies, Test Cut D and Test Cut AU, after the early 1850s and probably after 1890, respectively; and the cistern, Test Cut F2, and the dry well, Test Cut AR, after 1880.

After the cistern was no longer in use, a drain pipe was laid across it from the southeast to northwest and emptied into the privy in Lot 26, Test Cut D. At this time, the contents of this privy were apparently removed and a layer of cinders was deposited, presumably for drainage. The pipe, which was attached to an elbow extending upward near the backwall of the buildings, was probably connected to the gutter systems on the roofs of the structures on Lots 26 and 27, so these gutters would drain into the abandoned privy.

Sometime after the privy in Lot 27 (Test Cut AU) was abandoned, a concrete platform was installed on top of it, destroying the upper portion of the privy. This platform was probably used to support heavy machinery. The discovery of pieces of printer's type both directly under this platform and inside the privy suggests that it may have been installed in conjunction with a printing plant which was recorded on these lots in the 1920s and which may have been there as early as the 1890s. This platform could certainly have been used to hold this kind of machinery.

After the concrete platform was laid and the cinder was deposited in the privy (Test Cut D), the bluestone paving which covered both of these backyards was installed. As the cinder in the privy (Test Cut D) extended almost a foot above the top of the privy walls and was immediately under the bluestone paving, this cinder was probably deposited very shortly before the paving was laid. As the paving continuously covered both of the backyards, it was probably installed after 1896, when the buildings on Lots 26 and 27 were combined. The lack of many temporally diagnostic artifacts in the later features (Test Cuts D, AU, F2, and AR) precluded the possibility of establishing a firm date of deposit. This lack of data leaves open the possibility that some or all of them were filled only after the structures on these lots were combined. Unfortunately, however, the nature of the data from these features makes it impossible to resolve this question.

Later, in the twentieth century, approximately 1.5 ft of fill was added on top of this paving, and a layer of concrete was laid over the whole backyard area.

E. The Excavation of the Occupational Remains in Lot 28 (Fig. 4.20)

As the structure on Lot 28 was still standing when the excavations took place, a 4 ft by 4 ft test cut (Test Cut A) was placed in this backyard so that the occupational deposits in this area could be evaluated (Fig. 4.21). The building on this lot had been most recently used as a bar, the Square Rigger. The western half of the yard area was covered with air conditioning machinery for the Yankee Clipper, a restaurant which was still in operation on the southern part of the block, and the northern part of the yard was covered by a standing extension of the Lot 28 building.

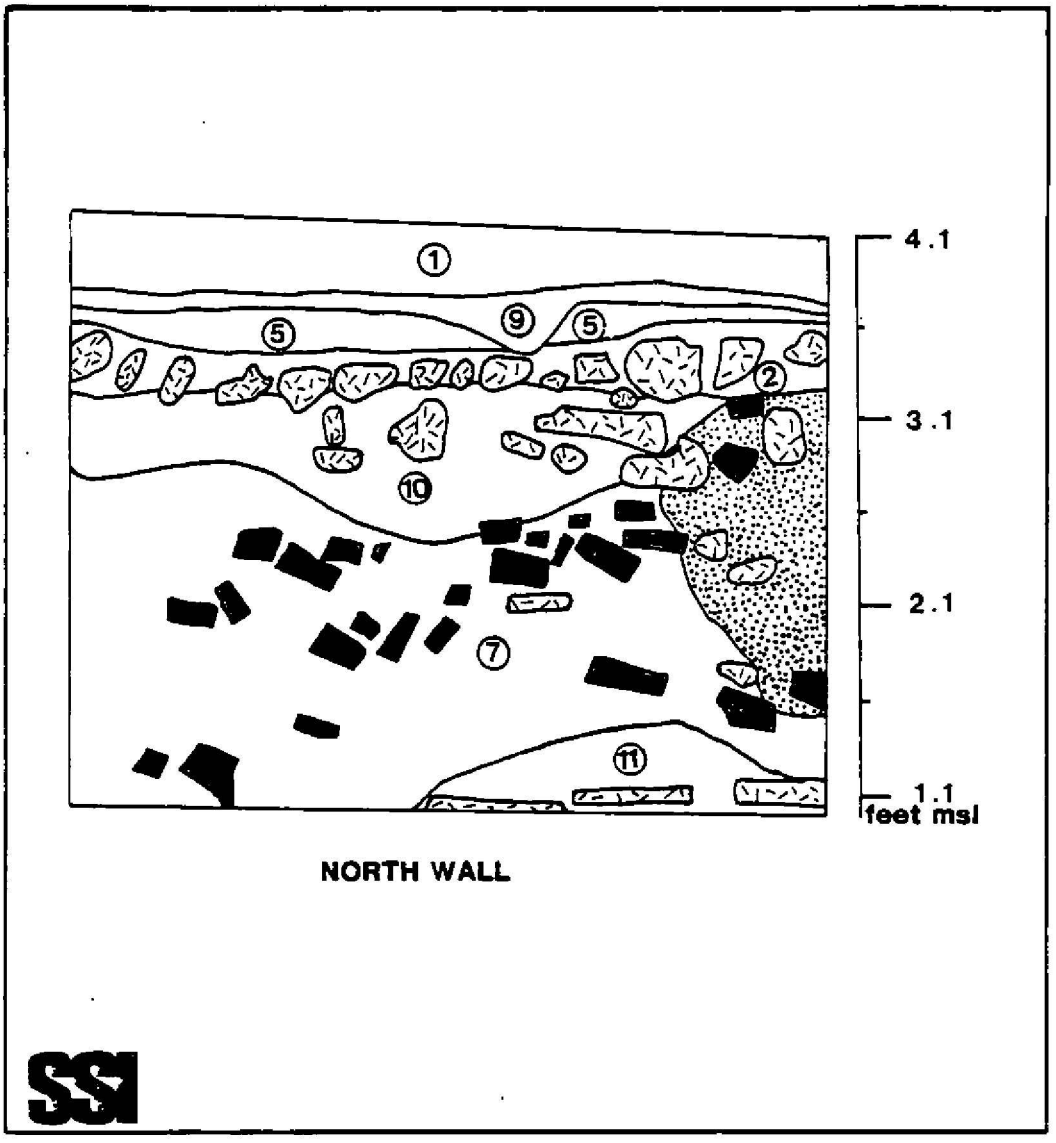


Figure 4.20a. Profile, north wall of Test Cut A in Lot 28.

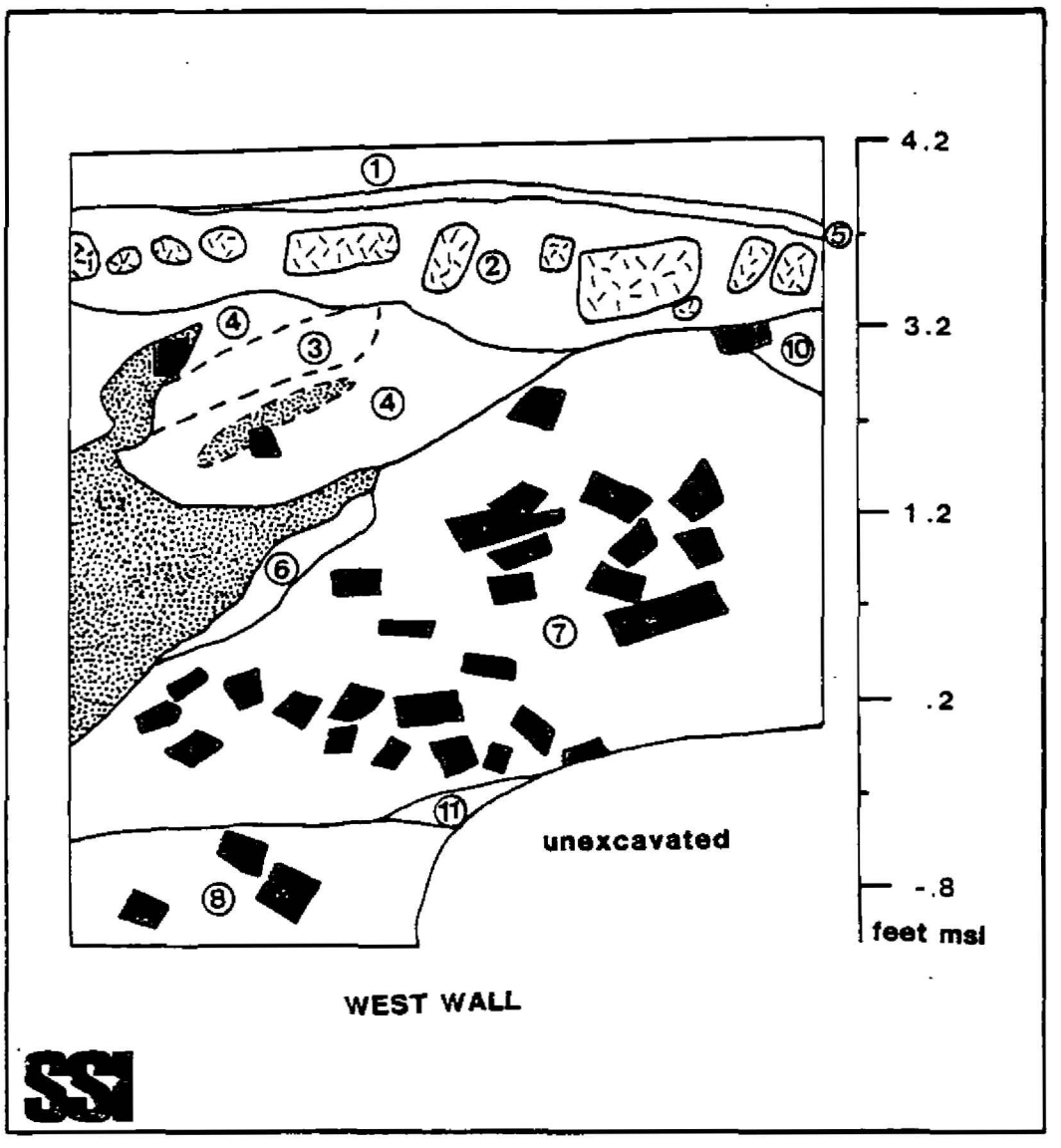


Figure 4.20b. Profile, west wall of Test Cut A in Lot 28.

① Concrete floor with cinder underlying

② Dark grey-brown sandy silt with mortar

③ Blue-black sand and silt

④ Extensively mottled sand and silt with wide ranges of coloration due to burning

⑤ Brown sandy silt

⑥ Hard-packed bluish-grey silty sand with mortar

⑦ Brown sandy silt with mortar and brick

⑧ Grey-black silt with mortar

⑨ Grey silty sand with cinder

⑩ Fine grey silt with cinder and mortar

⑪ Orange-brown sandy silt with brick and mortar

 Stone

 Brick

 Mortar

---- Gradual change between strata

Figure 4.20c. Key to the profiles, Test Cut A in Lot 28.

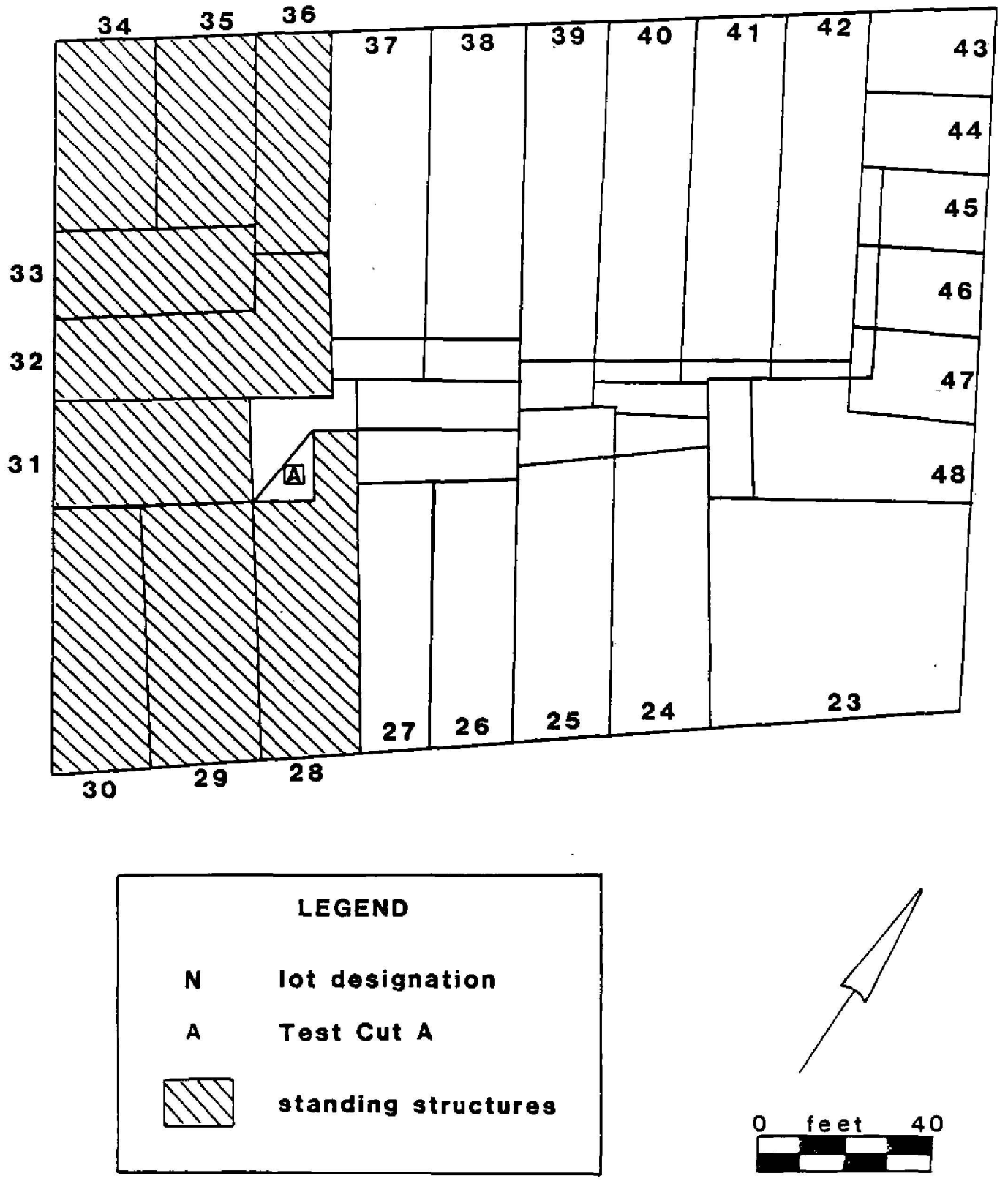


Figure 4.21. Map showing location of Test Cut A.

This backyard was covered with a concrete paving, underlain by a cinder bedding about 6 in. deep (1). The underlying stratum consisted of a gray silty sand with cinder (9), which lay over a layer of brown sandy silt (5). Beneath this stratum, a pavement composed of rounded cobbles was found. These cobbles were set in a stratum of dark gray-brown sandy silt (2), underlain by a layer of fine gray silt with cinder and mortar (10).

The underlying deposits consisted of thick pockets and lenses of materials (3, 4, 7, 11, 12, 15, 16, 17, and 18), which extended in depths ranging from 45 in. to 49 in. All of these pockets and lenses sloped down toward the south of the test cut and were intrusive into the lowermost stratum excavated, which consisted of a gray-black silt with mortar (8) excavated to a depth of 50 in.

With the exception of Stratum 8, the lowermost layer, most of the strata, pockets, and lenses in this unit contained fragments of elaborately decorated earthenware and porcelains. Many of these were decorated by "slip painting," and strongly resemble the products of the "art potter" movement which developed in this country after ca. 1878 (Clark 1979). Derivatives of this style were quite popular in the late nineteenth and early twentieth centuries. The cobble pavement and its associated strata and the underlying pockets and lenses were therefore probably deposited in the late nineteenth or early twentieth century.

Stratum 8, the deepest stratum excavated, contained a great deal of mortar and only two temporally diagnostic artifacts, both of which dated to the late eighteenth and early nineteenth centuries. It also contained four pieces of burned ceramics and two pieces of burned glass. These artifacts suggest that these materials were deposited as a result of the construction activities following the 1816 fire on the block.

The chain of title for Lot 48 is summarized in Appendix A, and the documented occupants of this lot are listed in Appendix B. Although Test Cut A was located in Lot 28, this yard and that of Lot 31 adjoined each other and did not have a stone wall or any other boundary between them. An earlier structure on Lot 31 was destroyed in the 1816 fire on the block, and the building on Lot 28 was heavily damaged. The structure on Lot 31 was rebuilt in 1817 and was later drastically altered in 1919, when it and its neighbors on Lots 29, 32, and 33 were incorporated into a single structure (see Appendix G).

The lowermost stratum (8) in Test Cut A, then, probably represents earlier material deposited after the 1816 fire, when a new building was built on Lot 31 and the structure on Lot 28 was repaired. The lenses which sloped down to the south were deposited in the later nineteenth or early twentieth century. These lenses sloped down toward the structure on Lot 31, which suggests that they may in fact constitute part of a trench for foundation repairs on the Lot 31 building during this period. The cobble paving was laid sometime after this trench was completed. The strata above this paving were added to accommodate the cinder bedding and concrete paving, which may have been laid ca. 1919, at the time that the buildings on Lots 29, 31, 32, and 33 were incorporated into a single structure.

Most of this backyard was covered by an elevated extension of the main structure on Lot 28 and by the air conditioning unit, so only a small area was readily accessible for testing. It is possible that the extension covered one or more of the backyard features and that others may have been destroyed by these late nineteenth century construction activities. Above, we have suggested that a similar elevated extension may have covered the backyard in Lot 40. The results of the excavations in Test Cut A indicated that this backyard had been heavily disturbed in the late nineteenth century. Therefore, we decided not to undertake any subsequent excavation in this area and instead to concentrate our efforts in the less disturbed backyards in the other lots.

F. The Results of the Excavation of the Occupational Remains in Lots 37 and 38

Lots 37 and 38 are treated together here because two of the excavated features date from the period before 1818, when these lots formed a single parcel; one of these features was apparently used by the occupants of both of these lots (See Appendices A and B).

Six features were sampled in these lots: three privies (Test Cut AT on the Lot 37/38 property line, Test Cut O in Lot 37, and Test Cut G in Lot 38); two cisterns (Test Cut AQ in Lot 37 and Test Cut L in Lot 38) in the backyards; and a wooden box-like feature (Test Cut AX) which was uncovered in Backhoe Trench K in Lot 38. In addition, a shovel test (Shovel Test Q) and a test cut (Test Cut P) were used to evaluate the stratigraphy in Lot 37, and a short backhoe trench (Backhoe Trench H) was used both to assess the deposits and to look for the remains of an eighteenth century storehouse in Lot 38.

1. The Excavation of the Backyards in Lots 37 and 38

The backyards in these lots were cleaned off with the backhoe until several paving stones and the tops of the privy and the cistern were exposed in Lot 38 and the tops of the privy and the cistern were exposed in Lot 37. No paved surface was uncovered in Lot 37.

A backhoe trench was excavated from east to west across the backyard in Lot 38 in order to assess the deposits in this area. A storehouse was documented as having been located on Lots 37, 38, 26, and 27 on a 1763 map (see above, Section III). No remains of this eighteenth century structure were found. The deposits in this trench, which was excavated in 1 ft arbitrary levels, indicated that a layer of fill had been deposited in this backyard in the early nineteenth century, possibly after the 1816 fire. No evidence of an earlier ground surface was seen.

A shovel test (Shovel Test Q) was excavated through the upper deposits of Lot 37 so that an evaluation of these deposits could be made. The stratigraphy of these 30 in. of deposits consisted of layers of cinder, mortar, coal dust, tan silt, another stratum of coal dust, and reddish-brown sand with cobbles. The lowermost layer of coal dust contained very late nineteenth century materials, such as safety glass, introduced in 1891 (Lorrain 1968:44). The lowest stratum (reddish-brown sand with cobbles) extended down into the upper levels of the privy (Test Cut O) and cistern (Test Cut AQ) sampled in Lot 37.

A small test cut (Test Cut P) was dug outside one of the features in Lot 37 so that these deposits could be assessed. This test cut was started beneath the reddish-brown sand with cobbles mentioned above, and its deposits consisted of a gray-brown sandy silt which became mottled with mortar and charcoal with depth. This material apparently represents a filling episode in the early nineteenth century, similar to the one in Lot 38, and probably resulted from the construction of the most recent building on this lot after the 1816 fire. Stones also appeared in the northern wall of the test cut at a depth of ca. 19 in. Subsequent machine clearing here uncovered the dry-laid stone wall of a privy (Test Cut AT) in this area.

a. Test Cut AT: The Privy on the Lot 37/38 Lot Line

The southernmost edge of Test Cut AT was first uncovered at a depth of ca. 19 in. below the top of Test Cut P, but the dry-laid stone walls of this square privy were only recognized as such after later backhoe clearing between Test Cut G in Lot 38 and Test Cut O in Lot 37. Only the southern half of this feature was sampled, and the north wall of the excavated area was destroyed by pothunters before the excavations were completed and the profile could be drawn. The top of this feature was at an elevation of 2 ft above mean sea level.

The uppermost stratum in Test Cut AT consisted of a brown silty sand with brick and mortar, heavily mottled with charcoal (1), which was 3 in. to 6 in. thick. Beneath this layer on the west was a lens of brown sandy silt with burnt wood and charcoal (3), ranging from 3 in. to 10 in. in thickness, and, on the east, a lens of dark brown and gray sand silt (2), 1 in. to 6 in. thick. These lenses were underlain by a lens of tan silt with mortar (4), which was 3 in. to 10 in. thick on the western and northeastern part of the excavated area. This lens contained a high density of domestic artifacts. Beneath these lenses in the southeastern portion of the excavated area was another lens of brown silty sand (5), 3 in. to 10 in. thick, while on the west lay a lens of brown silt and sandy silt (6). Under all of these lenses was a stratum of hardpacked dark brown silt (7), ca. 5 in. to 9 in. thick, which was underlain by a stratum of brown silt ca. 1 in. thick (8). The lowermost stratum which we encountered in the excavated area consisted of black silt (9), possibly nightsoil, which extended over the whole of the area. The pothunters destroyed this feature before we were able to excavate this black silt stratum. However, a small shovel test in the southeast corner of the feature gave us an uncontrolled sample of some of the materials from this layer.

A cross-mend study was done of the contents of this feature (see Table 4.8). All but 12 of the 51 vessels made up of pieces which mended across strata included pieces from Stratum 4 (the lens of tan silt with mortar), which suggests that a high proportion of the artifacts found here had been deposited with Stratum 4. In addition, none of the pieces excavated from Stratum 9 (the black silt) cross-mended with the materials from any other stratum. This evidence tends to support the interpretation that this stratum was in fact nightsoil, deposited while the privy was in use, as opposed to later fill, deposited after the privy was abandoned.

The mean ceramic date of 1803.44 (s=14.79) for Strata 1 through 8 suggest that the ceramics included in the filling of this feature were manufactured in the first decade of the nineteenth century, while the date of 1800.4 (s=10.1) for the nightsoil (Stratum 9) suggests that the material here may be slightly earlier. Lots 37 and 38 were assessed together until 1794, implying that these lots were either the site of a single structure or that they were occupied by a single tenant before that year. For most of the period between 1794 and 1816, when the structures on these lots were destroyed by fire, each was used by a different tenant. The location of this privy on the boundary line between the two lots suggests that this feature was used by the occupants of both lots at least into the first decade of the nineteenth century and probably until 1816, after which the lots were sold to separate owners. At the time of the 1816 fire, both lots were occupied by Joseph Hart and A. or E. Mitchell, both clothiers.

At the bottom of the hardpacked dark brown silt stratum (7), three sides of a wooden structure were encountered. This feature was composed of three wooden planks set on their sides, two of them parallel and extending north-south, separated by the length of the third plank, which was set perpendicular between them, thus forming two corners and three sides of a square. The north-south boards stopped at the southern stone wall of the privy; the privy was possibly built through this wooden feature, and there may have been a fourth plank forming a square somewhere to the south of the privy. Neither the width of the planks nor the depths to which they extended was determined, and no definite interpretation has been made as to the function of this feature. Its construction appears similar to features which have been interpreted as cofferdams or sumps on the 175 Water Street site (Joan Geismar, personal communication). However, if one of these interpretations also applies to this feature on the Telco Block, it is unclear what function such a feature would have served in this location. However it should be noted that this feature was located towards the eastern or river side of landfill Parcel A, which we believe to be the earliest landfilled area on the block (1732/5-1737); this feature may have been associated with the installation of the landfill.

b. Test Cut 0: The Privy in Lot 37 (Fig. 4.22)

While clearing off the backyard in Lot 37, the dry-laid stone walls of a rectangular privy were uncovered and later excavated as Test Cut 0.

TABLE 4.8. Cross-mended vessels from Test Cut AT, the privy on the Lot 37/38 property line, indicating the number of sherds from each vessel and stratum.

VESSEL/ STRATUM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	3	3	34	1	5			2			5							3			1	2	2		7
2																									
3		1		1		1	1		3	1	7				1		1			1	4		1	2	
4			1	3	2	15	14	2	6	15		3	1	4	8	4		1	1	1	18	17	8	1	9
5	2				1			5					1			1	1		1				2	1	
6						1						1		2							8				
7													2												
8																									
9																									

VESSEL/ STRATUM	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
1			1	1				3			4		6							1				1		
2														6												
3				3			3		3	1		2	2		1			2			1		1			
4	1	19	1					1	10		2	3	7	1		1	1	3	9		5	1		1	4	1
5	1				1	1								5	1	1			4	3			2		1	1
6							1	1	2			1					1		1			1				
7					2	3										2										
8		1									1				2											
9																										

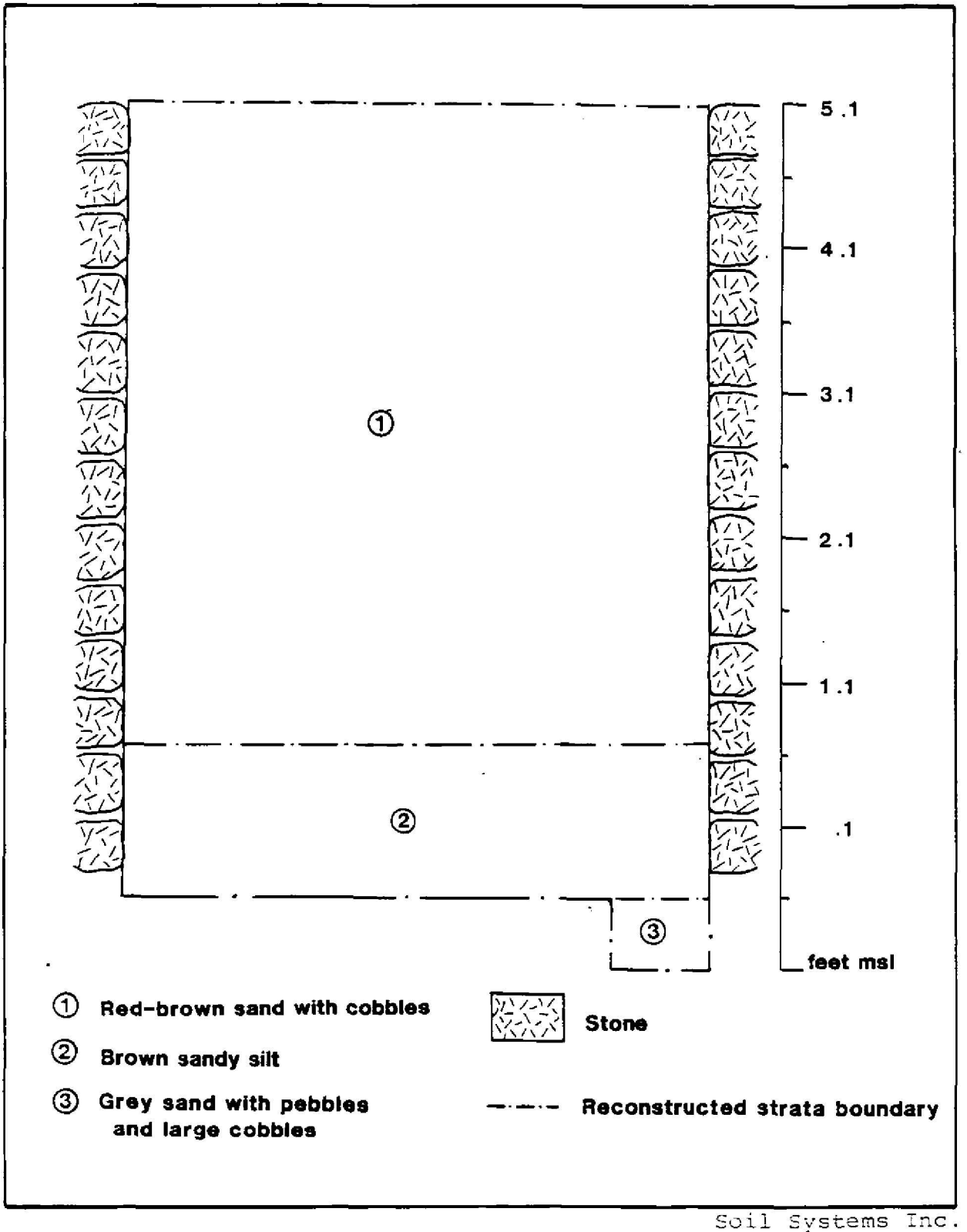


Figure 4.22. Reconstructed interior profile, privy, Test Cut O in Lot 37.

This feature contained two strata. The uppermost layer was ca. 53 in. deep and consisted of loosely-packed reddish-brown sand with cobbles (1), the same stratum which appeared at the bottom of Shovel Test Q. This deposit had a very low density of artifacts, and only a 50% sample was screened. The underlying stratum extended to a depth of 67 in. and was made up of brown sandy silt (2). Beneath this stratum was a layer of gray sand with pebbles and large rocks. This deposit was similar to the eighteenth century landfill found in the backyards of Lots 26 and 27, which were part of the same water lot as Lot 37; therefore, this test cut was terminated.

The material in this feature apparently was deposited in two episodes. Although Stratum 1 contained no temporally diagnostic artifacts, its matrix was similar to Strata 1 and 2 in Test Cut AQ (see below), which was deposited in the very late nineteenth or early twentieth century; this stratum was therefore probably deposited during the same period.

Only Stratum 2 contained artifacts which provided insight into when this feature was abandoned and filled. It contained a fragment of a Bristol brown bottle, made between ca. 1850 and 1900 (Munsey 1970:135), and a whole glass bottle. This "Blake" shaped bottle (Whitall, Tatum, and Co. 1971:8) was made in a two-leaf mold and had a cross bottom seam and no pontil mark; it was probably manufactured between the early 1850s and 1880 (Toulouse 1969:535). All we know about this feature, then, is that it was filled after the early 1850s.

The northern, eastern, and western dry-laid walls of this feature extended to a depth of ca. 63 in., whereas the southern wall, which was mortared, extended only to 51 in.. The top of the southern feature wall, uncovered later, proved to be a wall of a more recent structure which had been built through the privy after it was no longer in use. The uppermost stratum inside the privy was probably deposited when this wall was built in the very late nineteenth or early twentieth century. The lower brown silt stratum was earlier fill, which was deposited when the privy was initially abandoned.

c. Test Cut AQ: The Cistern in Lot 37 (Fig. 4.23)

While the backhoe was being used to clean off the backyard of Lot 37, the upper portion of an oval-shaped brick cistern was uncovered. The northern half of this cistern was later sampled as Test Cut AQ.

Four strata of deposits were excavated in this half of the cistern. The uppermost stratum, extending from 12 in. to 20 in., consisted of loosely packed reddish-brown sand and cobbles with a heavy concentration of brick and mortar rubble in the lower portion of the stratum (1 and 2). This layer was similar to the uppermost stratum in Test Cut O, the adjacent privy, and the bottommost layer of Shovel Test Q. Beneath this sand was a layer of black coal dust, 1 in. to 12 in. thick (3), which was underlain by a lens of orange-brown sand with pockets of decomposing metal and brick rubble (4), 2 in. to 7 in. thick. The lowermost stratum consisted of a dark brown sandy silt (5), 3 in. to 10 in. thick, which lay directly on the mortared cistern floor.

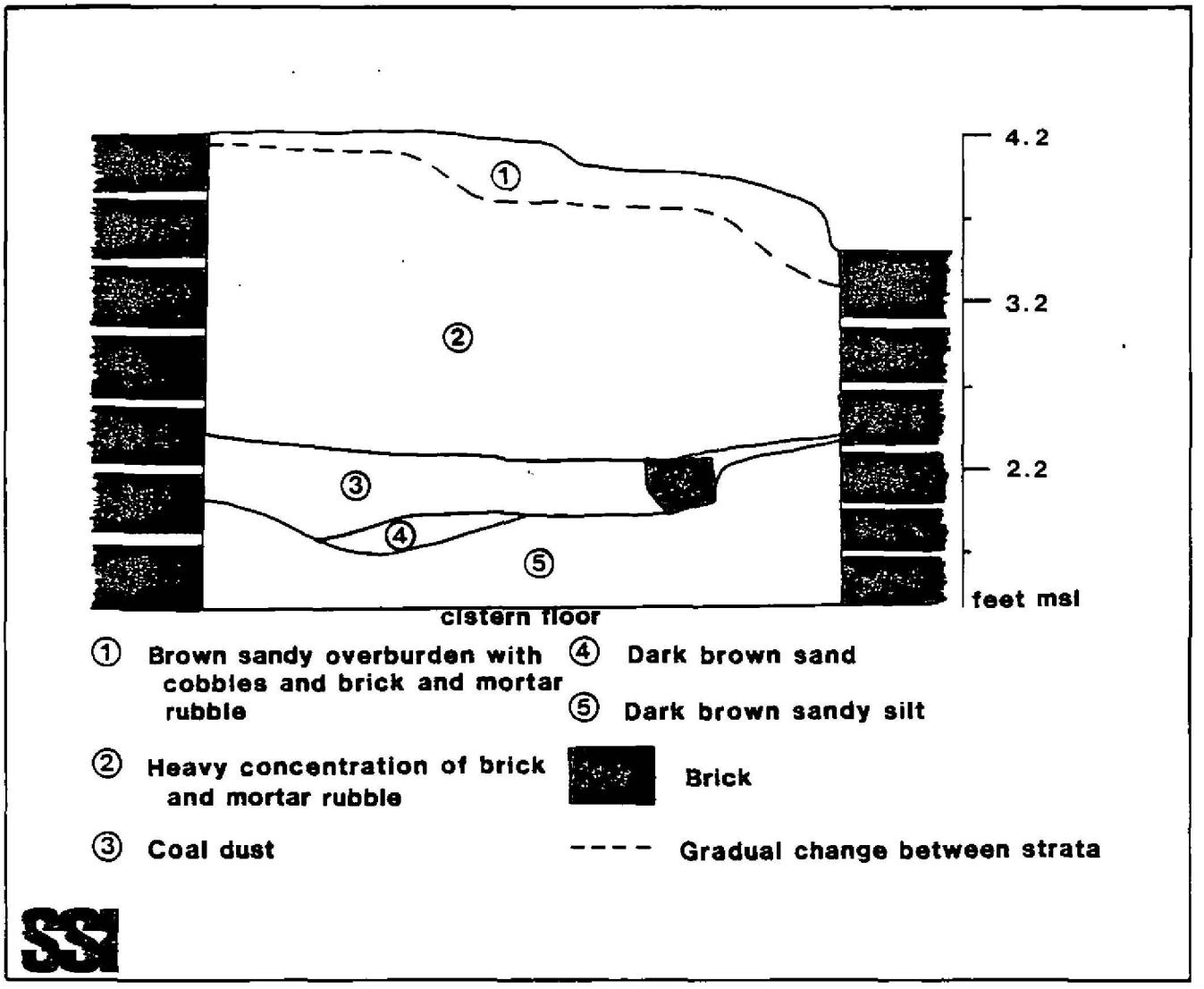


Figure 4.23. Interior profile, cistern, Test Cut AQ in Lot 37.

The materials in Test Cut AQ appear to have been deposited in two episodes. Although Strata 1 through 3 contained some eighteenth century and early nineteenth century redeposited materials, they also contained safety glass, introduced ca. 1891 (Lorrain 1968:44), and other very late nineteenth century and early twentieth century material, which were deposited during this period. Strata 4 and 5, however, did not contain such late materials, and both of these strata contained pieces of a soda/mineral water bottle which mended together, indicating these strata were deposited together. This bottle had a bare iron pontil mark with a blackish residue. This kind of bottle was probably made between 1845 and 1870 (Munsey 1970:48). Its finish had been formed with a lipping tool and was well made, indicating that the bottle was probably made towards the end of this period, closer to 1870 (Jones 1982). These strata, then, were probably deposited somewhat earlier in the late nineteenth century, after ca. 1870.

Just above the southern cistern wall, a conduit made of brick was uncovered which presumably fed water from the gutter system on the roof of the building in Lot 37 into the cistern.

d. Test Cut G: The Privy in Lot 38 (Fig. 4.24)

The backhoe, while clearing off the backyard in Lot 38, exposed the upper courses of the dry-laid stone wall of the square privy excavated as Test Cut G. The uppermost stratum in this privy consisted of three lenses of sandy silt with brick and mortar rubble (1, 2, 4); these lenses were 6 in. to 18 in. thick. Beneath these lenses was a stratum of orange-brown sandy silt (3) with cobbles and large slabs of rock, which extended 39 in. down in the middle of the feature. This stratum was underlain by a layer of dark gray-brown sandy silt (5) which extended to a depth of ca. 42 in. below the top of the privy wall and became mottled with pinkish-tan sand with depth (6). Near the bottom of this stratum in the southern portion of the privy was a pocket of broken bottle glass. Below this layer, a stratum of gray sand (7) extended to a depth of 72 in. at its deepest point in the northwest corner of the feature. Beneath this stratum, a layer of brown clay (8) extended from 50 in. in the southeast corner of the feature to a depth of 55 in. The privy walls extended to a depth of 50 in.

There were very few temporally diagnostic artifacts from this privy which reflected the time the feature was filled. Earlier nineteenth and eighteenth century redeposited materials were included in most strata, although pieces of white earthenware were found in several of the strata as well (for example, Strata 1, 2, 3, 6). However, pieces from a minimum number of 13 wine bottles were found at the bottom of Stratum 6. These bottles, unfortunately, were heavily patinated and, although they do not appear to have pontil marks, their poor condition renders a definite conclusion on this point impossible. However, they probably were made after the early 1850s (Toulouse 1969:535).

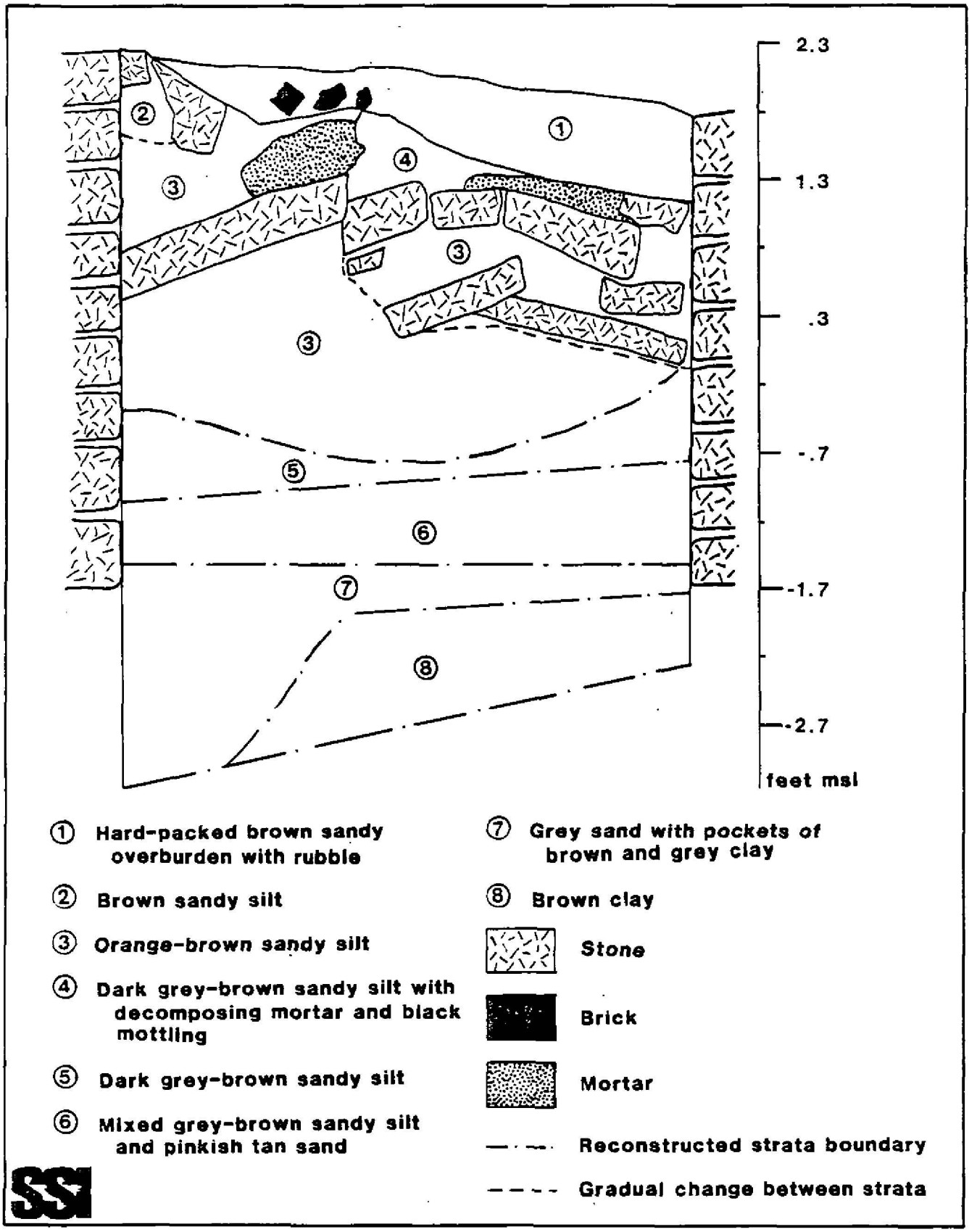


Figure 4.24. Partially reconstructed interior profile of privy, Test Cut G, in Lot 38.

Wine bottles like those found in this privy are very conservative in form, and they could have been made much later in the nineteenth century. The soil matrix in Stratum 3 in Test Cut G is very similar to Stratum 4 in the adjoining cistern Test Cut L, and both of these strata contained large slabs of rock. This suggests that at least the upper portions of these features were filled in at the same time. It is possible, then, that this feature may have been filled as late as the adjoining cistern, after 1870 (see below).

e. Test Cut L: The Cistern in Lot 38 (Fig. 4.25)

As the backhoe was clearing off the backyard in Lot 38, the top course of the walls of a round brick cistern was uncovered; this feature was later excavated as Test Cut L. A mortar cap (9) was found on the top of the deposits inside this feature. Below this was a lens of gray-brown silty sand with mortar (1) underlain by a stratum of orange-brown silty sand (2 and 3), which extended to a depth of 7 in. below the top of the feature. Beneath this stratum were layers of orange-brown sandy silt (4) and orange sandy silt (5), both of which contained large stone slabs similar to those in Test Cut G. This stratum extended to depths of 23 in. in the north and 28 in. in the south, below the top of the feature. An underlying lens of dark gray sandy silt with decayed metal (7) was excavated in the eastern part of the feature, alongside the orange sandy silt stratum. This top lens was underlain in part by a pocket of brick and mortar (8), which rested on the mortared cistern floor. Both the gray sandy silt lens and the orange sandy silt stratum was underlain by a stratum of dark gray silt (6), which was 5 in. to 10 in. thick and was just above the cistern floor.

All of the strata in this feature contained redeposited eighteenth century and early nineteenth century materials. Strata 6 and 7, however, also contained a large number of bottles and bottle fragments. One group of wine bottles found in both of these strata was made up of a minimum of 23 vessels, none of the bases of which had pontil marks, indicating they had been made after the early 1850s (Toulouse 1969:535). A medicine bottle in Stratum 6 had been made in a three-part cup type mold and had the company name of "Fleming Brothers" embossed on it. A company trading under this name was in operation in Pittsburgh in 1889 (Baldwin 1973:183) and may have been in business before and/or after this date. Another bottle, found in Stratum 7, was made in a three-piece mold with a dip mold body. This technique of manufacture was popular from ca. 1870 to ca. 1910 (Toulouse 1969:578). The presence of this bottle in the lower part of this feature, then, suggests that this feature was abandoned and filled after ca. 1870.

The similarity of the orange-brown sandy silt with large slabs of rock in the upper portions of both the privy and the cistern in Lot 38 indicates that at least the upper portions of these features were filled in at the same time.

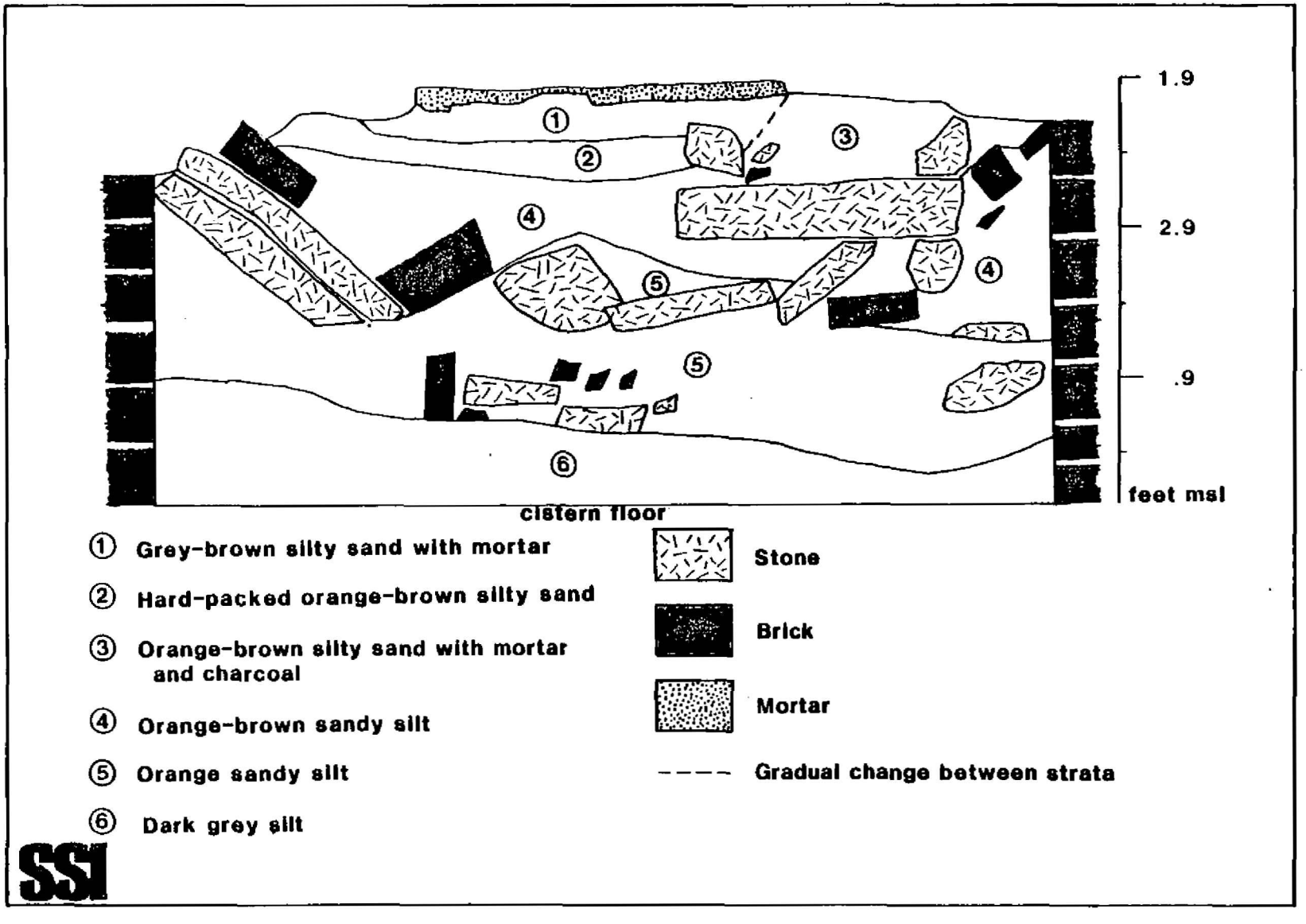


Figure 4.25. Interior profile, cistern, Test Cut L in Lot 38.

2. The Excavation of Test Cut AX: The Wooden Box in Backhoe Trench K in Lot 38

While the first section of Backhoe Trench K in Lot 38 was being excavated, three sides of a wooden box were found. This feature was later excavated as Test Cut AX. The box measured 40 in. by 48 in.; only its south, west, and east sides remained. It was made of a series of upright planks ranging in width from 4 in. to 13 in. and about 1.5 in. thick. These planks were supported on the inside by a framework of four beams which were nailed together. The wood from one of the planks was identified as white pine, probably Pinus strobus, while that from one of the beams was identified as pine (Pinus) of the southern yellow pine group (Donna J. Christensen, U.S. Forest Products Laboratory, correspondence 3/8/82). The planks were set on the outside of the supporting beams, although their means of attachment to the beams was not visible from the inside. It is possible that there were originally four sides of upright planks on this feature. The backhoe may have torn out the northern side, although there was no evidence of such disturbance. The box had no bottom; the sides and supporting beam frame rested directly in red-brown sandy silt, the eighteenth century landfill in this area.

A total of about 28 in. of deposits was excavated from the box. These deposits consisted of seven strata: an overlying layer of sediment deposited after Backhoe Trench K had been opened and before the box was excavated (1); a series of five lenses and pockets primarily in the southern part of the feature, which were thicker against the southern side of the box; and a stratum of eighteenth century landfill. These lenses and pockets consisted of the following: A lens of brown and black mottled very sticky silt (2), possibly nightsoil or the remains of other decayed organic materials, ca. 1 in. to 7 in. thick against the southern side of the box; beneath this was a lens of brown and black mottled sandy silt (3) 5 in. to 15 in. thick, which contained a very high density of domestic artifacts. Beneath this lens in the southern end of the feature was another lens of greenish-brown sandy silt mottled with ash (5) which was 1 in. to 4 in. thick, which overlaid a thin, 0.5 in. to 2 in. lens of black silt (6) with organic material. In the northern part of the box, the brown and black mottled sandy silt stratum was underlain by a small pocket of gray-brown sand (4), ca. 4 in. thick. The remaining stratum consisted of the red-brown sandy silt (7) which was the eighteenth century landfill in Lot 38. The landfill stratum was level with the top of the deposits in the northern part of the box and was overlain by the other lenses in the south. The upper levels of this stratum were mixed with materials from the southern part of the feature.

A cross-mend study was done on the contents of this feature (see Table 4.9). The pieces included in this study were those found both in the top level of Backhoe Trench K, above the feature, while cleaning the trench wall for profiling, and sherds excavated from Test Cut AX itself. All of the 42 vessels made up of pieces which mended across strata included pieces from Stratum 3 (the brown and black mottled sandy silt), which suggests that most of the artifactual materials in this feature were deposited with this stratum and that this feature was filled in one episode.

TABLE 4.9. Cross-mended vessels from Test Cut AX, the wooden box-like feature in Lot 38, indicating the number of sherds from each vessel and stratum.

VESSEL/ STRATUM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
0	1			3	6		1	2		1	1		1	4	2		4	2	2	3	1		6		
1		6				2		1	2							1			1		1	5	1		
2			4																		2				
3	27	15	54	13	14	14	4	17	23	5	20	23	8	18	17	9	22	7	4	6	27	6	3	24	1
4																									
5			1				6				1	1			2		4	2			1			1	2
6																									6
7																		2							

VESSEL/ STRATUM	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0	1	1	1		1				6								
1				1	2		1			1			2			4	1
2		3						1									
3	11	24	22	12	19	14	5	1	16	2	3	5	15	5	3	20	24
4																	
5											3	5		11	8		
6											1	7					
7	1					1											

The 896 datable ceramics in this feature produced a mean date of 1799.64 (s=14.69). In addition, 222 of these sherds were from wares which were introduced in 1795. However, the inclusion of a large cent piece, minted in 1805, indicates that these materials were deposited in or after that year. It should also be noted that a piece of a light blue transfer-printed plate, manufactured after ca. 1830 (Laidacker 1954:ix), was included in the upper level of Stratum 3. The top of this stratum had been exposed by the backhoe, and on the basis of the temporal integrity of the rest of the materials in this feature, we have decided that this sherd is intrusive and that its presence resulted from the disruptive action of the backhoe.

The lenses in the southern part of the box and the materials which they contained may in fact have been deposited or thrown against the southern side of the feature. The function of this feature has not been determined.

3. Lots 37 and 38: Interpretation of the Occupational Remains

The chain of title for Lots 37 and 38 are outlined in Appendix A, and the documented occupants of the lots are listed in Appendix B.

Lots 37 and 38 were owned as one parcel from the time when they were filled in the 1730s until 1818. The lots were assessed together in the tax records and may have been the site of a single structure until 1794, as Lot 38 is first listed in these records in this year. A warehouse was recorded on these lots and on Lots 26 and 27 in 1763; none of the remains of this structure were found.

Two of the features excavated in these lots were apparently in use before 1818, when the lots were divided. The contents of the wooden box-like structure (Test Cut AX) in Lot 38 were deposited ca. 1805, when this lot was occupied by a grocer and a hairdresser. The materials from this feature comprise a fine collection of domestic materials from this period.

The privy on the Lot 37/38 line (Test Cut AT) was apparently used by the occupants of both lots before the property was divided in 1818, as it was placed on the property line between the lots. Both lots were occupied by Hart and Mitchell, clothiers, for a few years immediately before the 1816 fire, after which, presumably, the privy was filled.

After the lots were divided in 1818, they were redeveloped and a privy and a cistern were installed in each of them: Test Cut O and AQ, the privy and cistern, respectively, in Lot 37; Test Cut G and L, the privy and the cistern, respectively, in Lot 38. Around the same time, a layer of fill was deposited in both backyards, probably as a result of these construction activities, and a slab paving was laid in Lot 38. The privies and cisterns contained relatively few datable artifacts; however, they remained in use until the late nineteenth century. During this period, Lot 37 was occupied by an agent, a furrier, a plush hatter, a cork cutter, and a dealer in agricultural implements, while Lot 38 was the site of an agricultural warehouse.

After the privy (Test Cut O) in Lot 37 was no longer in use, the stone wall of a later structure was built through it. This structure may have been a later outbuilding, or an extension of the main structure on the lot. The buildings on Lots 36 and 37 were combined in 1888. The deposits above this wall and the feature were sampled in Shovel Test Q, which showed that they were deposited during or after the very late nineteenth century, after this structure had been torn down.

G. The Results of the Excavation of the Occupational Remains in Lot 39

Backhoe clearing in the backyard area of Lot 39 revealed that a rear extension of the main structure on the lot had been built through the original backyard area. This extension had a basement as deep as the main structure's, and the top of the basement floor was only 6 ft above mean sea level.

After the 15 in. thick concrete floor and underlying cinder bedding was removed in this yard area, the top of the underlying deposits was cleaned off by hand. This surface was below the water table. Although rocks were found in this area, they did not form any discernible pattern. These rocks may have been the result of the destruction of an earlier deep feature, such as a privy, when the concrete basement floor was laid. The deposits themselves consisted of the reddish-brown sandy silt, which made up the landfill in Lot 39.

Because the excavation of the deep basement destroyed the occupational remains in this backyard, no further testing was done here. However, a barrel deposited during the occupation of this lot was uncovered in a backhoe trench. This feature and its contents are discussed below.

1. Test Cut AW: The Barrel in Backhoe Trench K, Section 2, in Lot 39

A barrel was found in Section 2 of Backhoe Trench K, directly under the basement floor of the most recent building on Lot 39. The top of this barrel on its southern side was at an elevation of 0.8 ft below mean sea level. The interior diameter of the barrel ranged from 38 in. to 43 in. (it was distorted), and the remaining portion measured 25 in. from top to bottom. The upper part of the barrel had been destroyed when the concrete floor was installed. The barrel had 30 remaining staves, which ranged from 3 in. to 6 in. and were ca. 0.5 in. thick. The wood from one of these staves was identified as possibly being of Khaya, or African mahogany (Donna Christensen, U.S. Forest Products Laboratory, correspondence 3/8/82).

Below the sediments of Backhoe Trench K which had settled on top of the barrel (1), the deposits inside this feature consisted of two strata, both of which contained a high proportion of construction debris. The uppermost stratum consisted of tan and brown mottled sand (2), and was ca. 18 in. thick. The lowermost layer was composed of a 5 in. thick stratum of mottled red and gray sand (3). The bottom of this stratum was defined by the bottom of the barrel, which was badly decayed.

The paucity of temporally diagnostic artifacts in this barrel made it difficult to assign its deposition and filling to any specific period in the lot's history. However, a high proportion of the glass found in the deposit was melted. It is possible that the materials in this feature may have been deposited after the 1816 fire on the block. John Hewitt worked on this lot in the early nineteenth century. He was a cabinetmaker and the father of Abram Hewitt, the noted nineteenth century reformist, industrialist and mayor of New York City, who later occupied Lot 39. The 1816 fire started in John Hewitt's establishment (see Appendix G). The chain of title for Lot 39 is outlined in Appendix A, while the documented occupants of the lots are listed in Appendix B. The nature of the artifacts retrieved from this barrel was not inconsistent with this interpretation.

The barrel may in fact have been buried in the basement of the earlier structure or in the backyard behind it. This early building may not have extended as far back into the yard as the later, most recent, building on the lot.

Of the 10 identified pieces of wood recovered from features on the site, this mahogany barrel was the only item made of a wood which was not locally available. The interpretation that the barrel was deposited by a cabinetmaker is supported by this identification, as he would have had access to such exotic woods. However, whether the barrel was made in New York from imported wood or whether it was in fact made in Africa is unknown. The barrel could have been imported as a container holding some unknown material, or it could have been used in New York as a container for seasoning wines or some other substance.

H. The Results of the Excavation of the Occupational Remains in Lot 41

The backhoe, in clearing off the backyard of Lot 41, removed the demolition debris from the most recent building down to the level of Lot 40's backyard. Subsequent clearing was done by hand, and a test trench (Test Trench AK) was excavated from north to south across the backyard in order to evaluate the archaeological potential in this area. This test trench uncovered two features, a privy and a cistern, which, like the features in Lot 40, were connected to each other by a brick and stone trough. No paving was found in this backyard.

1. Test Cut AK1: The Privy in Lot 41 (Fig. 4.26)

As Test Trench AK was being excavated, the dry-laid stone wall of a circular privy was uncovered. This feature was excavated as Test Cut AK1. There were four strata of deposits above the eighteenth century landfill in this feature. The uppermost stratum consisted of a medium brown sand with brick and mortar (1), which was underlain by a mottled brown and black sandy silt with coal dust and cinder (2). Both of these extended over the walls of the privy and were also sampled in Test Trench AK. Stratum 2 was quite thick, extending to a depth of ca. 40 in. It contained a large lens of brick and mortar rubble with coal dust (3), and several large slabs of rock. Beneath two of these rocks were lenses of coal dust (4). About 75% of these deposits were screened.

Below this layer was a 20 in. thick stratum of brown silt with oxidized, corroded metal (5). Twenty-five percent of this stratum was screened. Under this layer was a stratum of black clayey silt (6), probably nightsoil, which extended to a depth of 69 in. in the middle of the feature. Beneath this stratum was a layer of light brown sandy silt (7), the eighteenth century landfill, which also contained a few intrusive late eighteenth-early nineteenth century sherds.

The stone privy wall extended down to a depth of ca. 69 in., and was resting on the light brown sandy silt, the eighteenth century landfill.

A cross-mend study was done on the contents of this feature (Table 4.10). None of the pieces of vessels which mended across strata in this feature mended with pieces from the black silt stratum (6), and pieces from Strata 1, 2, 4, and 5 all mended together. This supports the interpretation that Stratum 6 was in fact nightsoil, deposited while the privy was in use, while all of the strata above this layer were deposited later, to fill up the privy.

Strata 1, 2, 3, and 4 all contained safety glass, which was first used ca. 1891 (Lorrain 1968:44). These upper layers, then, were deposited after that date. The absence of bottles made with the automatic bottle machine, introduced in 1903 (Miller and Sullivan 1981:3), suggests that these strata may have been deposited before this date. Pieces from four vessels cross-mend between Strata 5 and 4, suggesting that, although Stratum 5 contains no safety glass, it may in fact have been deposited with the upper strata.

The materials in the nightsoil, Stratum 6, are mixed with artifacts from both the eighteenth century landfill and the early nineteenth century, and the ceramics give a mean date of 1770.07 ($s = 37.86$), although whiteware sherds are included in the assemblage. However, the presence of a wire nail in this stratum suggests that it may have been deposited after these nails became popular, ca. 1855 (Fontana et al. 1962). The absence of later diagnostic artifacts in this stratum suggests that this privy may have been abandoned for a long period of time, probably for several decades, before it was filled in the very late nineteenth or early twentieth century. The privy was probably covered over during this intervening period, possibly with the large slabs of rock which were found broken in Stratum 2.

Fig. 4.26

TABLE 4.10: Cross-mended vessels from Test Cut AK1, the privy in Lot 41, indicating the number of pieces by vessels and stratum.

VESSEL/ STRATUM	1	2	3	4	5	6	7	8	9	10	11
1								1			
2	2			1	5		1			1	
4	20	4	1	4	3	1	7	1	1		3
5	1	3							1		1
6											
7											
TC AN						6				2	

2. Test Cut AN: The Cistern in Lot 41 (Fig. 4.27)

As Test Trench AK was being excavated across Lot 41, the brick wall of a round cistern was uncovered. This feature was excavated as Test Cut AN. The uppermost stratum in this feature consisted of black coal dust mottled with brown silt (1), with the brown silt becoming more predominant with depth. This matrix was very similar to Stratum 2 in the adjacent privy. Here, this layer contained a lens of cinder (2) and extended to a depth of ca. 24 in. below the top of the feature. As in the privy, this stratum contained several large slabs of rock. Beneath this layer was a deposit of brown silt with construction rubble and some oxidized metal (3). This stratum extended to a depth of ca. 34 in., and was underlain by a 6 in. thick lens of reddish-brown silt (4) in the northern two-thirds of the feature. Beneath this lens was a layer of mottled brown and black sandy silt (5) with lenses of green (6) and black sand (7), and reddish-brown sandy silt (4). This stratum extended to the cisten floor, 49 in. below the top of the feature.

A slab of stone was found laid on the eastern part of the cistern floor, adjacent to the wall of the cistern. Similar slabs were found in most of the cisterns excavated on this block. They are thought to have been used as footings to support the cistern's pump.

A cross-mend study was done on the contents of this feature (Table 4.11). Pieces of vessels from all of these strata cross-mended with pieces from other strata, indicating that the cistern was filled in a single episode, presumably over a short period of time. There were relatively few temporally diagnostic artifacts in this feature which reflected the period when it was filled. A narrow-mouthed bottle finish with a plunger and collar seam found in Stratum 3 indicates that this stratum was deposited after ca. 1889, when a bottle manufacturing machine that could produce such a mark on this kind of bottle began to be used (Meigh 1960). Although none of the lower strata contained such later material, the evidence from the cross-mend study suggests that all of these strata were deposited together. It is also possible that the upper strata, 1 through 3, were disturbed in the 1890s, and that the lower strata, 4 through 7, were not. However, no intrusion or disturbance is evident in the profile for this feature. In any case, Stratum 5 contained a typewriter ribbon, which indicates that this stratum was deposited no earlier than the last quarter of the nineteenth century (Anon. 1967: 288).

3. Lot 41: Interpretation of the Occupational Remains

The chain of title for Lot 41 is outlined in Appendix A, and the documented occupants of this lot are listed in Appendix B.

The uppermost stratum in the cistern is remarkably similar to Stratum 2 in the privy, and both of these deposits contained large slabs of rock. In addition, the pieces from two vessels which mended together were found in both of these features (Tables 4.10 and 4.11). This suggests that these features were filled in at the same time with similar deposits.

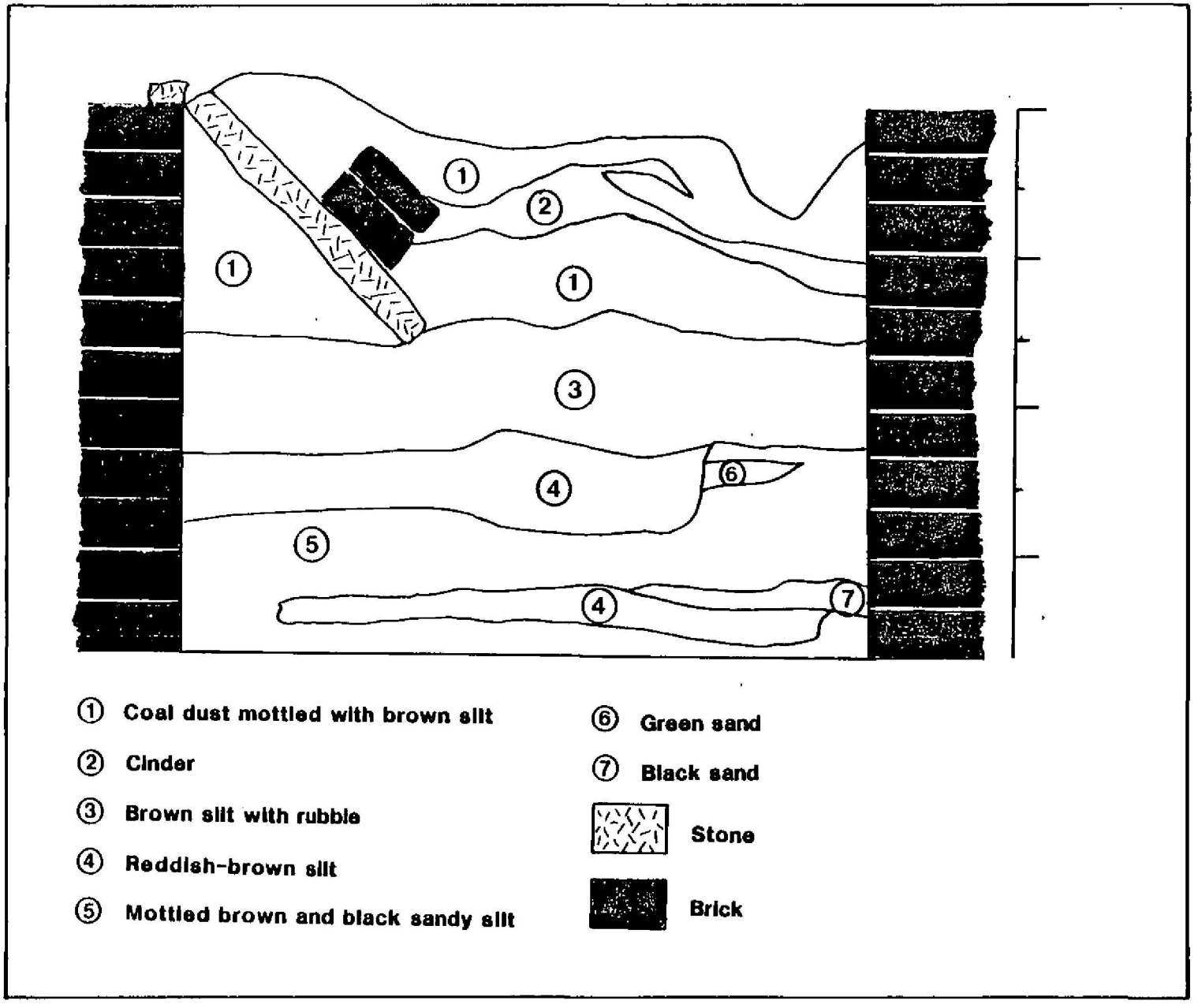


Figure 4.27. Interior profile, cistern, Test Cut AN, Lot 41, looking east.

TABLE 4.11: Cross-mended vessels from Test Cut AN, the cistern in Lot 41, indicating the number of sherds by vessel and stratum.

VESSEL / STRATUM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1		2			2	2	1		1		4	3	1		1	2	1	1	1	1	4	2		2	
2	2	4			4	4	1	3	1		2	3	3	1	3	2	3		1		4		1	4	
3	10		15	1						5				2						1					
4	20		6	11	2	9	1	2	9	8	1	3	1	3	2	1	4	1	1	20		1	3		1
5																									
TC AK1		1																							

VESSEL / STRATUM	26	27	28	29	30	31	32
1		1	1	1	1		
2			1	2			
3	1			1			
4	1	4			1	1	1
5						2	1
TC AK1					1		

The presence of safety glass in both of these features suggests that they were filled in after ca. 1891. The materials in the nightsoil stratum in the privy, however, suggest that this feature was abandoned earlier in the nineteenth century, and it is possible that the cistern was abandoned earlier as well. It seems probable that the broken slabs of rock present in the upper strata of these features may have been used to cover them after they were abandoned and before they were filled in. This latter event could have occurred no earlier than the 1890s.

The occupants of Lot 41 have not been documented for the 1890s. The last known tenants for this lot were a dealer in guano and agricultural implements who was finally listed as a machinist in 1889, and a dealer in alcohol. Both of these tenants left the lot in 1889.

I. The Results of the Excavation of the Occupational Remains in Lot 42

As the backhoe was clearing off the backyard area in Lot 42, a deep concrete floor of a backyard building extension was exposed at the depth of 1.5 ft above mean sea level. This floor was removed, and a flagstone paving was found approximately 1 ft below this. A low brick wall enclosed the backyard, and the concrete floor was laid up against it. The bottom of the brick wall was about 4 in. above the flagstone paving. Pieces of broken, unused grinding stones were wedged between the bottom of the brick wall and the flagstone paving, presumably to provide support for the wall. The flagstone extended underneath these brick walls for about 6 in. on all four sides. A sample of the artifacts from the fill between the concrete and flagstone floors was collected. The artifacts included several ink or mucilage bottles made by the snap-case method. This indicates that the concrete floor was laid after the early 1850s (Toulouse 1969).

The flagstones were removed, and Test Trench AG was excavated across the length of the yard from south to north, so that the archaeological potential of this yard could be evaluated. The deposits sampled here consisted of a medium brown sand with brick and mortar rubble. The mean ceramic dates for the material in this test trench (Table 4.12) indicate that these deposits were made up of fill which contained mixed materials dating from the early 1840s and the eighteenth and early nineteenth centuries. Although the sample of datable ceramics is extremely small, it suggests that the artifact density of the later fill materials decreases with depth, as most of the materials (71%) in Stratum 2 could have been associated with the eighteenth century landfill.

Three features were exposed in this backyard: a cistern, which was excavated as Test Cut AI; a privy, which was only lightly sampled as Test Cut AG2; and another square stone feature, which was excavated as Test Cut AG1.

TABLE 4.12: Mean ceramic dates for TT AG, TC AG2 (the privy) and TC AI (the cistern) in Lot 42; by stratum and excavation unit.

Unit	Stratum	CERAMIC SAMPLE								
		All datable types[1]			Revised xcd-median dates post-1800[1]			Median dates pre-1801[1]		
		n	xcd[2]	s	n	xcd[2]	s	n	xcd[2]	s
TT AG	1	72	1820.3	44.5	53	1843.4	17.5	19	1756.1	32.0
TT AG	2	7	1773.6	46.9	2	1845.0	0	5	1745.0	14.7
TC AG2	1	447	1832.1	30.6	370	1842.5	18.9	77	1782.0	26.0
TC AI	1	553	1813.9	40.4	319	1842.1	19.6	234	1775.5	27.8

1 - See Appendix E.

2 - xcd - mean ceramic date.

3 - Includes delft.

1. Test Cut AI: The Cistern in Lot 42

As Test Trench AG was being excavated across the backyard of Lot 42, the upper courses of the round brick wall of a cistern were uncovered. This cistern had been truncated, and only 15 in. of deposits remained on top of the cistern floor. The top of the remaining cistern wall was at an elevation of 0.45 ft above mean sea level.

The cistern contained two strata of deposits. The first consisted of a medium brown sand with brick and mortar rubble (1), similar to the deposits excavated in Test Trench AG. The top of the remaining portion of a barrel was uncovered at a depth of 7 in. beneath Stratum 1 in the northeast quadrant of this feature. This barrel was filled with dark brown sandy silt (2). It was ca. 20 in. in diameter and had no bottom; the staves rested on the floor of the cistern. The wood from one of the barrel staves was identified as an oak (Quercus) of the white oak group (Donna Christensen, U.S. Forest Products Laboratory, correspondence 3/8/82).

The deposits in this cistern are interesting in that the artifacts in the general cistern fill (1) date to an earlier period than those in the barrel. The artifacts in Stratum 1, like those in Test Trench AG, reflect the eighteenth century landfill, the 1816 fire on the block (as many of them were burned), and the presence of the crockeries which were on the lot from 1828 through 1848, (as there are also many artifacts which date to this later period). The revised mean ceramic date of 1842.1 (s=19.6) for this stratum indicates that these later sherds were initially deposited around that time (Table 4.12). The barrel, on the other hand, contained four whole bottles which dated to the later nineteenth century, and almost no temporally diagnostic earlier materials.

All of the whole bottles in Stratum 2 were made in two-piece hinged bottom molds. One, rectangular in shape, with chamfered corners and an oil finish applied with a lipping tool, was marked with:

UDOLPHOWOLFE'S
SCHIEDAM
AROMATIC
SCHNAPPS

Two of the remaining bottles were flasks, one had a blow-pipe pontil mark on its base, and the fourth was a small bottle, oval in section, which was probably used for medicine. Three of the bottles had no pontil marks.

As a group, then, these bottles were made after the early 1850s, when the snap-case method became popular (Toulouse 1969:535), and before ca. 1880, when bottles made in hinged bottom molds became less prevalent (Toulouse 1969:534). The presence of the well made lip formed by a lipping tool on the schnapps bottle suggests that this bottle at least may have been made in the late 1870s, when the use of these lipping tools became prevalent (Toulouse 1969:534).

These materials were deposited after the early 1850s and probably before ca. 1880. Furthermore, the date of this deposit may possibly be more finely pinpointed to the late 1870s.

The deposits in Stratum 1, then, with their revised mean ceramic dates of ca. 1842, are secondary deposits, which were redeposited when the cistern was filled. This event certainly took place after the early 1850s, and possibly in the late 1870s, and is documented by the bottles in the barrel in the cistern.

2. Test Cut AG2: The Privy in Lot 42

As Test Trench AG was being excavated across the backyard of Lot 42, the dry-laid stone wall of an oval privy was uncovered. Only the upper 8 in. of the deposits in this feature (Test Cut AG2) were excavated; these deposits were trowelled through, rather than screened. The feature was subsequently destroyed by pothunters. The excavated deposits consisted of a single stratum of medium brown sand mottled with mortar, similar to those in Test Trench AG and Stratum 1 of the cistern. The artifacts contained in this stratum were also similar; the revised mean ceramic date of 1842.5 (s=18.9) is extremely close to those for the materials in three other strata (Table 4.12).

The destruction of this feature makes it impossible to determine whether this deposit represents fill redeposited in the late nineteenth century, like that in Test Cut AI, or whether it is a primary deposit. The similarity of the materials and matrix in this feature to those in the cistern and in Test Trench AG makes the former interpretation most likely.

3. Test Cut AG1: The Stone Feature in Lot 42 (Fig. 4.28)

As Test Trench AG was being excavated across the backyard of Lot 42, two dry-laid stone walls set at right angles to each other were uncovered in the northwest corner of the yard, just under an area where there was a doorway into the yard from the main structure. The top of this feature was at an elevation of .45 ft above mean sea level.

This test cut contained three strata of deposits. The uppermost stratum consisted of a medium brown sand with mortar (1) which contained lenses of dark brown silt (2) and tan silty sand and was 14 in. deep. The matrix of this stratum was similar to Stratum 1 in the cistern (Test Cut AI), Test Trench AG, and Test Cut AG2 (the privy). The two stone walls were only one to two courses thick and formed only the eastern and southern walls of a square; the northern and western sides of the square were formed by the walls of the backyard. The rocks themselves extended only from 4 in. to 6 in. into this stratum.

At a depth of ca. 7 in., spread-footer beams were uncovered along both the northern and western sides of the test cut. The beam on the northern side was only 23 in. long. A small lead pipe (ca. 1.5 in. in diameter) extended across the test cut from northwest to southwest, at a depth of 12 in. A notch had been cut into the western spread-footer beam to hold the pipe. This stratum ended just below the pipe.

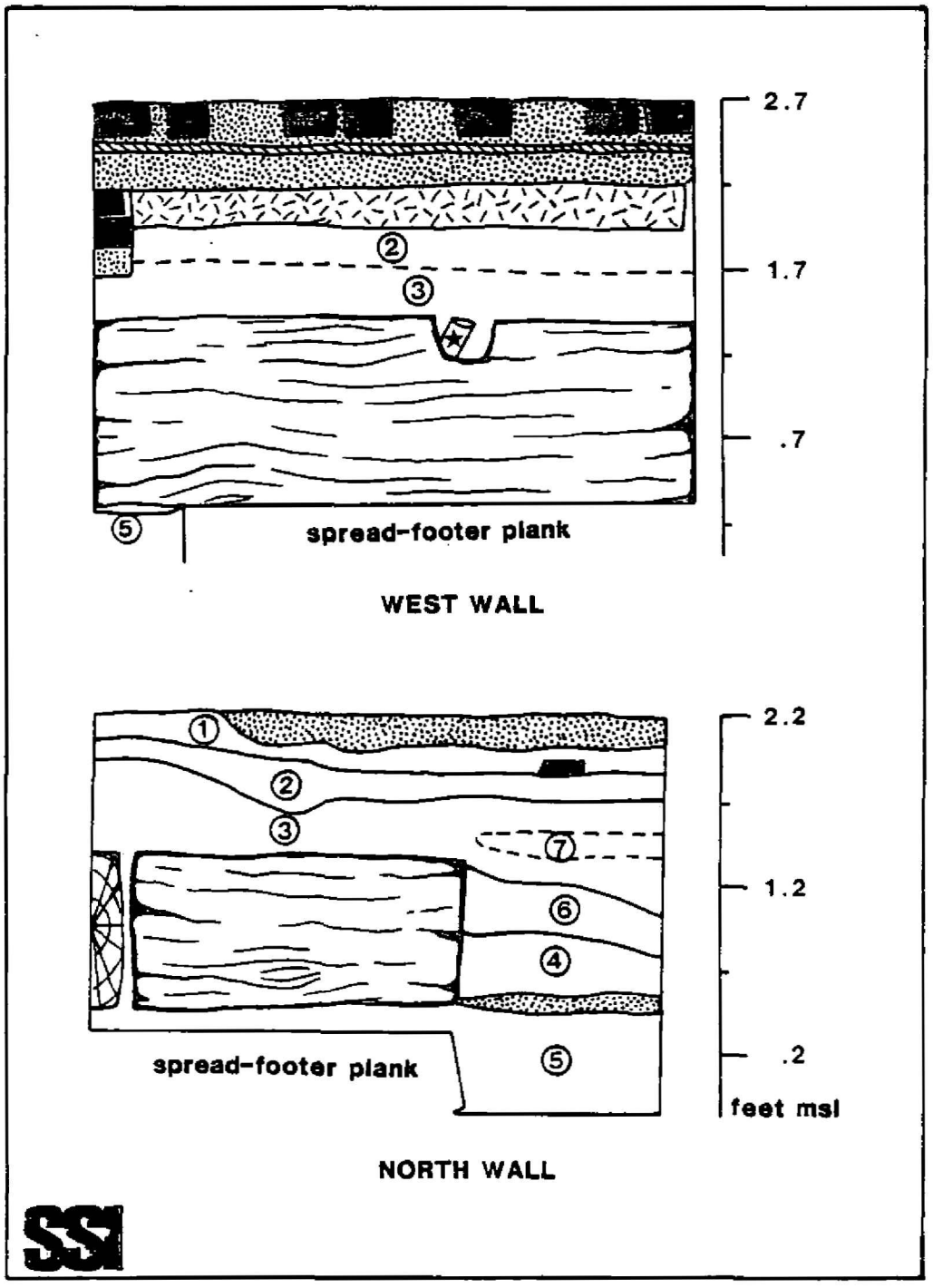


Figure 4.28a. Profiles, west and north walls of Test Cut AG1 in Lot 42.

① **Mottled brown silty sand**

② **Dark brown silty sand**

③ **Mottled light brown silty sand**

④ **Mottled dark brown silty sand**

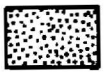
⑤ **Mottled grey-brown silty sand**

⑥ **Orange sand**

⑦ **Tan silty sand**

 **Stone**

 **Brick**

 **Mortar**

 **Wood**

 **Asphalt**

 **Lead pipe**

---- **Gradual change between strata**

Figure 4.28b. Key to the profiles, Test Cut AG in lot 42.

The underlying stratum consisted of mottled dark brown silty sand (4), which was 4 in. thick and had lenses of orange sand (6) and mortar (3) in the northeast corner of the test cut. This stratum extended down to the bottom of the spread-footer beam to a depth of 18 in. At the bottom of this stratum, the top of the spread-footer planks which supported the northern spread-footer beam was exposed. The underlying layer of mottled gray-brown silty sand (5) adjacent to this spread-footer plank was excavated to a depth of 22 in. At this point, the excavation of this test cut was terminated.

Stratum 1 in this test cut was deposited at the same time the lead pipe was laid, as there was no pipe trench associated with this pipe. The stone walls at the top of this test cut were used as a support for an entranceway into the lowered backyard, as they are located directly under the entrance to the backyard from the main structure on the lot. The flagstone paving on the lowered backyard surface was laid on top of this support.

The materials in this stratum are similar to those in the first stratum of Test Cut AI (the cistern), Test Trench AG, and Test Cut AG2 (the privy) (see Appendix F). This suggests that all of these strata may have been deposited at the same time that the pipe and these stones were laid.

The underlying strata (4 and 5) were probably deposited at the time that the adjacent cistern was installed, and are in effect a cistern trench. Both the relatively low percentage of later transfer-printed white earthenwares in Stratum 4 (8%) and their complete absence in Stratum 5, as compared with Stratum 1 (13%), and the presence of burned materials resulting from the 1816 fire suggest that this cistern was installed after this fire and before these transfer-printed white earthenwares became popular ca. 1830 (Loftstrom et al. 1976:14). At this time, the eastern part of the spread-footer beam and its underlying planks on the northern side of the test cut had been removed, so the cistern could be accommodated.

4. Lot 42: Interpretation of the Occupational Remains

In this section, that part of the history of Lot 42 which is relevant to the excavations is outlined, followed by the interpretations drawn from the excavations. The chain of title for this lot is outlined in Appendix A, and the known occupants of this lot are listed in Appendix B.

An early structure on the lot burned in the 1816 fire on the block. From 1828 to 1848, the lot was the site of several crockeries. After this period it was occupied by dealers in agricultural implements throughout most of the rest of the nineteenth century.

The backyard of Lot 42 was heavily disturbed in the late nineteenth century, when the area was dug out in order to lower the level of the backyard. In spite of this disturbance, however, the archaeological excavations in this area document some of the events relevant to the history of this yard.

The lower strata of Test Cut AG1 documents the construction of the cistern (Test Cut AI) and suggests that it was installed between the time of the 1816 fire and ca. 1830.

Similar materials and soils were found in the first strata of Test Trench AG and Test Cut AG1; these deposits represent the uppermost stratum in the backyard. The materials here included artifacts associated with the deposition of the eighteenth century landfill (indicated by the presence of eighteenth century artifacts), the 1816 fire (suggested by the presence of burned artifacts) and the later crockeries (indicated by the presence of a wide array of transfer-printed and other white earthenwares and figured flask fragments). In addition, similar deposits were also found in Stratum 1 of both the cistern (Test Cut AI) and the privy (Test Cut AG2).

The similarity of the deposits both inside the features and over the backyard areas suggests that they represent a single stratum, which consists of a single episode of fill and is a secondary deposit. This interpretation is supported by the fact that the temporally diagnostic artifacts from all of these deposits are heavily mixed, dating from the mid-eighteenth through the mid-nineteenth centuries. Also, all of these materials are highly fragmented. This fill stratum is probably made up of a mixture of the backyard deposits which were dug out when the backyard was lowered; some of these deposits were used to fill up the features and to level the surface of the backyard for the flagstone paving.

The bottles included in the barrel, which was found under this fill inside the cistern (Test Cut AI), indicate that this fill was deposited later in the nineteenth century, possibly in the late 1870s, when the lot was occupied by dealers in agricultural implements.

The crockery materials included in this fill consist of transfer-printed and other white earthenware and figured flasks. The revised mean ceramic dates for three of these strata date to the early 1840s (Table 4.12), when the lot is documented as being occupied by a crockery.

The figured flask fragments from this fill constitute an assemblage which merits a fuller description. A total of 396 of these flask fragments were excavated in this fill. These pieces are small and fragmented, they are all made of olive-amber glass, and they appear to be portions of pint and half-pint size flasks. The provenience of the motifs identified in this assemblage is presented in Table 4.13. It should be noted that, with two exceptions, the motifs represent only one side of an individual flask (that is, it is possible to have a flask with an "American eagle" motif on one face and a "railroad" motif on the other). The exceptions are the "liberty cap and pole" motif, which occurred only with the "Lafayette" pattern, and the "sunburst" motif, which occurred on both faces.

TABLE 4.13: The distribution of figured flask fragments in Lot 42; by provenience and motif

Unit	Stratum	M O T I F					
		Sunburst	Coventry Ct. S. & S.	Liberty pole & cap/Lafayette	Lafayette	Jackson	Railroad
TT	1	3	0	0	0	0	0
AG	2	0	0	0	0	0	0
TC AG2	1	7	3	17	1	1	3
	1	15	0	0	0	0	0
TC	3	0	0	0	0	0	0
AG1	4	0	0	0	0	0	0
	5	1	0	0	0	0	0
TC	1	8	3	6	3	1	2
AI	2	0	0	0	0	0	0
Total		34	6	23	4	2	5

TABLE 4.13 (continued)

Unit	Stratum	M O T I F					
		Unidentified historic personage	American eagle	Masonic	Star pattern	Unidentified figured flask fragments	Total
TT	1	0	0	0	0	11	14
AG	2	0	0	0	0	0	0
TC AG2	1	0	0	2	4	78	116
	1	0	0	0	0	0	15
TC	3	0	0	0	0	0	0
AG1	4	0	0	0	0	2	2
	5	0	0	0	0	0	1
TC	1	3	1	0	0	221	248
AI	2	0	0	0	0	0	0
Total		3	1	2	4	312	396

All of the motifs identified are known to have been made at the Coventry glassworks in Connecticut (White 1974:147-156), although most of them are known to have been made at other glassworks as well. The flasks marked with "Coventry, Ct.," "S & S," and the "liberty cap and pole/Lafayette" motifs, however, were made only at Coventry (McKearin and Wilson 1978:545, types G1-87). It is possible, then, that all of these flasks were made at the Coventry glassworks. Prior to 1830, merchants tended to stock their stores with the products of one glasshouse almost exclusively (McKearin and Wilson 1978:417), and some may have continued to do so afterwards. Further analysis of this assemblage, however, might result in the attribution of specific motifs to other glasshouses.

The Coventry glassworks were in operation from 1813 to 1849 (McKearin and Wilson 1978:109). All of the identifiable flask fragments in this assemblage appear to date to the first half of the nineteenth century, when this glasshouse was in operation. This interpretation is based on three lines of evidence: 1) the form of the flasks is similar to McKearin's types 11-15 and 17-19 (McKearin and Wilson 1978:514) which tend to occur on early flask types; for example, the central motif is within an oval framed with ribs, while the later types tend to be simpler (McKearin and Wilson 1978:412); 2) all of the bases of these flasks have straight mold seams, while the later types tend to have diagonal mold seams (McKearin and Wilson 1978:412); and 3) the absence of quart-size flasks in the assemblage; these larger flasks became popular after the 1840s (McKearin and Wilson 1978:412).

These flasks, at least some of which were definitely made at the Coventry glassworks, are roughly contemporaneous with the transfer-printed and other white earthenwares which were also found in this fill. These materials can be associated with the crockeries which were on Lot 42 from 1828 through 1848, and probably, judging from the revised mean ceramic dates for these deposits, with the crockery of Squire P. Dewey, which was on the lot from 1840 to 1848.

Later in the nineteenth century, a layer of fill was added over the flagstone floor, and a concrete pavement was laid over the area, up against the four brick walls which were installed to enclose this new basement extension. The use of broken grinding stones to support these walls indicates that these walls were installed while the dealers in agricultural implements, who could have stocked these stones, were either still on the lot, or shortly after they left. They moved in the late 1890s.

The deposits in Lot 42, then, provide documentation for the two different kinds of commercial use of this lot in the nineteenth century: the crockeries that were here in the first half of the century; and the dealers in agricultural implements that were here in the second half of the century.

J. The Excavation of the Occupational Remains in Lots 46 and 47

These lots are considered together here because they were occupied by the same businesses after the structures on both of them burned in the 1816 fire until at least the 1870s. Lot 46 had a small backyard area, on which the base of a brick feature was found. The feature and its underlying deposits were sampled in Test Cut V, and the backyard deposits further to the north were sampled in Shovel Test U. Both of the structures on these lots had wooden floors which were preserved beneath the modern concrete basement floors. The floor in Lot 47 was exposed and its construction was recorded.

1. Test Cut V: The Feature and its Underlying Deposits (Fig. 4.29)

As the backhoe was clearing off the backyard in Lot 46, the base of a brick feature was uncovered. Subsequent hand clearing in this area exposed this feature, and its construction was quite different from that of the brick cisterns which had been found on the other lots on the block. The sides of this feature were two layers thick and were made of bricks set on their ends, whereas those in the cistern walls were laid flat. In addition, unlike the cisterns which were confined to the backyard areas, this feature extended over the back wall of the Lot 46 structure, indicating that the inside of the feature was accessible from inside the building. Bakers were present on Lots 45 and 46 ca. 1850, and this feature was probably the remains of a flue for their bake ovens.

Three thin layers were excavated on top of the floor of this flue: a stratum of hardpacked brown silt (15) which was underlain by two lenses, one of red sand (16) and one of dark brown sandy silt (17). These layers contained materials dating to the late eighteenth century, with mean ceramic dates ranging from 1776.5 (s=24.0) to 1782.2 (s=19.7). These deposits, then, consist of fill materials redeposited after the flue was destroyed. The flue floor (18) was made of two courses of red brick, laid flat, and schist, and was covered with mortar.

Below the floor was a 1 in. to 2 in. thick stratum of light brown sandy silt (1), which extended over the whole of the unit. Below this stratum the unit was divided in half, and only the eastern half was excavated further. Two builder's trenches were encountered in this unit. One of these was associated with the wall to the south of the backyard, or the north wall of the building on Lot 42. This trench consisted of a mottled orange-brown and gray brown sand (5) and was ca. 12 in. thick. The other trench was associated with the wall to the north of the test cut, or the back wall of the building on Lot 46. The uppermost stratum within this trench consisted of brown sandy silt which contained a lens of construction rubble (2, 3). This stratum was associated with the upper portion of the wall, and was ca. 20 in. thick. It could represent a later wall repair trench, as it appeared to be intrusive into the underlying stratum. The lower stratum was composed of green and turquoise clay (13, 14) and was associated with the lower portion of the wall. This stratum was ca. 22 in. thick and terminated on top of spread-footer planks which underlaid the stone wall on the eastern side of the test cut at a depth of 54 in.

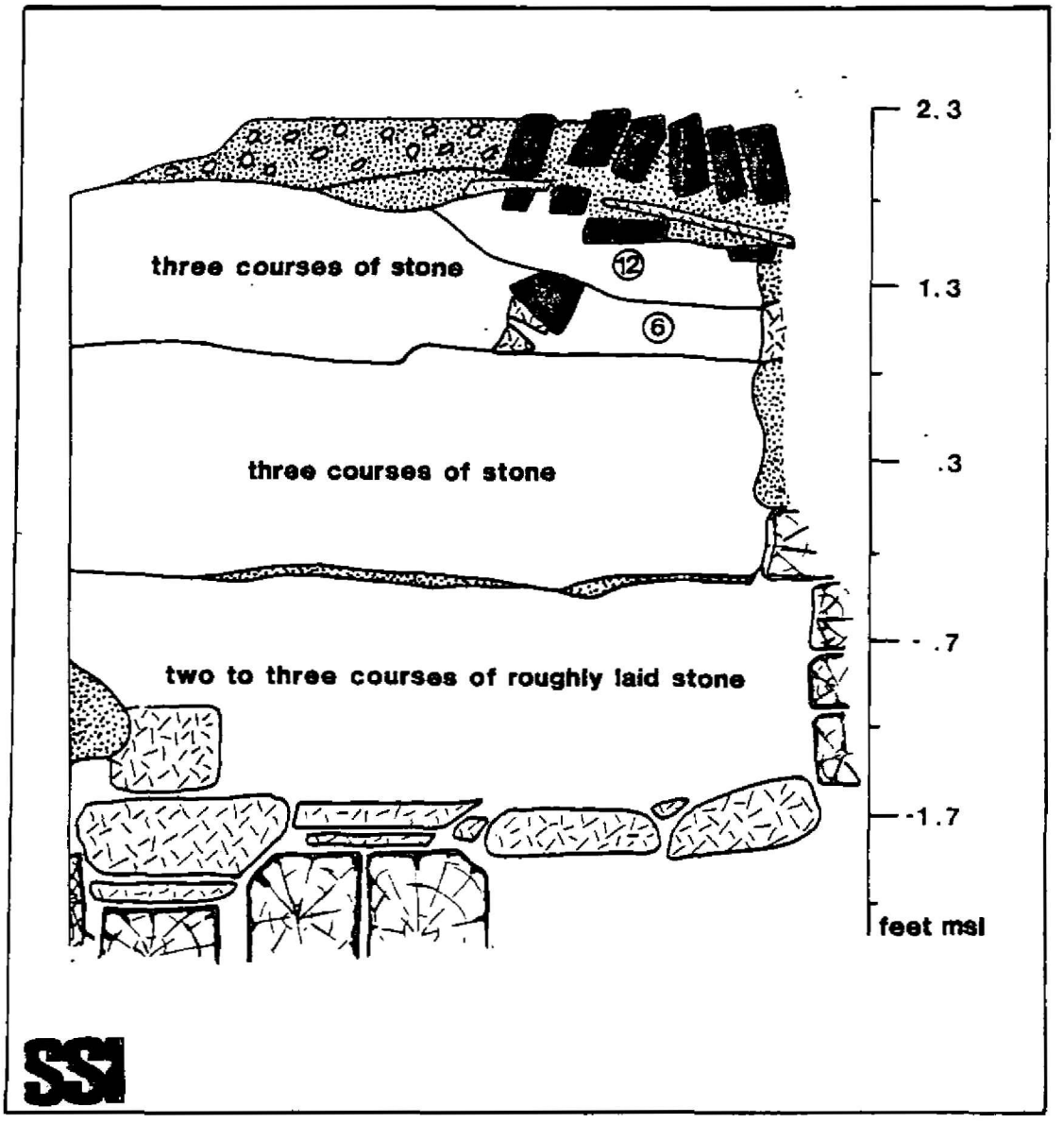


Figure 4.29a. Profile, east wall of Test Cut V in Lot 45.

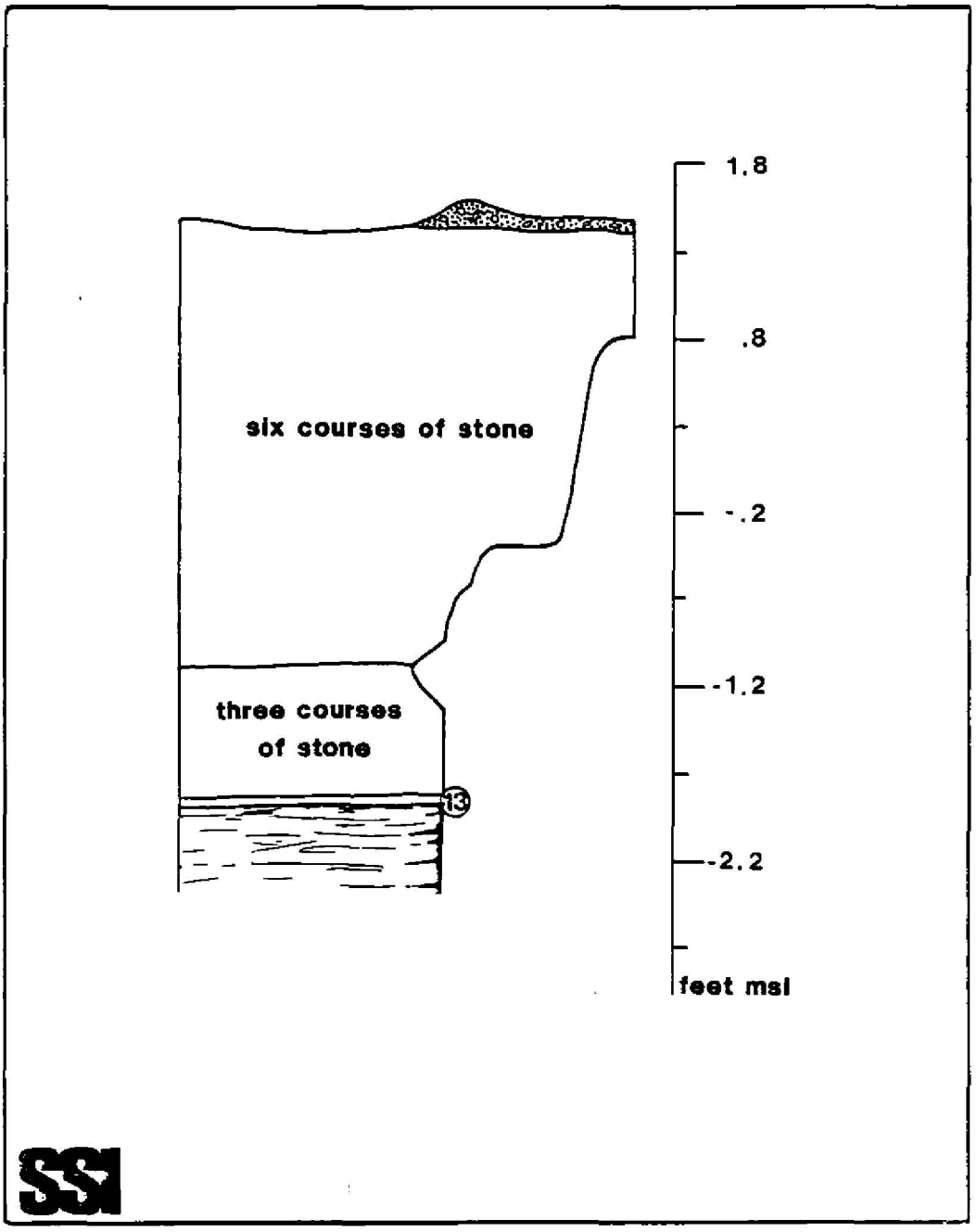


Figure 4.29b. Profile, north wall of Test Cut V in Lot 45.

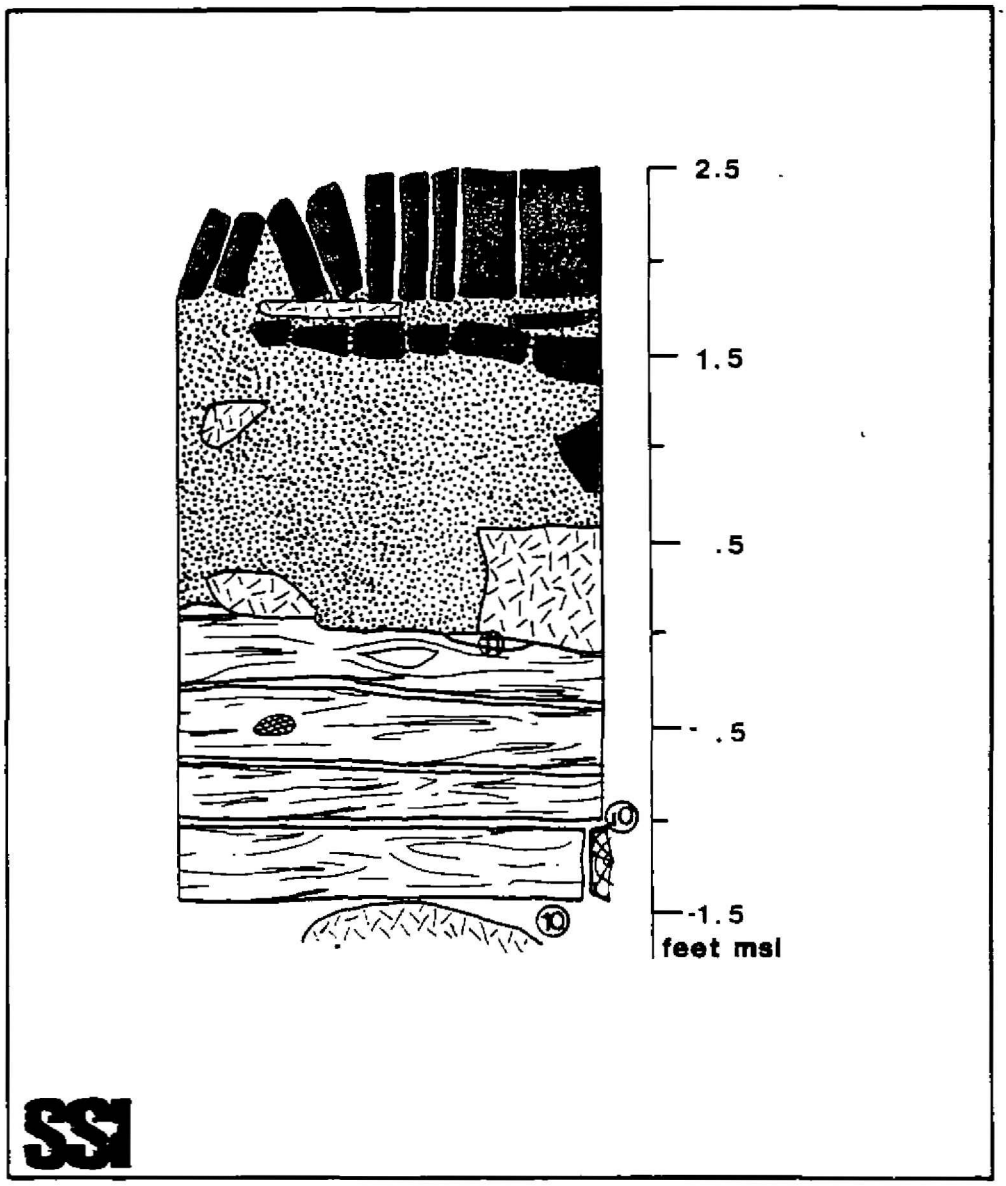


Figure 4.29c. Profile, south wall of Test Cut V in Lot 45.

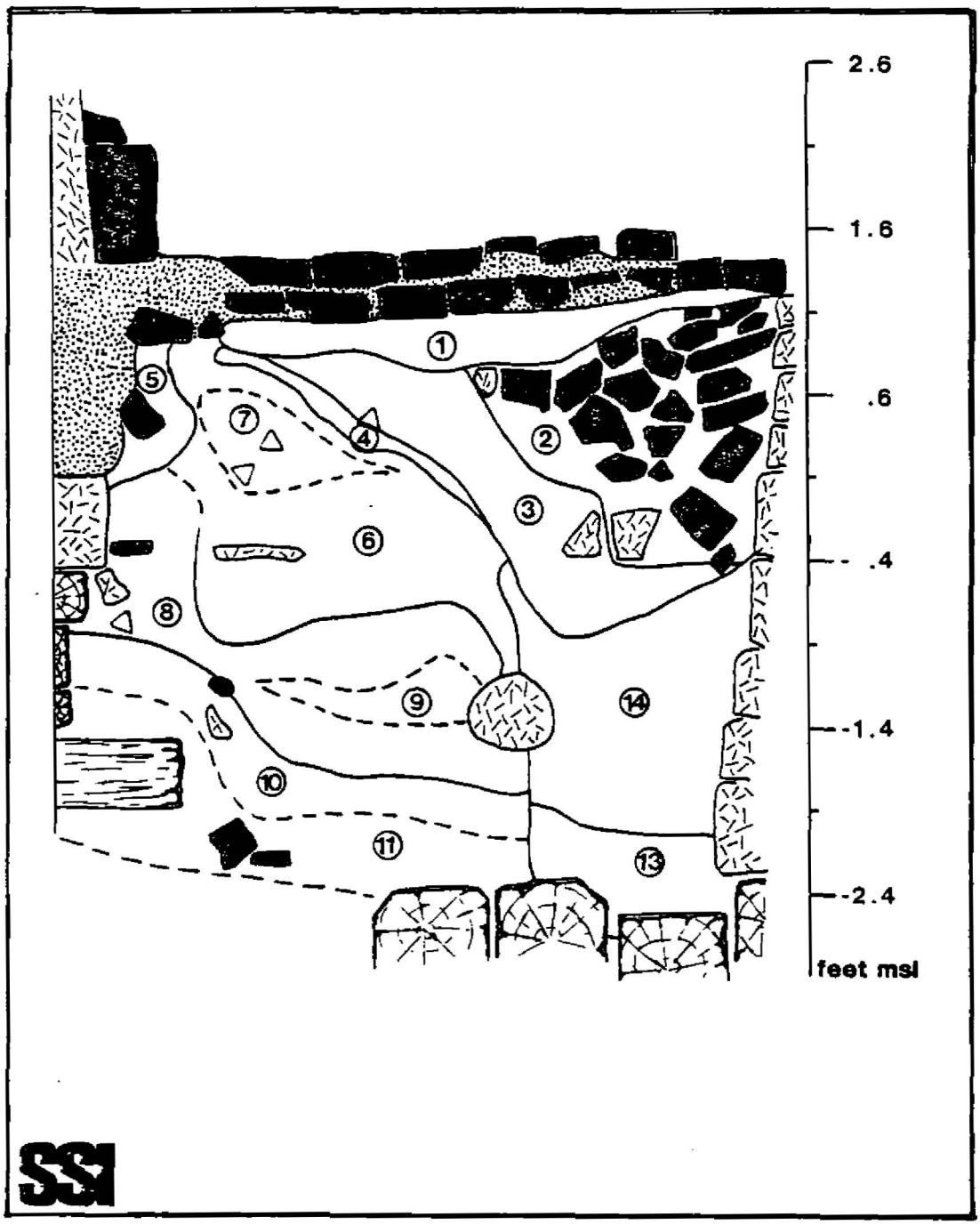


Figure 4.29d. Profile, west wall of Test Cut V in Lot 45.

① Light brown sandy silt with mortar, brick and charcoal mottling

② Dark brown sandy silt with yellow silt mottling and brick rubble

③ Medium brown sandy silt with yellow silt mottling, charcoal and brick

④ Light green silty clay

⑤ Mottled orange-brown and grey-brown sand

⑥ Orange-brown sandy silt with mortar, brick and charcoal mottling

⑦ Brown sandy silt

⑧ Medium greyish-brown sandy silt with mortar, brick and charcoal mottling

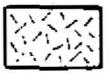
⑨ Reddish-brown sandy silt with mortar, charcoal mottling and brick

⑩ Dark grey-brown silty sand with mortar, brick and charcoal mottling

⑪ Very dark grey-brown silty sand with slight organic mottling

⑬ Turquoise blue clay

⑭ Light green clay

 Stone

 Brick

 Wood

 Mortar

▽ Shell

- - - - Gradual change between strata

Figure 4.29e. Key to the profiles, Test Cut V in Lot 45.

⑥ **Orange-brown sandy silt with mortar, brick and charcoal mottling**

⑫ **Dark grey-brown sandy silt with mortar**

⑬ **Turquoise blue clay**



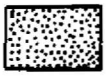
Stone



Brick



Wood



Mortar



Concrete

Figure 4.29f. Key to the profile, east wall of Test Cut V in Lot 45.

These trenches intruded into three strata of disturbed fill deposits. The uppermost layer consisted of orange brown sandy silt (6) which overlaid a layer of brown sandy silt (8). Beneath this stratum was a layer of dark gray-brown silty sand (10) which became darker with depth (11) and was similar to the landfill excavated in Backhoe Trench I in Lot 46. This stratum extended below the spread-footers supporting the stone wall in the eastern portion of the test cut.

With one exception, all of the strata excavated in this unit contained mixed materials resulting from the 1816 fire on the block and redeposited eighteenth century landfill materials. They document the rebuilding of the structures on Lots 42 and 46 after the 1816 fire. The mean dates for the materials in these deposits range from 1747.5 (s=26.6), for Stratum 8 to 1781 (s=41.6), for Stratum 14, and they contained no materials which were manufactured after 1795. The exception is Stratum 3, which, on stratigraphic grounds, we suggested might be an intrusive repair trench dug into the original builder's trench for the south wall of the building on Lot 46. Although the ceramics in this stratum had a mean date of 1766.4 (s=46.6), they also included a piece of whiteware, probably manufactured after 1820 (South 1971), which tends to support the interpretation that this trench is intrusive.

Three structural walls were exposed in Test Cut V: the back wall of the Lot 46 structure, in the north of the test cut; the west wall of the Lot 47 structure, to the east of the test cut; and the north wall of the structure on Lot 42, to the south of the test cut.

The structural evidence indicates that the southern wall in this test cut, or the north wall of the building on Lot 42, was built first, as the spread-footer planks extend across the extent of that part of the wall which was exposed in the test cut. The east wall in the test cut, or the western wall of the structure in Lot 47, was probably built next, as the spread-footer planks supporting this wall do not extend across the southern part of the test cut where the planks from Lot 42's wall are located. The back wall of the Lot 46 building, to the north of the test cut, apparently was installed last, as this wall has no spread-footer structure supporting it; rather, this wall rested on the spread-footers installed to support the wall to the east of the test cut, or the west wall of the Lot 47 structure.

The documentary research tells us that the structures on Lots 42, 46, and 47 all burned in the 1816 fire on the Telco Block, and this fire is reflected in the artifacts from the builder's trenches in Test Cut V, as many of them are burned.

These artifacts also indicated that these structures were rebuilt at approximately the same time, shortly after the fire, as there are no later temporally diagnostic artifacts in these deposits. The structural evidence interpreted from Test Cut V, however, also tells us the order in which these new structures were built: the building on Lot 42 was rebuilt first, followed by that on Lot 47, and the structure on Lot 46 was rebuilt after the foundation walls of the other two buildings had already been laid.

Later in the nineteenth century, the layer of light brown sandy silt was deposited, probably to provide a level surface for constructing the base of the oven flue.

2. Shovel Test U: A Sample of the Backyard Deposits in the Northern Part of the Backyard of Lot 46

A 1 ft by 1 ft shovel test was dug to the north of Test Cut V, in order to evaluate the backyard deposits in this area. The seven strata excavated were 27.5 in. deep, and they all contained mixed late eighteenth century fill material and early nineteenth century debris similar to what was found in Test Cut V. Therefore, no subsequent testing was performed here.

3. The Wooden Floor in Lot 47

While Backhoe Trench I was being excavated in Lots 46 and 47, the wooden floors associated with the most recent buildings on these lots were uncovered. The floor in Lot 47 was exposed and recorded photographically. It was constructed of two layers of wooden planks, both oriented north-south, which fitted together with tongue and groove joints. The planks were 2 in. thick, 10 in. wide, and extended to a maximum length of 11.5 ft. The boards were nailed onto supporting joists, oriented east-west, which measured 4 in. thick by 11 in. wide, and were laid on their sides, so that the planks rested on the narrow side of the joists. The joists were notched on their eastern end, and the inside of the notch rested on the footing stones of the foundation.

Several planks were set horizontally on their edges, abutting the flooring planks around the eastern, northern, and southern side of the basement, leaving a small space of about 6 in. between these planks and the stone foundation walls. This gap may have been used to collect water (Ray Pepi, personal communication), as the water table was less than 6 in. below the top of the floor. There were triangular wooden "wedges" between these planks and the foundation wall, which may have been used to stabilize the floor when it expanded and contracted as it became alternately damp and dry.

Part of the stone foundation wall and underlying spread-footer complex dividing Lots 46 and 47 had been removed, and the basements had been joined. More flooring had been added to cover this doorway area. The spread-footer complex under this doorway (which had been exposed in Test Cut V) may have been removed so the flooring could be evenly laid here. A brick wall, apparently dry-laid, had been installed to fill in part of this doorway area.

The artifacts found between this wooden floor and overlying concrete floor included bottles which did not have pontil marks. This indicates that the concrete floor was added after the early 1850s, when the snap-case holding device was introduced (Toulouse 1969).

4. Lots 46 and 47: Interpretation of the Occupational Remains

The excavations in these lots have been used to document the sequence of building for the structures on Lots 42, 46, and 47 after the 1816 fire on the block: the structure on Lot 42 was built first, followed by these on Lot 47 and 46, respectively. The brick oven flue uncovered in Test Cut V was built after these structures were completed and after repairs had been made on the south wall of the Lot 46 building, after ca. 1820. This flue was probably used by bakers who are recorded as being on Lots 45 and 46 ca. 1850. The wooden floor uncovered in Lot 47 was part of the most recent building on this lot and was covered by the modern concrete floor after the middle of the nineteenth century.

K. The Results of the Excavation of the Occupational Remains in Lot 48

The backhoe was used to clear off the backyard in Lot 48 to the level of apparently undisturbed archaeological features. A test trench (Test Trench AM1) was then excavated from west to east across the backyard area, through a stratum of brown sandy silt with cobbles (1). Two features were discovered in the course of excavating this test trench: a cistern, sampled as Test Cut AM, and a privy, sampled as Test Cut AS.

1. Test Cut AM: The Cistern in Lot 48 (Fig. 4.30)

This cistern, D-shaped in plan, was located in the eastern part of Lot 48. This feature contained four strata of deposits. The uppermost layer, which was 15 in. to 19 in. thick, was composed of brown sandy silt mottled with charcoal (1). Due to time limitations, only the eastern half of the cistern deposits were excavated below the bottom of this stratum. The underlying layer consisted of a lens of mortar (2) in the center of the cistern, which was 2 in. to 5 in. thick. The lens overlaid a 28 in. to 30 in. thick stratum of brown sandy silt filled with cobbles (3), similar to the stratum excavated in Test Trench AM1. Below this stratum the mortar-lined cistern floor was found. This lining was broken in several places and was underlain by a layer of dark brown silt (4) which was only 1 in. to 2 in. thick. This stratum rested on a second, unbroken, cistern lining, which lay directly on the cistern floor.

A cross-mend study was done on the contents of this feature (Table 4.14). Stratum 1 contained pieces of all of the 28 vessels which mended across the strata, these pieces mended with pieces from Strata 2 and 3, but not from Stratum 4, the layer below the broken cistern lining. This suggests that the bulk of the primary trash deposit in this feature was originally contained within Stratum 1; subsequently, much of this material shifted down into the loose, unconsolidated deposits of Strata 2 and 3.

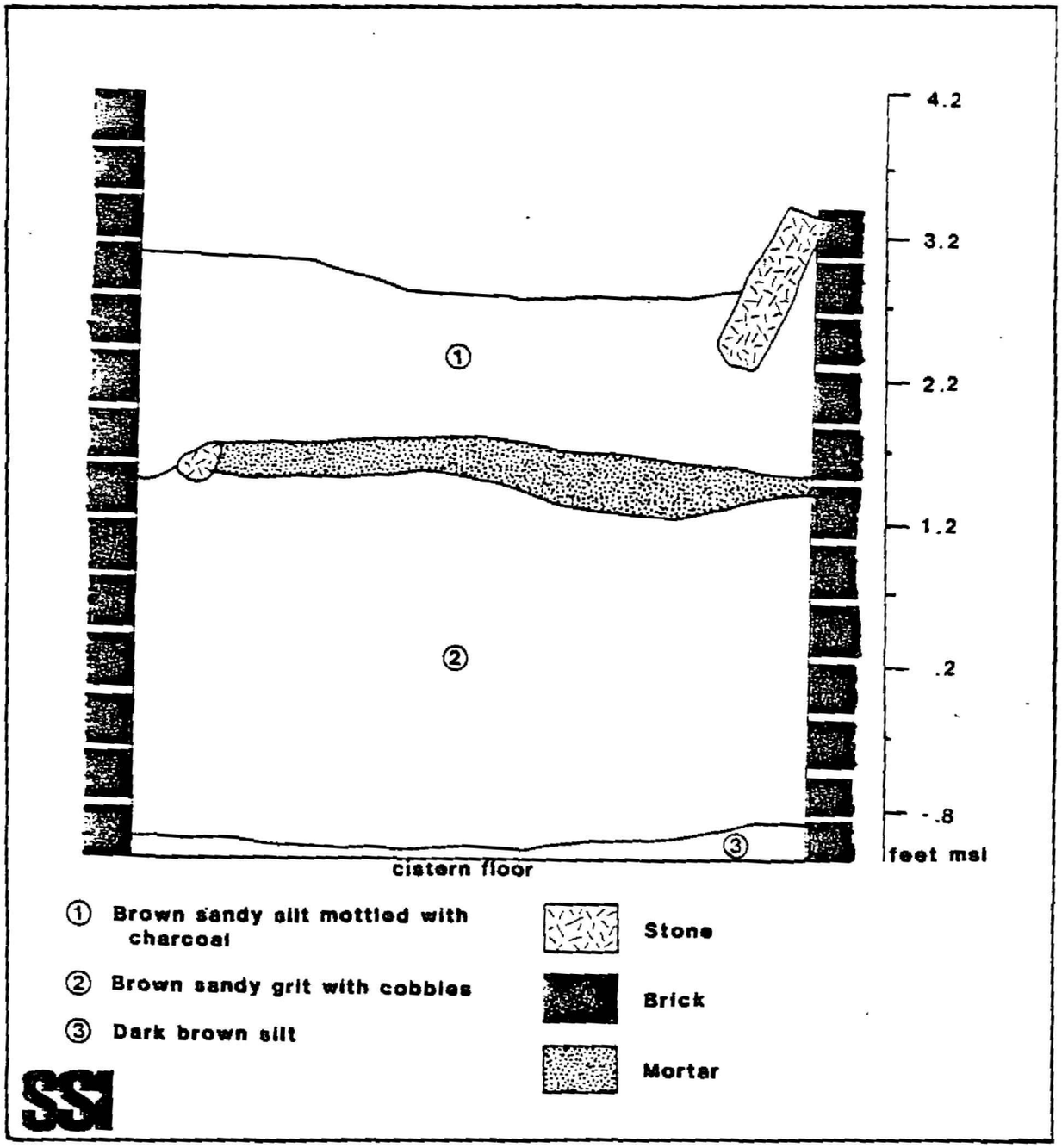


Figure 4.30. Interior profile, cistern, Test Cut AM, Lot 48, looking west.

TABLE 4.14: Cross-mended vessels from Test Cut AM, the cistern in Lot 48, indicating the number of sherds by vessel and stratum.

VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
STRATUM																												
1	6	6	7	6	5	1	6	4	2	2	2	3	12	1	1	2	1	9	2	3	1	1	1	1	1	1	1	1
2		1	2					1			1		1					1			2					1	1	
3	1		1	1	1	1	1		1	1		1	4	1	1	1	1		1	1		1	1	2	1			1
4																												

Revised mean ceramic dates were run on the ceramics from this feature (Table 4.15). The dates derived from each of the four strata within this feature ranged from 1827.9 (s=15.4) to 1842.7 (s=3.3), with a date of 1829.1 (s=15.3) for the feature as a whole. The revised 1842.7 date for Stratum 4 is based on three sherds. Due to the extremely small sample size, we can exclude this date from consideration. The date range for the remaining three strata spans a period of only 4.6 years. These data tend to support the conclusion from the cross-mend study that the primary trash deposit in this cistern seems to have been deposited as a single event over a short period of time, ca. 1829.

A total of 2278 ceramic sherds were recovered from this cistern. Considering that only 75% of the deposits in this feature were excavated, this represents a very high density of these materials. The minimum number of vessels was computed, excluding the obvious eighteenth century wares which should comprise the artifacts from the secondary deposits in the feature. Sherds of the later nineteenth century types represented a minimum of 219 vessels.

The pattern names and manufacturers of five different sets of transfer-printed white earthenware were identified. These sets were made at the Staffordshire potteries of Enoch Wood and Sons, operating from 1818 through 1846 (Godden 1964:685), and James and Ralph Clews, operating from 1818 through 1834 (Godden 1964:151). These wares were made during a period when the Staffordshire potteries were producing extensively for the American market (Laidacker 1954: viii); Clews appears to have produced almost exclusively for this market (Stefano 1978:202). Four of the five sets were apparently made expressly for this market; these were the Wood patterns of the "East View of LaGrange," Lafayette's home (represented by three dinner plates), "Table Rock, Niagara Falls" (represented by two dinner plates), "America and Independence," or "states pattern" (one dinner plate), and the Clews pattern of "The Landing of General Lafayette at Castle Garden in New York in 1824" (20 vessels). The fifth pattern, made by Clews, is that of "Dr. Syntax, star gazing" (two plates). This latter pattern, part of a series popular both here and in England, was based on caricatures by Thomas Rowlandson, which were set to verse by an author while he was interred in an English debtor's prison (Camehl 1971:289-290).

2. Test Cut AS: The Privy in Lot 48 (Fig. 4.31)

As Test Trench AM1 was being excavated across Lot 48, the stone walls of a small square privy were uncovered in the western end of the backyard. This feature was sampled as Test Cut AS. Three strata were sampled here. The thick uppermost stratum consisted of a brown sandy silt with brick and mortar (1). Fifty percent of these deposits were screened. This layer was underlain by a stratum of brown sandy silt with cobbles (2), which was 26 in. to 30 in. thick. This stratum was quite similar to Stratum 3 in the adjacent cistern and the deposits excavated in Test Trench AM1, although the cobbles were less dense in the privy. Seventy-five percent of the deposits from this stratum were screened. Beneath this layer was a stratum of dark brown sandy silt, which was excavated to a maximum depth of 78 in. Fifty percent of these deposits were screened.

TABLE 4.15: TC AM: the cistern in Lot 48; mean ceramic dates by stratum and for the feature.

Stratum	CERAMIC SAMPLE								
	All datable types[1]			Revised xcd=median dates post-1800[2]			Median dates pre-1801[2]		
	n	xcd[3]	s	n	xcd[3]	s	n	xcd[3]	s
1	1921	1816.5	24.	1330	1829.1	15.1	591	1788.2	14.
2	84	1827.5	25.1	77	1832.5	17.6	7	1772.6	29.3
3	375	1816.8	23.5	272	1827.9	15.4	103	1787.5	14.3
4	6	1807.2	40.5	3	1842.7	3.3	3	1771.7	27.3
ALL	2386	1816.9	24.1	1682	1829.1	15.3	704	1787.9	14.5

1 - Includes delft.
2 - See Appendix E.
3 - xcd - mean ceramic date.

TABLE 4.16: TC AS: the privy in Lot 48; mean ceramic dates by stratum and for the feature.

Stratum	CERAMIC SAMPLE								
	All datable types[1]			Revised xcd=median dates post-1800[2]			Median dates pre-1801[2]		
	n	xcd	s	n	xcd	s	n	xcd	s
1	58	1811.9	36.7	31	1837.7	27.4	27	1782.4	20.1
2	81	1784.8	25.	8	1821.8	23.	73	1780.7	21.7
3	73	1799.5	22.5	24	1821.8	23.	49	1788.6	11.5
ALL	212	1797.3	30.	63	1829.6	26.5	149	1783.6	18.9

1 - Includes delft.
2 - See Appendix E.
3 - xcd - mean ceramic date.

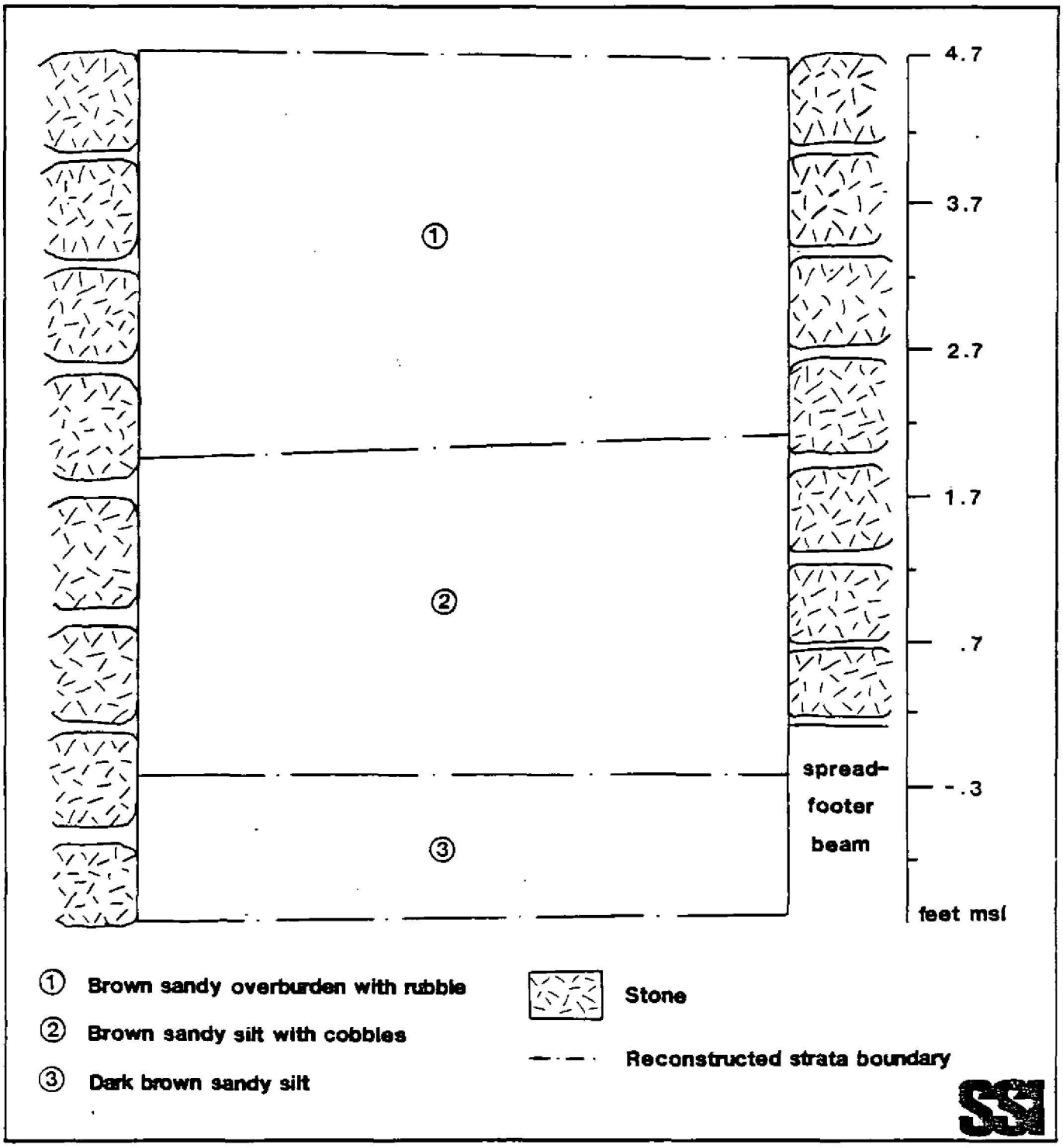


Figure 4.31. Reconstructed interior profile, privy, Test Cut AS in Lot 48.

The north wall of this feature was a mortared structural wall, the back wall of the Lot 48 structure. This wall was supported by a spread-footer beam which appeared at a depth of ca. 59 in. The other three walls were dry-laid, and presumably constructed to enclose the privy. The bottom of these walls had not been reached when the excavation was terminated.

The interpretation of the materials from this feature is not clear-cut. The revised mean ceramic dates (Table 4.16) run on the ceramics from the three strata ranged from 1821.8 (s=23) to 1837.7 (s= 27.4), with a date of 1829.6 (s=26.5) for the feature as a whole. In addition to this broad 15.9 year time range, the number of sherds included in the revised mean ceramic date calculation constituted only 30% of the total of the datable ceramics from this feature. This indicates that the materials in this feature were heavily mixed and included redeposited landfill and other earlier deposits.

The revised mean ceramic date of 1829.6 (s=26.5) represents the approximate date for the later materials included in this feature. With one exception, there were no later temporally diagnostic artifacts which suggest that this feature was filled after this date. The exception was a single piece of whiteware dated to the 1890s which was found in the top 4 in. of Stratum 1 and which thus may be intrusive.

The revised mean ceramic dates for the materials from the cistern (1829.1, s=15.3) and the privy (1829.6, s=26.5) are remarkably similar. In addition, many of the ceramic and flask types which were present in the cistern were also found in the privy, and the soil matrices from Stratum 2 in the privy, Stratum 3 in the cistern, and Stratum 1 in the test trench were very much alike. Therefore, it seems highly likely that the materials in this privy, those in the cistern, and the layer of fill over the backyard of Lot 48 were deposited at roughly the same time, ca. 1830.

3. Lot 48: The Interpretation of the Occupational Remains

The chain of title for Lot 48 is presented in Appendix A and the known occupants of the lot are listed in Appendix B.

From 1827 through 1835, a boardinghouse was located on Lot 48. Run by Thomas Orten from 1827 through at least 1832, this boardinghouse was referred to as "Fulton Hall" from 1833 through 1835. The revised mean ceramic dates of ca. 1829 from both the privy and the cistern and the presence of a large number of dinnerware sets suitable for serving large numbers of people in the assemblage recovered from the cistern tend to support the interpretation that these assemblages were deposited either during or shortly after the period when this lot was the site of a boardinghouse and reflect this use of the lot. The deposits from these features, then, provide documentation for one of the solutions to " the new social need for residential housing which had become apparent by the first decade of the nineteenth century", that of the boardinghouse (Blackmar 1979:140).

L. Summary and Conclusion

The results of the excavation of the occupational remains on the Telco Block were extremely productive. We looked for the remains of several documented mid-eighteenth century buildings and recorded the structure of two wooden floors and several spread-footer complexes. The resources sampled include: 21 features from the backyards; two occupational features found in a backhoe trench, the deposits on an early nineteenth century wooden floor, and almost 100% of the deposits in one of the backyards.

1. The Structural Features

a. The Remains of Earlier Eighteenth Century Buildings

Several buildings had been documented on the Telco Block in the mid-eighteenth century: a warehouse on Lots 26, 27, 37, and 38 (1763 Willis Map, Map 4; Section III); and several small buildings in the area of Lots 46 and 47 (1755 Maerschalck Map, Map 3; Section III). Backhoe trenches were used to look for all of these structures (Backhoe Trench H in Lot 38, Backhoe Trench AO in Lot 26, and Backhoe Trench I in Lots 46 and 47). No remains of these buildings were found.

The fact that no traces of these buildings remained suggests that they were probably fairly insubstantial structures, built resting directly on the ground surface or with foundation walls which were not laid deeply into the ground.

b. The Wooden Floors

Wooden floors were found in Lots 26, 46, and 47; those in Lots 26 and 47 were cleaned off and their structure was recorded.

The floor found in Lot 47 was associated with the most recent building on the lot, built after the 1816 fire. Here, two layers of planking, laid north-south, rested on notched joists, oriented east-west, which were supported by the footing stones of the foundation walls of the buildings (Fig. 4.32). This floor was less than 6 in. above mean sea level, and water control appears to have been a recurring problem which was handled in two ways. The flooring planks were laid in two over lapping layers, which were set with the cracks between the planks of one layer laid against the solid plank of the upper- or under-lying layer, so that water would be less likely to seep in from below. In addition, the flooring was not laid flush against the basement walls; rather, there was a space about 6 in. wide between the flooring and these walls. Several of planks were set upright on their sides against the border of the flooring, extending several inches above the level of the floor. This space was probably used to contain water rising from below, and thus prevent flooding in the basement. There was also a series of triangular wooden blocks wedged between these planks and the basement walls, presumably to stabilize the floor so that it would not shift when it expanded and contracted as it became wet and dry, respectively.

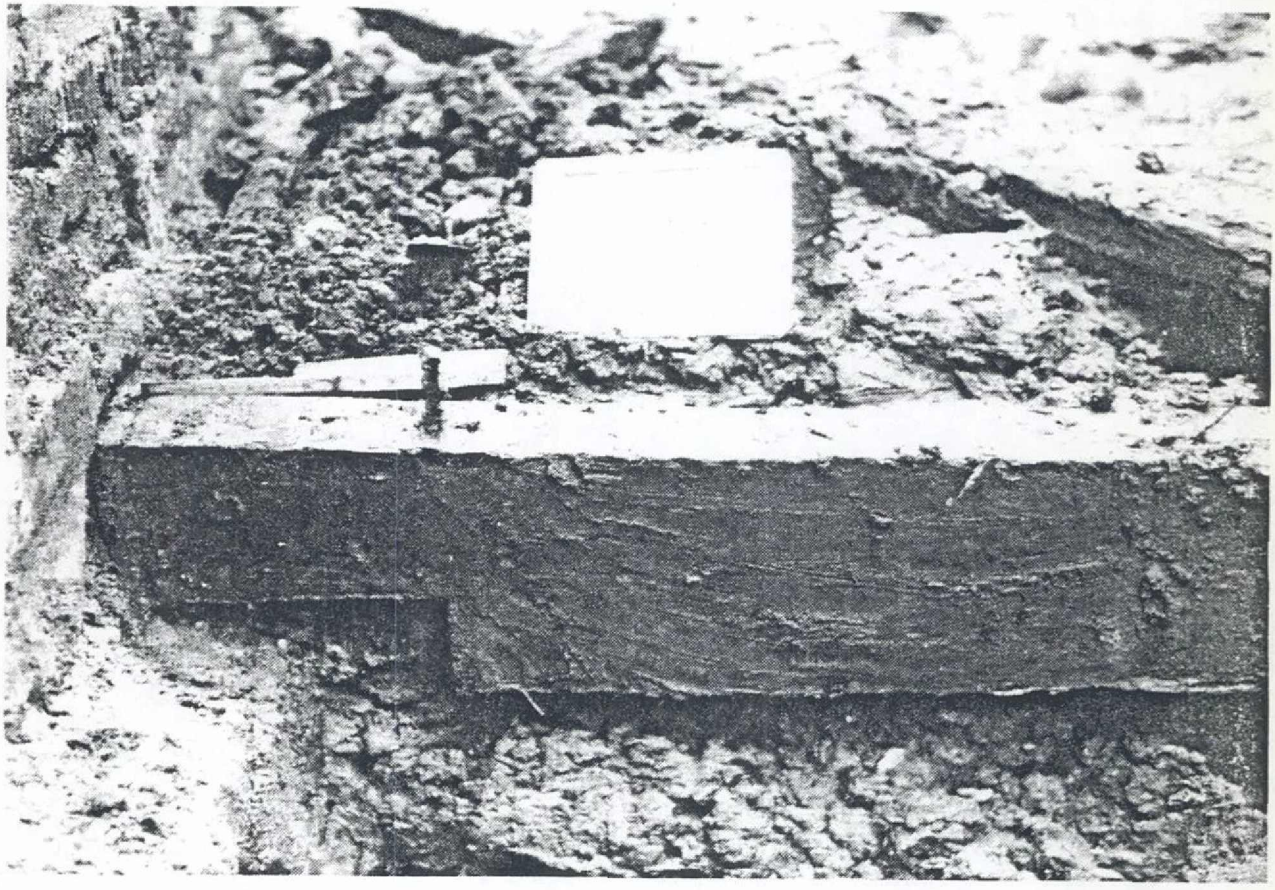


Figure 4.32. A detail of the wooden floor in Lot 47, showing one of the notched joists supported by the footing stones of the stone foundation wall.

The wooden floor in Lot 26 had been burned. The occupational deposits sampled here, the documentary history of the lot, and the structural evidence of the floor itself all support the interpretation that this floor was associated with a late eighteenth-early nineteenth century building, which was burned in the 1816 fire. This floor was made of a single layer of planking, oriented east-west, which was laid on joists oriented north-south (Fig. 4.33). The remaining portions of the floor and the stratigraphic evidence from the units excavated here provide some insight into early nineteenth century building techniques.

After the building was burned, the ends of the joists (which presumably had rested on the foundation footing stones, as in Lot 47) were cut off, and the spread-footer complexes and their overlying foundation walls were replaced for the construction of the new building which extended further west into the lot. In this case, then, the spread-footer complexes and foundation walls for the sides of the building were not reused, but were replaced for the new building.

c. Spread-footer Complexes

These features consist of a wooden complex designed to support the footings of the stone foundation walls of structures built on unstable ground, such as landfill, in the later eighteenth and early nineteenth centuries. These complexes were exposed and recorded in all but one of the backhoe trenches (Backhoe Trenches J, K, M, and N) which crossed the modern lot lines and in several of the excavation units (Test Cuts V, AC, AG1, and AS). They were made of two large, squared wooden beams on which the footing stones of foundation walls were laid. These beams, in turn, were supported by a continuous platform of perpendicularly-laid wooden planks.

A 7 ft expanse of the spread-footer complex under the Lot 40/41 wall was exposed and recorded (see Fig. 4.34). The beams here were about 13 in. to 15 in. thick and 16 in. to 19 in. wide. The underlying planks ranged in length from 73 in. to 77 in. The wood from one of the beams was identified as hemlock (Tsuga) while that from one of the planks was identified as a pine (Pinus) of the yellow pine group (Donna J. Christensen, U.S. Forest Products Laboratory, correspondence with Jan Kird Pokorny, November 5, 1981). The wood from one of the planks from a spread-footer complex at 193 Front Street, on the Schermerhorn Row Block just to the east of the Telco Block, was identified as white pine (Stewart 1981:147). Although contemporary construction handbooks recommended the use of oak for these planks (Stewart 1981:147), the prevalence of the use of pine suggests that the builders used any appropriate material which was available. These handbooks also stress the need to lay these complexes below the water table to prevent decay and structural collapse (Stewart 1981:147). This requirement was met without exception by the spread-footers exposed on the Telco Block.



Figure 4.33. The wooden floor in Lot 26, looking west.

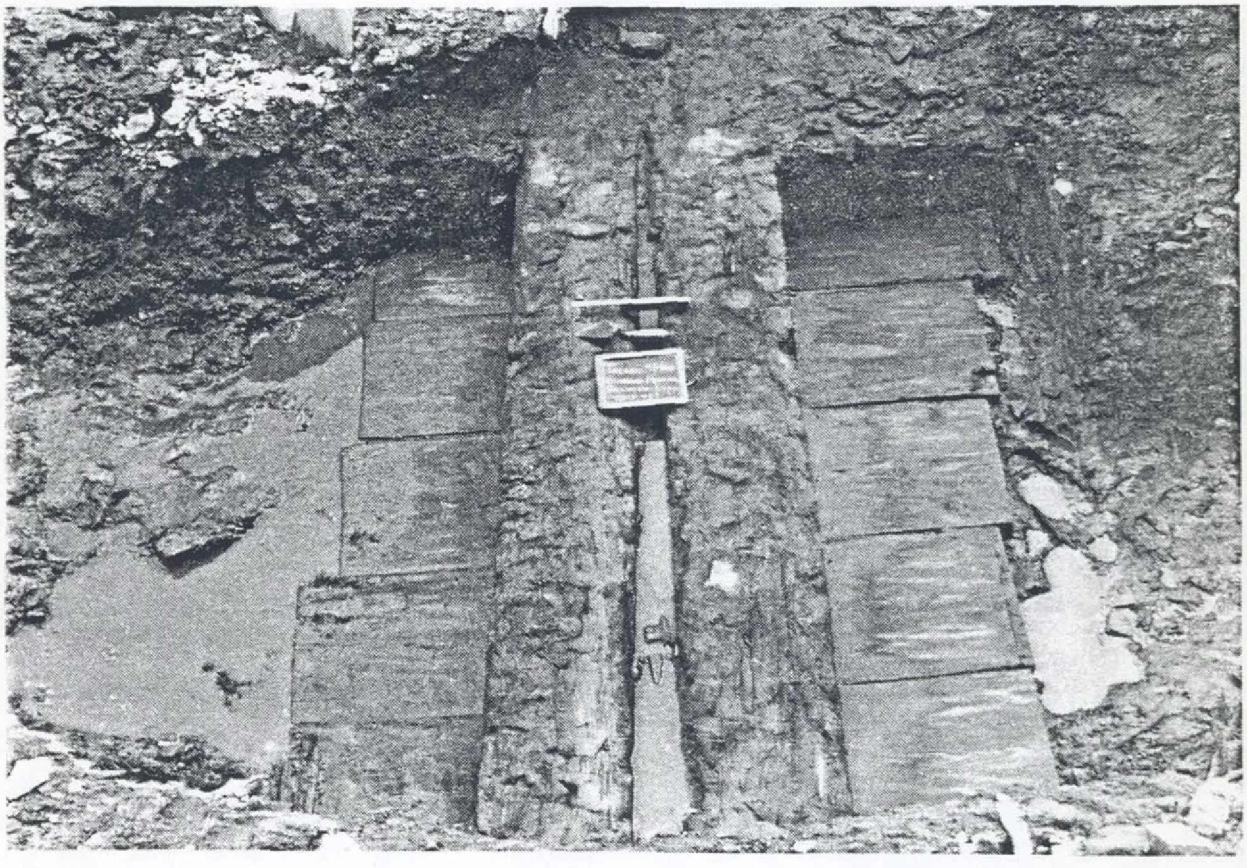


Figure 4.34. The spread-footer complex under the Lots 40/41 wall.

Other spread-footer complexes were found in the middle of Lots 24 and 25. The one uncovered in Backhoe Trench M in Lot 24 was located ca. 8 ft south of the property line dividing Lots 23 and 24, and ran parallel to this line. The spread-footer complex in Lot 24 had been used to support the foundation wall of a smaller building on this lot which had burned in 1821 (Appendix B). An early nineteenth century deed mentioned the presence of a gangway or alley between the buildings on Lots 23 and 24 (Liber 80, page 317). This alley, then, was located in the area between this spread-footer complex and the one supporting the building on Lot 23.

The spread-footer complex in the middle of Lot 25 extended east-west and was parallel to the side walls of the building. It apparently had supported a series of pillars within the building. A block of granite suitable for supporting such a pillar was found resting on this feature, just to the east of Backhoe Trench J.

The excavations in Lot 26, Lot 40, and Test Cut V in Lot 46 all indicate that these spread-footer complexes were not reused by successive buildings on these lots. Rather they were replaced for each new construction episode.

The spread-footer complexes in effect floated the foundation walls on the unstable landfill by spreading the load of the wall over a wider area. The use of these complexes as a technological response to building on potentially unstable landfill in the late eighteenth and early nineteenth centuries presents a constrast to the technology discovered at a seventeenth century landfill block in New York. Recent archaeological excavations at 7 Hanover Square, a late seventeenth century landfill site in lower Manhattan, showed that the foundation walls of the first structures built on this block extended almost to the bottom of the landfill and had been built as the landfill was being deposited (Pickman, Rockman, and Rothschild 1981). On the 7 Hanover Square site, however, the water table was well below the bottom of these foundation walls, and spread-footer complexes could not be used for this reason. It is not known, however, when the use of these spread footer complexes became widespread, and whether these differences in building technology simply related to the depths of the water table on the respective blocks.

2. Undisturbed Deposits and Features

The undisturbed deposits and features reflecting the occupation of the Telco Block which were sampled during the excavations include eight cisterns, 11 privies, a dry well, an oven flue, a wooden box, a barrel, the deposits on a wooden floor, and almost an entire backyard. The deposits from Lot 40 and those from the features will be treated separately below.

a. The Deposits in the Backyard of Lot 40

The results of a preliminary shovel test in Lot 40 indicated that this backyard contained undisturbed deposits spanning the use of the yard from the eighteenth through the nineteenth centuries. Therefore, we selected this yard for total excavation in order to provide a general context in terms of which we could interpret the deposits in the features sampled in the other yards. However, the excavations here revealed that these undisturbed

deposits were confined to the southern periphery of the yard, adjacent to the Lot 39 property line, and that throughout most of the rest of the yard these deposits had been heavily disturbed by the construction of the most recent building on this lot after the 1816 fire. As most of the buildings on the block had been destroyed or heavily damaged in this fire, it is probable that this disturbance also occurred in these other yard areas as well. The excavation of Test Cut P, Backhoe Trench H, and Shovel Test U all indicated that this disturbance had occurred on Lots 37, 38, and 46, respectively.

The excavations in Lot 40 did provide a context which we used in interpreting the construction, placement, and use of the features in this backyard in the nineteenth century. The excavation of the builder's trenches for the privy and cistern indicated that they had been installed shortly after the 1816 fire. These features had been enclosed in a small outbuilding while they were in use. The remains of any privies and cisterns which may have been in use in the eighteenth century were not found.

b. The Features

The deposits from the features may be roughly divided into three periods reflecting three different episodes of land use on the Telco Block. Twenty-three of these features contained deposits associated with the use of the block at the time these features were abandoned and filled in.

i. Materials deposited in the Early Nineteenth Century

One of the major local events affecting the depositional history of the site is the fire which destroyed or damaged many of the buildings on the block in 1816. All of the buildings in the project area, except for those on Lots 24, 25, and 48, had to be either rebuilt or repaired after this fire, and fill deposits associated with the fire, subsequent repairs, and construction episodes were found in all of the lots affected by the fire.

Four of the features on the block were abandoned about the time of this construction episode: the wooden floor in Lot 26, which contained deposits reflecting the early nineteenth century use of this building and its later destruction in the fire; Test Cut AT, the large privy on the Lot 37/38 property line; Test Cut F1, the large privy on the Lot 26/27 property line; and, possibly, Test Cut AW, the barrel found in Backhoe Trench K in Lot 39.

The deposits under the oven flue in Test Cut V (in Lot 46), the cistern in Test Cut W (Lot 25), the builder's trenches associated with the construction of the buildings in Lots 42, 46, and 47 found in Test Cut V, those associated with the installation of the privy (Test Cut R2) and cistern (Test Cut Y) in Lot 40, and cistern in Lot 42 (found in Test Cut AG1) all indicate that these buildings and features were built at this time.

In addition, the deposits in the wooden box, (Test Cut AX), found in Backhoe Trench K in Lot 38, dated to after ca. 1805.

ii. The Features Filled ca. 1830.

Two of the features sampled on the block were abandoned and filled ca. 1830. These features, a privy (Test Cut AS) and a cistern (Test Cut AM) both in Lot 48, contained materials associated with a boardinghouse which has been documented for this lot from 1827 to 1835. It is unclear why these features were abandoned and filled at this time; this lot is not documented as having been hooked up with the Manhattan Water system (Appendix B), and the Croton Water System was not completed until the 1840s. It is possible that the occupants of the lot between the time that the boardinghouse ceased to function and the time when the Croton water system was connected did not need to use these features (perhaps they had access to such facilities elsewhere), and filled them in order to enlarge the space which they could use for other purposes in their backyard.

iii. The Features Filled in the Late Nineteenth Century.

The 16 remaining features contained deposits associated with the occupation of the block in the late nineteenth century (see Table 4.17). Although the Croton Aqueduct System was completed in 1842 and the sewer system was begun in 1849 (Spann 1981), the actual periods when pipes were laid in specific streets in the city have not been ascertained. We do know, however, that there was a considerable time lag. Six years after the opening of the Croton System, two-thirds of all New Yorkers did not yet have water in their homes, and 10 years after the sewer system was begun, three-quarters of the streets in the city were still without sewers. Even after these utilities were laid beneath the streets, the landlords, particularly those in poorer neighborhoods, often did not connect their properties to these systems, as they were under no legal compulsion to do so until later in the century (Spann 1981: 120-133).

The privies and cisterns on the Telco Block were abandoned and filled quite late in the nineteenth century, which indicates that there may have been a considerable lag between the time when the sewer and water systems were begun and the time when these properties were actually connected to these systems. Further research should be undertaken in order to explore the factors which may have influenced different groups in the city in deciding when to connect their properties to these systems.

iv. The Features Themselves.

All of the privies on the Telco Block were lined with dry-laid stone walls. The two privies (Test Cut AT and Test Cut F1) which were filled in the early nineteenth century, and presumably were in use in the late eighteenth and early nineteenth centuries, were square in shape, while the nine built in the early nineteenth century and in use until the late nineteenth century were both square (Test Cut D, AU, O, G, AS, and AV) and round (Test Cut R2, AK1, AG2).

Table 4.17. The Period of Abandonment and Filling of the Features Used into the Late Nineteenth Century

Lot #	Feature designation	Interpretation of feature function	Filled in ca.
24	TC AV	privy	post ca. 1870
25	TC W	cistern	post 1874
26	TC D	privy	post early 1850s
26	TC F2	cistern	post 1880
26	TC AR	dry well	post 1880
27	TC AU	privy	post early 1850s
37	TC O	privy	post early 1850s
37	TC AQ	cistern	post ca. 1870
38	TC G	privy	post ca. 1870 (?)
38	TC L	cistern	post ca. 1870
40	TC R2	privy	abandoned-post 1860
40	TC Y	cistern	post 1870s
41	TC AK1	privy	abandoned post ca. 1855 filled post 1891
41	TC AN	cistern	post ca. 1870
42	TC AG2	privy	post 1870s (?)
42	TC AI	cistern	post 1870s



Figure 4.35. The support for the trough connecting the cistern (Test Cut F2; lower left) to the dry-well (Test Cut AR; center rear).

All of the eight cisterns were made of brick and lined with mortar. Seven of them were round, while of the remaining two, one was oblong (Test Cut AQ in Lot 37) and one was D-shaped (Test Cut AM in Lot 48). The shapes of the cisterns which were not round were determined by the limited space available in these two backyards. Most of these features contained square slabs of stone on their mortar-lined bottoms; these slabs were probably used as footings for holding the pipes which were connected to the cistern pumps.

The general dates of construction for four of the eight cisterns (Test Cut AI, Y, W, F2) were documented through the excavations; all four were built in the early nineteenth century, after the 1816 fire. The general dates of construction of some of the privies were either documented or inferred. Five (Test Cut D, AU, R2, O, and G) were built in the early nineteenth century, while two others (Test Cut F1 and AT) were filled in the early nineteenth century and had obviously been built before. The latter two privies serviced four of the lots, as they were located on the lines dividing these lots.

The source of water for the eighteenth and early nineteenth century inhabitants of this block and the location of the privies on some of these lots may only be conjectured. There are two possible explanations. One is that these features tended not to be located in the modern backyard area during this period, except under special circumstances. The occupants of these lots may have drawn their water from public wells. Only the privies which were shared by the occupants of two adjoining houses (such as Test Cuts F1 and AT) may have been installed in the exterior space of the backyards, and they were placed on the line dividing these lots so as to be equally accessible to the inhabitants of each house. Those privies which were used by the occupants of only one house may have been located in interior space, in the basements of the houses. The other possible explanation is that these earlier cisterns and privies had been located in the backyards, but were destroyed by the installation of the later features. According to this interpretation, the only reason that Test Cuts AT and F1 were preserved is that they were located on the lot lines, and not in the area where these later features were installed. The latter interpretation seems less likely for two reasons. First, it is unlikely that the people on the block would have replaced all of the four cisterns and five privies whose general date of construction has been documented at approximately the same time. Rather, it seems probable that at least some of these features would still have been serviceable later into the nineteenth century. Second, it is probable that the remains of some of these features would have been found in Lot 40, which was almost totally excavated, or elsewhere on the block.

For three of the cisterns, provisions made for handling overflow were still in situ. The cisterns in Lot 40 (Test Cut Y) and Lot 41 (Test Cut AN) were connected to adjacent privies by a trough; in Lot 26, a trough connected the cistern (Test Cut F2) to a dry well (Test Cut AR, Fig. 4.35). The use of these troughs reduced the likelihood of flooding the backyards when the cisterns overflowed.

3. The Changing Structure of the Backyards

Changes through time in the spatial arrangement of the features in these backyards provide some insight into changing concepts of land use and other aspects of life in late eighteenth and nineteenth century New York City.

During the late eighteenth and early nineteenth centuries, the block included three pairs of two adjacent lots (Lots 24/25, 26/27, and 37/38), each of which was owned by a separate person. The excavations revealed that the spatial arrangement of the early features in the backyards of two these double lots reflected this ownership pattern (Lots 26/27 and Lots 37/38; no early features were found in Lots 24/25). Lots 37/38 had two occupants for at least part of the period under discussion, and Lots 26/27 were the site of a single structure. However, the occupants of Lots 37/38 shared a privy (Test Cut AT), which was located on the lot line.

After the 1816 fire, Lots 37 and 38 were sold to separate owners, while Lots 26/27 and 24/25 continued to be owned by single owners. New features were installed in all of these lots. The features installed after Lots 37 and 38 were divided reflect this new ownership pattern. Each of the backyards now contained its own privy and cistern (Test Cut O and AQ in Lot 37, Test Cut G and L in Lot 38). In the double lots which continued to be owned by the same people, however, the arrangement and number of features was somewhat different. In each of these lots, a single common cistern (Test Cut F2 in Lots 26/27 and Test Cut W in Lots 24/25) was built on or very close to the line dividing these commonly owned lots from each other, while a separate privy was built in three of the four lots (Test Cut AU in Lot 27, Test Cut D in Lot 26 and Test Cut AV in Lot 24). Part of the backyard in Lot 25 had been destroyed; presumably a privy had been placed in this area, but it was destroyed when this part of the backyard was disturbed.

The arrangement of shared features in the double lots in the late eighteenth and nineteenth centuries suggests that the owners of these properties, rather than the tenants, were responsible for constructing and installing these features. In addition, there may have been a shift in attitude in the early nineteenth century as to the kind of facilities which it was suitable for the occupants of separate buildings to share. In the late eighteenth and early nineteenth centuries, it apparently was common for privies to be shared by the occupants of several buildings, whereas later the occupants of each building had their own privy, and only cisterns were considered suitable for sharing. Restricting the use of privies to the occupants of a single building may be related to the growth of privatization in the nineteenth century (see Sennett 1978).

The spatial arrangement of the privies and cisterns in the backyards in the nineteenth century also provides some insight into the use of space during this period. In every case where the privy and cistern were lined up along the rear wall of the lots owned by separate owners (in Lots 37, 38, 40, 41, 42, and 48), the privy was always placed on the right and the cistern on the left when facing the rear wall of the backyard (see Fig. 1.2).

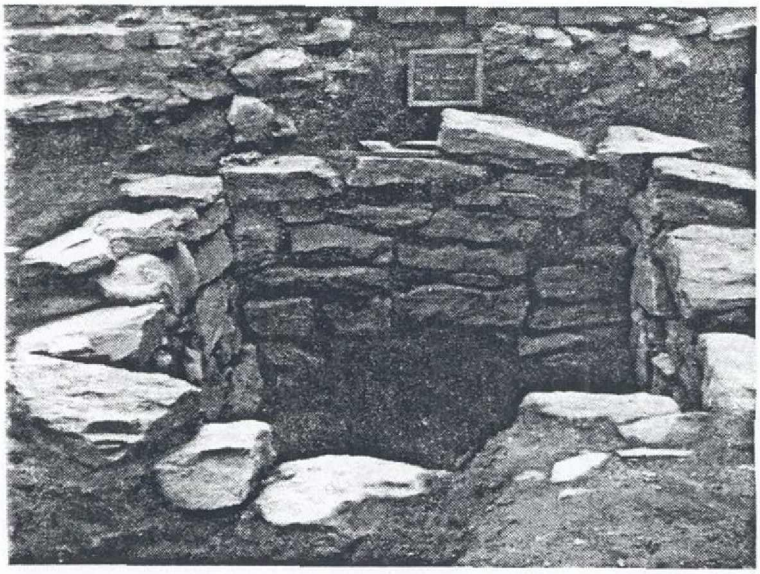


Figure 4.36a. The privy (Test Cut G) in Lot 38, showing the dry-laid stone walls typical of these features.

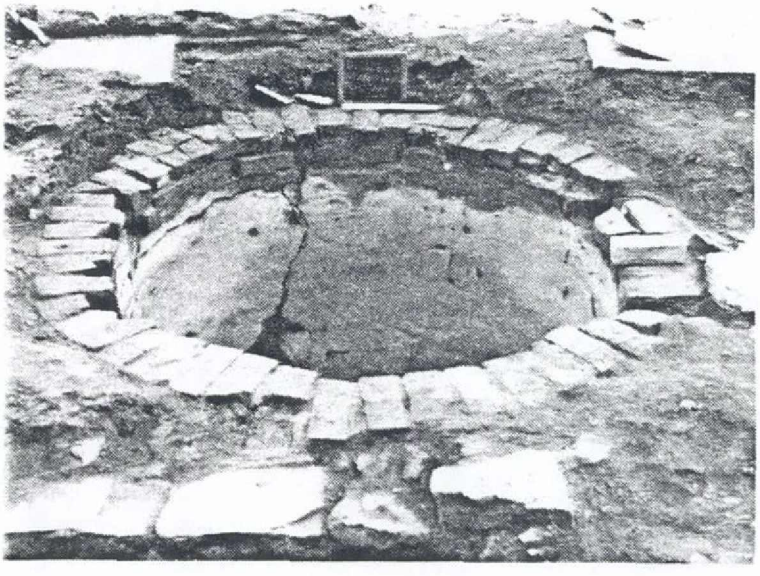


Figure 4.36b. The cistern (Test Cut AN) in Lot 41, showing the brick construction and mortar lining typical of these features.

V. THE TELCO BLOCK EXCAVATIONS IN PERSPECTIVE

A. Introduction

This report has three primary objectives: 1) to place the information learned from the excavation on the Telco Block into its social context; 2) to propose questions in which the archaeological data may be used to provide further insight into this social context; and 3) to use the data from the Telco Block to gain some insight into these questions. In this section, the data from the results of the excavation of the landfill and the occupational deposits on the Telco Block are applied to the three research questions presented in the introduction. What follows are not final answers by any means; we hope only to point the way to some of the kinds of questions which can be addressed by using archaeological data, questions which have not frequently been asked by archaeologists dealing with the data from historical sites.

As mentioned in the Introduction, Wallerstein's perspective of the growth of the modern world-system, the capitalist world-economy, is extremely useful for providing an explanatory framework for the dramatic changes which have occurred on a global level since New York was first settled as New Amsterdam in 1625. According to Wallerstein,

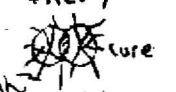
> the modern world-system took the form of a capitalist world-economy that had its genesis in Europe in the . . sixteenth century and that involved the transformation of a particular redistributive or tributary mode of production, that of feudal Europe . . . into a qualitatively different social system. Since that time, the capitalist world-economy has a) geographically expanded to cover the entire globe; b) manifested a cyclical pattern of expansion and contraction . . . and shifting geographical locations of economic roles (the rise and fall of hegemonies, the movements up and down of particular core, peripheral, and semiperipheral zones); and c) undergone a process of secular transformation, including technological advance, industrialization, proletarianization, and the emergence of structured political resistance to the system itself - a transformation that is still going on today (1980:7-8).

– would the Soviet Union, China etc. agree?

Some aspects of the modern world-system require further discussion, so that the present study may be better understood in the context of this perspective. As in most theories of social change, the concept of the division of labor is central to Wallerstein's perspective, but again, he sees this concept on a world scale (Hopkins and Wallerstein 1977:113). Although the modern world-system can today be said to encompass virtually the entire globe, the specific role played by a given geographical area within the world division of labor whether it is a politically bounded state or a region within a state is constantly subject to change. "The processes of the division of labor that define and integrate the world-economy are dyadic, dividing the 'world' into a complex set of paired opposites, which we designate as 'core'

and 'periphery'" (Hopkins and Wallerstein 1977:114). The central feature of the core and periphery relationship is that this world division of labor functions through unequal exchange between these areas (Hopkins and Wallerstein 1977:117). Core areas may be characterized by the large number of linkages between them and the rest of the world, while peripheral areas show only a limited set of connections to the world market (Hopkins and Wallerstein 1977:114). Those zones designated as semiperipheral encompass attributes of both core and peripheral areas (Hopkins and Wallerstein 1977:116).

This sounds like central place theory what happens if two core areas overlap. This can be viewed by set theory



Although, empirically, core areas tend to specialize in secondary products (such as manufactures) and peripheral areas tend to supply core areas with primary products (such as agricultural and extractive products), the key distinction between them is the ". . . division [of labor] among integrated production processes, not among particular products" (Hopkins and Wallerstein 1977:116). Specific areas can and do change their position within the capitalist world system, and areas may move "up" from peripheral to core status, or vice versa. However, these changes leave the essential structure of the world economy unchanged, and the dyadic relationships between core and peripheral areas are constantly reproduced (Hopkins and Wallerstein 1977:116). In other words, although the actors in the world-system change, the roles remain the same. what about the change from a raw material supplier (U.S.) to industrial/agricultural (U.S.). How do services (insurance, banking) fit in to this.

The factor of "unequal exchange" inherent in the core/periphery relationship results in a contradiction in the modern world-system. The mutual dependency resulting from this division of labor is counterbalanced by competition. This competition is manifested in a number of ways, but the one which concerns us here is the rivalry among core states for a position of international dominance in the accumulation of capital. The role of international dominance, or hegemony, may be defined as world superiority in the three main sectors of the economy: production, commerce, and finance. These three factors may be seen as both a temporal sequence and as a set of interdependent elements, in that productive efficiency both temporally precedes and is a prerequisite for commercial success, which in turn can lead to financial development (Hopkins and Wallerstein 1977:130-131).

what about political dominance through military coercion

Hegemony is a rare and rather short-lived achievement. The more common condition is that of rivalry among core areas in which no one state is clearly dominant. The modern world-system has seen the rise and fall of only three hegemonic powers: the United Provinces, from 1625 to 1650/72; Great Britain, from 1815 to 1850/73; and most recently, the United States, from 1945 to possibly 1967 (Hopkins and Wallerstein 1977:130).

I doubt historians would agree

The modern world-system has also undergone a process of secular transformation, which has included trends towards expansion, commodification, and mechanization. Expansion under the modern world-system has been unique in the form that this process has taken, in that areas are "peripheralized" economically by being incorporated into the world division of labor, whereas previously the productive systems of these areas had been left intact. The trend toward mechanization is seen as a world-wide continuum of the mechanization of all productive processes, including those of agriculture, so that the traditional dichotomy of industrial and non-industrial agriculture is not relevant. The trend toward commodification has affected primarily land and

labor. Again, the world-system perspective stresses the world-wide process of the commodification of these phenomena; it is the structural pressures to commercialize more land and to proletarianize more labor that are essential to the modern world-system (Hopkins and Wallerstein 1977:124-126). Core countries contain a higher proportion of "life-time proletarian households" (where subsistence results from production within the world economic system, and the necessities of life are often purchased with wages) than either peripheral or semiperipheral areas. This difference may in fact be considered a defining feature of core status (Hopkins and Wallerstein 1977:134-135).

According to Wallerstein's view, New Amsterdam was first settled as "a strategic and commercial outpost of the Dutch world network" (1980:236), while the United Provinces were a hegemonic power. By the time of the English conquest in 1664, the Dutch hegemony was beginning to decline and France and England were core states in rivalry for supremacy. The British were already institutionalizing their "mercantilist doctrine that the interests of the colonies [were to be subordinated] to the good of the nation'" (Wallerstein 1980:236). The rise of the colonial merchant elite in New England and the Middle Colonies was encouraged by this same mercantile policy which crippled industrial growth. One historian has concluded that ". . . there was no more important ingredient in English policy than the determined effort to retard or prevent the growth in America of industries that would produce the sort of goods that England could export at the greatest profit" (Nettels 1952). British mercantile policy was successful in its application to the southern colonies, but its effects proved problematical and ultimately disastrous to British aims when applied to the middle and northern areas.

The Navigation Act of 1661 placed colonial shipbuilders and shipowners in a favorable economic position. By excluding foreign vessels from trade with the British colonies, these acts created a potential problem for English merchants. English shipping simply could not handle the volume of colonial trade. The Navigation Act granted colonial shipbuilders and shipowners the same rights as their counterparts in England (Nettels 1952). The shipbuilding industry of the northern colonies was successful and eventually more efficient than that of the mother country (Nettels 1952).

The Navigation Act also permitted the northern colonies to export fish, meat, cereal, livestock, and lumber, the major surpluses produced in this area. However, the export of meat and cereal to the mother country was banned (Nettels 1952). Unable to ship their meats and cereals to England, the colonists turned to other outlets for their products, which led to the development of a complex trade network of great importance, the triangular trade. Some of the northern merchants became very successful in this trade, shipping their surpluses of lumber and provisions to the West Indies and southern Europe and rum and trinkets to Africa and receiving molasses from the West Indies and manufactured goods from England in return (Wallerstein 1980:237-238).

Early attempts at manufacturing in the colonies were hampered by a number of factors. Labor was scarce and proved resistant to wage labor. Undercapitalization was a chronic problem. But the greatest obstacle standing in the way of colonial industry was British mercantile policy. Although that policy was successful in suppressing the development of most industries, it was not successful in turning the American colonies into a peripheral area, and the northern colonies, including New York, became semi-peripheral areas with a strong merchant elite, competing with Britain during the eighteenth century (Wallerstein 1980:239-241). The increased wealth derived from the triangular trade did not benefit all inhabitants of the colonies equally. In fact, the increased involvement of colonial merchants in commerce ushered in a period of fundamental structural change in colonial life, most obvious in urban areas. As Nash has observed, the "most generally recognized alteration in eighteenth-century urban social structures is the long-range trend toward a less even distribution of wealth" (1976:7). He further notes that "while urban growth produced a genuinely wealthy upper class, it simultaneously created a large class of impoverished city dwellers" (1976:8). Perhaps of greater importance was the fact that, in the small colonial city, such a disparity between rich and poor was obvious to all (Nash 1976:8).

Unfortunately, Wallerstein has not yet explicity discussed the processes involved in America's rise to first a core and then to a hegemonic power. However, it is possible to make inferences from his work to provide an explanatory framework for discussing changes in the United States from the late eighteenth through the late nineteenth centuries.

After the American economy recovered from the Revolution, the merchant elite continued to concentrate on their roles as shipbuilders and commercial middlemen. In the 1790s, New York became the leading port in America (Albion 1970). The American Revolution freed American merchants from the restraints of British economic policy and set the stage for the introduction of industrial production on a large scale. But substantial industrial development did not immediately occur because conditions in the new republic were not conducive to such development. Perhaps the two most significant inhibiting factors were the disinclination on the part of European and American investors to finance American industrial development and Britain's productive efficiency, which enabled the British to sell manufactured goods at a price that could not be matched by domestic manufactures (Cochran and Miller 1961:8, 10).

It was only with the threat of war with France and/or England, which led to the passage of the non-importation laws in America in 1806, and with the resulting possibility of shortages of manufactured goods, that policies were adopted to encourage the growth of domestic manufacturing (Cochran and Miller 1961:11). During this period and the subsequent War of 1812, small domestic industries were called upon to supply the products which previously had come from overseas.

Although some of these factories failed after the war, improvements in transportation and dramatic population growth (the American population doubled between 1820 and 1840) broadened the market, and the growing population also increased the supply of factory labor (Cochran and Miller 1961:13). In addition, new protective tariffs were adopted which stimulated the growth of American production (Cochran and Miller 1961:16-17).

The development of the business corporation as a revolutionary agent of change has been called "the greatest single discovery of modern times without which even steam and electricity would be reduced to comparative impotence" (Murray, quoted in Cochran 1972:76). The corporation was gradually developed in America between 1783 and 1850, and "the ability to create by charter an abstract, indestructible, immortal, and to some degree irresponsible entity that could gather the savings of a community or nation and pour them into immense works did, in truth, alter the character of the business system more than any other change of this period" (Cochran 1976:76).

"For half a century before 1860, American industrialists had been altering the course of American history. Their corporations had affected property relations, their machines had revolutionized conditions of labor, their locomotives and telegraphs had speeded the pace of American life, their railroads had begun to draw outlying rural areas into the orbits of great cities" (Cochran and Miller 1961:12). By the end of the first half of the nineteenth century, then, America had been transformed into a core area.

The economic, social, and technological changes of the pre-1860 period, however dramatic, were just a prelude to the profound reorganization of American society that followed. By 1870, developments in the United States were beginning to have a significant impact on the structure of the world economy. The role played by America was "to break, by virtue of its massive development, the industrial monopoly of western Europe and in particular of Britain, and to shatter, by virtue of its agrarian exports, the bases of large and small landed property in Europe" (Hobsbawn 1975:157).

This period witnesses the emergence of a new form of capitalism in the United States, variously referred to as "finance capitalism" (Cochran and Miller 1961) and "monopoly capitalism" (Baran and Sweezy 1966). The most striking trait of this form of capitalism was the large size of the corporate entities. The advantages, and indeed the necessity, of large capital backing first emerged in the railroad and industrial trusts in the late nineteenth and early twentieth centuries. This trend rapidly spread to other industries as the competitive edge conferred by economies of scale became apparent. In order to succeed, particularly in many of the technologically-based industries such as electric and gasoline-based appliances, economies of scale inherent in large, vertically integrated corporations were a necessity. The capital needed to finance this new development came from many sources. Both foreign and domestic capital were drawn to these new enterprises.

The wave of consolidation and merger that swept the United States during this period resulted in a greatly changed American economy. The six years between 1898 and 1904 represented a watershed in economic development. By the latter date, there were at least 318 industrial combinations, and 41 of these had an aggregate capital of 30 million dollars or more (Cochran and Miller 1961: 190-191). The price paid by these new corporations for the capital to finance such ambitious expansion was the loss of control, in that the finance bankers (such as the Morgans, Kuhns, Loebs, and Peabodys), who arranged the financing of these new companies, acquired control of the board of directors for these newly created combines. The result was that ". . . a small clique acquired a voice in every one of the great 'trusts' that came increasingly to dominate the everyday life of the nation. And since this voice was always that of the supplier of new funds, it soon came to be recognized as the dominating voice without the assent of which no important alterations of policy were ever undertaken" (Cochran and Miller 1961:192).

The late nineteenth century was the period when the role of Great Britain was changing from that of a hegemonic power to a core area, and the United States was emerging as a competitor for hegemonic status, which was achieved only in the mid-twentieth century (Wallerstein 1980:281, Hopkins and Wallerstein 1977:130). By the end of the nineteenth century, the United States led the world in the manufacture of timber and steel, the refinement of crude ore, the packing of meat, and mining of gold, silver, coal, and iron. "America had more telephones, more incandescent lighting and electric traction, more miles of telegraph wires than any other nation. In specialities like hardware, machine tools, arms, and ammunition, she retained the leadership assumed before the Civil War, while her pianos as well as her locomotives had become the best in the world" (Cochran and Miller 1961:136).

The data from the excavations on the Telco Block provided documentation for the growth of New York from a peripheral to a core area, beginning to compete for hegemonic status. Below, these data are applied to the three questions outlined in the Introduction. The first question covers the changing social context of the landfill from the late seventeenth through the late eighteenth century, the period of the rise of the northern colonies in America to semi-peripheral status. This period was marked by the development of New York as a commercial city with an economy dominated by a merchant elite, active as shipbuilders and commercial middlemen. The next question discusses the transformation of the household from a unit oriented toward production to one oriented toward consumption, marked by the separation of places of work from places of residence in the late eighteenth and early nineteenth centuries. This is the period of the emergence of the United States as a core area. The third question deals with the social context of workers in the workplace, particularly in the late nineteenth century, the period that was the beginning both of England's decline as a hegemonic power and the emergence of the United States as a competitor for hegemonic status, which it achieved after World War II.

B. Topic 1. Landfilling and the Rise of the Commercial City

> ". . . I cannot conceive that the Petitioners Right to a part of what is now beyond Low Water Mark should entitle them to anything not included in their just Bounds at a lower Rate than others are willing to give . . . and why the Publick should not have the Advantage of the Rise of Lands, as well as private Persons, I cannot conceive". (Editor, Independent Reflector. March 1, 1753)

Archaeologists working in landfill areas of Lower Manhattan have produced a wealth of documentation and a series of site specific historic background studies (Brouwer 1980, Harris 1980, Henn et al. n.d., Huey 1969, Kardas and Larrabee 1979, Pickman and Rothschild 1981). These studies provide a valuable data base on which to build. Although attempts have been made at interpretation, these have fallen short of actually describing the underlying social dynamics involved in the process which created more than half of lower Manhattan's ground surface. What is needed at this point is a more concise delineation of the political, social, and economic forces operative in the period when the above sites were filled. Having accomplished this, we can begin to frame research questions relevant both to sites which have already been excavated as well as to those which will be excavated in the future.

A central premise of Hopkins and Wallerstein's world system perspective is that:

> The arena within which social action takes place and social change occurs is not "society" in the abstract, but a definite "world", a spatial temporal whole . . . (1977:112)

Such an approach is appealing because it suggests a means of moving beyond traditional cultural theory, which in the case of landfill studies, has proven too limiting. A more specific application of this methodology is provided by historian Betsy Blackmarr in her study of Manhattan social geography. She states that:

> Interpretations of geography and built form that view space as being merely emblematic of social organization project a static conception of space, class, and the relation between the two. By approaching space from the outside and by reading surface patterns schematically for social content, we fail to understand how social relations actively shape and transform the organization of space . . .. By examining the distribution and management of land, the transformation of production, the formation of urban real estate and housing markets, and the reorganization of the building industry, we can consider how and why Manhattan residents changed their spatial patterns of living and working and how these changes revealed changing social relations among households (1979:132).

Incorporating these ideas into our own work on the Telco Block has led us to assess the excavated resources on two levels. Having documented the wharves and the landfill in which they were embedded, we have then approached them as if they (the wharves and the landfill) were discrete units, that is, mega-artifacts. This has not precluded more traditional lines of research, such as isolating fill episodes, tracing fill sources, or comparing details of wharf construction. All of these have been undertaken with various degrees of success, both in this report and in others. However, we felt it was equally important to develop a fairly comprehensive historic and social framework within which to place our study.

Blackmar has called attention to the problems arising when historians invoke simply "society" or "culture" in their explanations of built form and spatial patterning. The constituent groups within a given culture and the conflicting political and economic forces which may have shaped these observed forms or patterns are then ignored. New York City's waterfront was, for most of its history, a stage upon which competing economic groups played out their interests. The physical creation of the waterfront, that is, the construction of the wharves and the making of landfill areas, emerges at the outset as part of this continuum of conflict. Numerous slaves were among the original seventeenth-century workforce (Stokes IV:366). Most of eighteenth century New York's fortunes were made and lost at the East River wharves and warehouses. By the early nineteenth century the city's longshoremen had recognized the potential impact of collective action and in 1825 they struck (Albion 1970:225).

Control of, or access to, the East River was contingent upon the receipt of increasingly valuable property in the form of water lot grants. A number of historians, including Peterson and Edwards (1917:349-352), Bridenbaugh (1955: 39), and Blackmar (1979:133), have commented on the seemingly corrupt manner in which these water lots were distributed. Peterson and Edwards observe that:

> After the Revolutionary period the municipality awoke only to find that much of its riparian land had been deeded away to private persons. These transfers were not only shortsighted, but at times even scandalous, for individual magistrates were often questionably involved in the transactions. The "Minutes of the Common Council" themselves are evidence of the fact that no member of this body ever petitioned for a waterlot in vain. The same cannot be said of similar requests from citizens in general. Though it is true that a number of grants were made to officers of the provincial government and other prominent citizens, petitions were often quietly pigeonholed or summarily rejected. This palpable discrimination in awarding municipal lands provoked considerable criticism at the time (1917:350-351).

Petersen and Edwards (1917:351) refer to a series of letters written in 1753 and printed in New York's Independent Reflector. The letters and the editor's responses suggest that the pattern of granting water lots was seen as having become increasingly corrupt through time. G. A. Black's 1891 study "Municipal Ownership of Land" and such primary sources as the texts of the water lot grants suggest that the distribution of water lots up to the American Revolution fall into two distinct phases corresponding to two successive provincial charters. We have also attempted to correlate these phases with stages of urban development proposed by economist David Gordon (1978) and historian Gary Nash (1979).

The landfilling process observed in Lower Manhattan occurred in the context of broader changes affecting New York City and other American urban areas. Our study of landfilling in seventeenth- and eighteenth-century New York from the perspective of a single city block suggests that changes through time in landfill procedure may be linked to the trend of commodification of land, which, according to Wallerstein (1977:124-125), characterizes the developing capitalist world economy.

David Gordon has stated that:

> . . . the transitions between stages of urban development have been predominantly influenced by problems of "class control in production", problems erupting at the very center of the accumulation process (1978:28).

He presents a series of urban forms, "The Commercial City", "The Industrial City", and "The Corporate City", each characterized by different modes of capital accumulation, and therefore representative of distinct stages of urban development. New York City in the eighteenth and early nineteenth century clearly embodies Gordon's "Commercial City", the first of the three types presented above. This model therefore leads us to assume that the "residual pre-capitalist social relations" characteristic of the "Commercial City" originate in an urban form which for some reason has been omitted from the sequence or alternatively was only an Old World phenomenon.

However, a number of historians have observed that seventeenth century American cities were both quantitatively and qualitatively different from their mid-eighteenth century counterparts. Nash (1979:3, 4, 54) notes that before 1690 the American towns of Boston, Philadelphia, and New York were little more than overgrown villages. By 1740 they had become commercial centers, similar in scale to the British provincial ports of Hull, Bristol, and Glasgow. Such changes in scale and function are suggestive of a growing transformation in the dynamics of capital accumulation, and this, in turn, reflects the shifting position of colonial America in the expanding world economy. Our research suggests that, in many respects, seventeenth century New York represents an earlier urban form predating Gordon's "Commercial City". We would assign Dutch New Amsterdam and New York prior to the 1731 Montgomerie Charter to this older social order. The city's first water lots (situated between high and low water marks) were distributed during this period. Hanover Square (Pickman, Rockman, and Rothschild 1981), 64 Pearl Street (Pickman and Rothschild 1981), and the unexcavated block immediately west of the Telco Block (Figure 1.1) would thus be included in the earlier group. The following is a brief description of this period of New York City's history.

In 1674, ten years after the English conquest, New York's population was 3500. In 1690 its population was 4500 (Nash 1979:4). Thus growth was relatively slow compared to eighteenth century trends (Nash 1979:409). Historians have noted the significance of the "reduced scale of life" and of "face to face" relations in the early city (Blackmar 1979, Gordon 1978, Nash 1979, Peterson and Edwards 1917). Density (and probably residential stability) was such that in 1674 prospective purchasers of property within the walled city were unable to locate a single available lot (Peterson and Edwards 1917:80).

Strangers in seventeenth century New York were to be reported to the proper authorities. Tavern keepers who housed strangers for over two days were responsible for contacting the ward constable and informing him of:

> . . . the Name Surname Dwelling place, Profession and Trade of Life and Place of Service of all Such Person or Persons, and for what Cause he or they came to Reside there (Peterson and Edwards 1917:182).

An official city poorhouse was not built until 1736. A temporary structure was in use starting in 1714 but the majority of the city's dependent poor resided in private homes. Each ward oversaw the poor within their own boundaries and extracted funds from the city treasury without reporting to the mayor. When sufficient funds were unavailable, a collection was made in each ward. Assistance often took the form of specific commodities rather than flat sums of money. By the end of the century, alternative methods ("Overseers of ye Poor" appointed in each ward, church assistance, etc.) had been applied with limited success. Finally, in 1714, the Common Council considered the possibility of a poor house (Peterson and Edwards 1917:182-189).

Trade was tightly regulated, the price of meat and bread being fixed by the city. Until 1691 the city had only two markets. Meat was sold at only one of these and only at specified times (Peterson and Edwards 1917:56-61).

Nash, commenting on traditional organization of economic life in seventeenth century seaport towns, observes that:

> Unrestrained competition, with artisan or merchant playing for advantage to the limit of his ability, was an alien notion. It was thought of as a prescription for chaos and corruption rather than for material blessings and harmonious social relations. Commercial transactions were more than mere exchanges of goods or money; they composed 'part of a network of human intercourse that held society together'. Traditional ties of social responsibility between master and servant, parent and child, buyer and seller, and ultimately, the people and their government, could be maintained only when economic life was pervaded by a sense of what was equitable, not simply what was profitable (1979:32).

It was in the context of the pre-"Commercial City" that water lots were first sold. Their sale represented both the creation of additional living space for the inhabitants of the overcrowded city and, more importantly, a relatively easy means of acquiring revenue for the seventeenth century municipality. From the outset the subdivision and sale of unfilled waterfront parcels can be correlated with specific revenue-raising efforts. It is of interest to note that the cost of the 1686 Dongan Charter, which conferred the right to make land within set limits to the city, was ultimately met through the sale of water lots (Black 1891:18-19, Peterson and Edwards 1917: 80-83).

Manhattan water lots lying between high water mark (Pearl Street) and low water mark (Water Street) were sold off at prices ranging from nine pence to over one pound per front foot. In 1686 fourteen lots fronting Dock Street between Moore Street and Coenties Slip were sold at slightly more than one pound per front foot, and this sale gave the city 470 pounds. In the following year eleven water lots between Coenties Slip and Old Slip were sold for close to fifteen shillings a front foot, bringing the municipality 294 pounds. Footage remaining from the Moore Street to Coenties Slip water lots was sold in 1691, bringing 397 pounds. A sum of 594 pounds was obtained in 1692 from the sale of lots between Wall Street and Beekman Slip. This sale included the water lots on the block immediately inland from the Telco Block, which sold for fifteen shillings per front foot. The Wall Street to Maiden Lane lots were sold for twenty-five shillings per front foot and the Maiden Lane group for 18 shillings per front foot. Two hundred feet of water lots were sold in 1694 between Old Slip and Wall Street for thirty shillings a front foot. Footage remaining from the Coenties Slip to Old Slip lots was sold in 1697 at nine pence a square foot. Twenty-five lots were sold in 1701 between Beekman Slip and "the ground of Richard Sacket" for 550 pounds, and an additional series comprising 560 ft of frontage brought 90 pounds. Except for 550 feet of Hudson River frontage, the only sale between 1701 and 1732 occurred in 1719, when a 230 ft series between Beekman Slip and Peck Slip was sold to the upland owners, thus giving the city 112 pounds (Black 1891: 19-26).

The sale of water lots, other public lands, and sources of revenue such as the Long Island ferry seem to have kept the municipal debt in check. Black (1891:25-26) notes that between 1720 and 1730 the average annual expenditure was 335 pounds, with an average surplus of over 100 pounds. Local taxation was limited to the poor tax, and only in 1717 were additional taxes necessary. Seventeenth century projects occasioning outlays of municipal capital included the construction of the Broad Street Market House, the Peck Slip ferry house, a battery on the southern tip of the island, a new city hall, a new Brooklyn ferry house and a new powder house. Additional costs had been incurred in 1694 during preparations for a possible French attack (Black 1891:19-28, Peterson and Edwards 1917:39).

In 1732 the last seven low-to-high-water-mark water lots were mortgaged in order to pay the cost of the 1731 *Montgomerie Charter*. These lots occupying the former site of the Old Dock, were considered the city's most valuable. Their sale, to a group of the city's leading merchants, brought 1,344 pounds. The new charter gave the city rights to an additional 400 ft beyond the Dongan Charter water lot limits. Thus, an entirely new source of revenue was now available. However, after 1734 a system of annual rents rather than outright sale was established (Black 1891:24). The potential implications of such methods for parceling out the city's waterfront did not go unnoticed. A letter appearing in a February 1753 edition of the Independent Reflector states that abuses in the awarding of water lots had become ". . . a common Coffee House Topic and the subject of almost every Conversation." This perceived inequity in the pattern of granting water lots is an index not only of the increased value of waterfront property but also reflects the gradual transformation of social relations accompanying New York's transition from an earlier urban form to a phase approximating Gordon's "Commercial City". The following is a description of the city during the time of the Telco Block's filling.

New York's volume of trade, relatively constant until the end of the seventeenth century, doubled between 1691 and 1715 (Bonomi 1971:81). This of course reflects the rise of the "triangular trade" which Albion (1970:2-5) traces to 1690, when Governor Andros granted the city a monopoly over the bolting (sifting) of flour. Privateering, smuggling, and wartime shipping also contributed to the growth of the new economy. In 1678 it was reported that there were only three ships, eight sloops, and seven boats in the entire city (Albion 1970:3). The growth in the trading activity was such that, between 1715 and 1718, an annual total of 112 New York vessels left for the West Indies, 71 plied the coast, 21 sailed to Great Britain, and 11 sailed to Europe (Albion 1970:5).

Bonomi (1971:60-68) has shown how this shift from the earlier fur trade to the more varied and lucrative West Indian trade greatly benefited such mercantile families as the Philips, the Van Cortlandts, and the Schuylers. Concomitant with increased wealth, we see a shift in perceptions as to the role of the municipality and government in general. Bonomi observes:

> As New York commerce entered this new phase, it began to produce a class of wealthy and increasingly influential merchants who expected to have a stronger voice in the running of the colony (1971:81).

The sanctions and restrictions associated with a regulated economic life and hierarchical social structure were acceptable as long as a shared social and political ideology prevailed, and as Nash and others have noted, these values were increasingly threatened. The 1689 Leisler Rebellion and its associated class and ethnic tensions is one of the earliest outbursts in New York's volatile political history. Nash (1979:93, 140-148), however, contends that up until the 1730s New York factionalism had failed to develop into a truly class-based political conflict. The unrest of the 1730s did not, as in earlier periods, culminate in the election to public office of wealthy merchants

representing the city's artisans and laboring classes. Instead, in 1734, the eight merchants and one lawyer who sat on the ten-member Common Council were replaced by artisans themselves: a painter, three bakers, a bricklayer, a bolter, and a laborer. In 1733 and 1734, 28 out of the 75 men elected to municipal office were not even freemen (Nash 1979:144).

As New York's mercantile families gained both political power and wealth, the ideology of the older social order had grown increasingly anachronistic. Central to seventeenth century political philosophy was the belief that:

> . . . those who held civil power ought to promote no special interests but be zealous for the commonweal; and that partisan politics, where "factions" and "parties" competed for power, were to be avoided . . . (Nash 1979:33).

Joseph Ernst (1976:170) contends that, in colonial America, actions motivated by self-interest were still highly suspect. Nonetheless, by the end of the seventeenth century the bottom 30 percent of the taxable population held less than five percent of the wealth (Nash 1979:71). Whatever the dominant ideology, there existed among the less prosperous a growing awareness that not everyone was playing by the same rules. Nash states that:

> To New York's artisans and unskilled laborers it has been obvious at least since Leisler's time that there was no organic unity, no consensus, no determination among those in high places to work for the common good (1979:148).

The activities of the city's merchants, the events of the 1689 Leisler's Rebellion, and the documented differences between rich and poor suggest that by the beginning of the eighteenth century these beliefs had only the slightest basis in social reality. The political power of the artisans, gained in the 1734 elections, had lapsed by mid-century. However, remaining in its place was the legitimization of political action in the name of self-interest (Nash 1979:147).

By the time of the granting of the 1731 Montgomerie Charter, New York's earlier social order had developed into a form more closely resembling Gordon's "Commercial City." Social changes occurring in the wake of the new charter altered many features of seventeenth century urban life. By 1728, the settled section of the city covered more than twice the area of the original walled city. Its population had grown from 3500 in 1674 to 8280 in 1730 (Nash 1979:4,407). These factors plus the city's status as a seaport would tend to make obsolete those seventeenth century regulations controlling the movements of strangers. Indeed we would expect to see changes in attitude toward social control in general. In 1736 the construction of a two- story brick almshouse officially transformed the earlier system of caring for the poor and homeless (Peterson and Edwards 1917:298).

Additional markets had been opened but prices continued to be tightly controlled (Peterson and Edwards 1917:73-84); although bitterly opposed by butchers and bakers, the survival of these regulations may simply reflect this class's inability to obtain commercial protection comparable to that enjoyed by the merchant elite. One striking change in the market system was the introduction of a new leasing method. Previously no one individual was allowed to rent more than two stalls. After 1741 the Common Council leased all its market properties to the individual bidding the highest at public auction. This individual could then sublet to others (Peterson and Edwards 1917:77).

Nash (1976:7), quoted in the general introduction to this section, notes the eighteenth century trend towards "a less even distribution of wealth". This ultimately emerges as one of the the most striking features of life within the "Commercial City". With this we also observe a shift in the role of the municipality. The merchants of the "Commercial City" relied upon the city for "political favors and franchises to strengthen their privileged intermediate positions in the marketplace" (Gordon 1978:29). The founding of the Chamber of Commerce in 1768 reflects the merchant's ability to organize and control effectively, when necessary, the actions of the city government. Their stated purpose was:

> Adjusting disputes relative to trade and navigation and procuring such laws and regulations as may be found necessary for the benefit of trade in general (quoted in Peterson and Edwards 1917:29).

The "Commercial City" was ultimately a seaport (Gordon 1978:33). Thus we look to the eighteenth century waterfront for evidence of this new phase of urban development.

Between the 1686 Dongan Charter and the 1731 Montgomerie Charter, control of the city's waterfront had assumed an increasingly urgent aspect. Continued access to the East River by the original Dongan Charter water lot grant recipients was contingent upon their ability to obtain new Montgomerie Charter water lots. The merchants and shipbuilders who controlled the circa 1730 waterfront immediately west of the as yet unfilled Telco Block were active participants in a flourishing economy which had barely existed when they received these unfilled Dongan Charter water lots in 1692. The great expansion in trade and shipping associated with the early eighteenth century rise of the triangular trade not only created "a new class of merchants" (Bonomi 1971:81) but also altered the conduct and scale of mercantile activity. The late seventeenth century commercial activities of New York's four leading merchant families, the Philipses, the Van Cortlandts, the Delanceys and the Schuylers, were dominated by trade in hides, tobacco, and the importation of British-made goods. Bonomi's (1971:60-65) research shows that an overall increase in both the volume of trade and the variety of imported and exported goods occurred as the triangular trade evolved.

In her discussion of the Philips family, Bonomi observes:

> From about 1712 on, trade with the West Indies and the Madeira Islands began to dominate, as great quantities of rum and wine were imported. By the 1720s the exportation of foodstuffs and wood products definitely overshadowed hides, and the West Indies and reshipping trade appear to have taken up by far the largest part of Philips' interest.

Available data on the Telco Block's landfill period (1732/35-1776), occupants, and water lot grant recipients suggest that continued access to the waterfront was essential to their expanding commercial activities. Egbert Van Borsam (Water Lot Grant 1) and Joseph Latham (Parcels B and C) were both shipbuilders. THe Remsens (who later owned Water Lot Grant 1) were "importers" and owners of sawmills and woodlands in New Jersey (Scoville 1885 V:67, 70). Evert Byvanck (Water Lot Grant 2) is described by Stokes (Vol. V: entry Sept. 12, 1776) as "a prominent New York Merchant." He was involved in the sale of New Jersey iron (Harrington 1935:151). Stephen Van Cortlandt (Water Lot Grant 5), a member of the powerful Van Cortlandt family, was a City Council alderman in 1750, the year in which he obtained his water lot from the Council. His family combined sugar refining with their West Indian trade activities (Harrington 1935:147, 149). In 1745 he made good use of his government connections and received a special warrant to carry French prisoners to the "French Islands." James Livingston, Brandt Schuyler, and William Bayard also obtained warrants at the time (Stokes V: entry June 14, 1745). These warrants enabled New York merchants to carry out the enormously profitable illegal trade which developed during the Anglo-French Wars (Nash 1979:176). William Ricketts Van Cortlandt, Stephen's son, "kept his counting room on Beekman Slip" and was involved in the indigo trade. It is also reported that he "lost so tremendously in the Revolutionary War that it affected his mind" (Scoville 1885 III:30). The Schermerhorns (who later owned parts of Water Lot 5) had established a packet service between New York and Charleston as early as 1728 which presumably operated from the Schermerhorn Wharf situated opposite the Telco Block on the other side of Beekman Slip (Stokes, Landmark Reference Key:991). Harrington observes that the packet service along with the Schermerhorn family warehouses and ship chandlery constituted "a sort of vertical integration of trade" (1935:65).

Gordon (1978:32) maintains that the merchant capitalists of the "Commercial City" were not intervening directly in production and therefore "commercial accumulation was not yet directly affecting the social relations of production." However, shipbuilding, an early and very successful American industry, can be interpreted as an early and somewhat unique example of such intervention (see introduction to this section). In Philadelphia the effect of this upon the "social relations of production is clearly seen in the founding of a ship carpenter's union as early as the mid-eighteenth century" (Nash 1979:324).

Given the nature of New York's seaport economy we can also interpret such activities as landfilling, wharf building, and warehouse construction as the creation of the means of production by the merchant elite. In Gordon's model of urban development, the social relations of production within the "Commercial City" remain essentially "precapitalist" or unchanged. We have seen that this is inaccurate. Speculative leasing of market stalls, institutionalization of the poor, and growing corruption in the granting of water lots all suggest that the transition from the earlier urban form to Gordon's "Commercial City", had also affected existing social relations.

The seventeenth century Dongan Charter water lot grants had proven to be an effective method for raising revenue for the municipality. Throughout this period until about 1750, the city's budget was balanced and in some years a surplus was reported (Black 1891:25-19). However, population growth concomitant with increased spending (expenses for the poor following the 1744-48 war, construction of watchhouses, an almshouse, and a new corporation pier) created the city's first major deficit. Borrowing the needed funds created a situation in which, by the 1770s, the city sustained a debt approaching 13,000 pounds at 5 to 6 percent (Black 1891:30).

Peterson and Edwards (1917:396) cited five revenue sources available to the municipality. These include taxation, loans, public lotteries, paper money and the distribution of both franchises and improved properties of the corporation. The granting of water lots falls into this latter category which was reportedly the most reliable of the above sources. Whereas the Dongan Charter water lots had been sold outright, the Montgomerie Charter water lots (after 1734) were distributed by a system of annual rents set at the time the individual grant was conferred. In light of the desirability of water lot grants, the increase in value of waterfront property, the dependence of the "Commercial City's" merchant elite upon waterfront access, and the merchants' increased profits, it is interesting to note that so little effort was made by the municipality to secure a maximum return from this property.

The figures assembled by Peterson and Edwards (1917:397) show a gradual increase in revenue generated from water lot rents. An annual return of 33 pounds in 1733 had grown to 460 pounds in 1770, by which time the city had accumulated an unmanageable debt. This increased revenue apparently reflects the distribution of additional water lots rather than an incremental increase in rental fees, which was certainly warranted given both the increased debt as well as the growing value of waterfront property. Terms set for Water Lot Grant 1 in 1737 included an annual rent of one shilling and six pence a front foot. However 20 years later in 1751, during the boom economy of the Anglo-French Wars, lots on the block immediately north of the Telco Block were distributed at the same rate (MCC IV:377-379; MCC V:324).

We have quoted above from a 1753 letter to the editor of the Independent Reflector which suggests that many eighteenth century New Yorkers objected to the seemingly corrupt manner in which public lands were being distributed. The letter specifically objected to the terms of a series of 1752 water lot grants in which the grantees received parcels without cost for twenty years after which they would commence paying nine pence per annum. The writer complained that:

> . . . the Petitioners in Question do not even propose to give any consideration at all for the lots from High to Low Water Marks; the Nine Pence a foot being only for the two hundred feet below Low Water; nor that, til twenty years hence; whereas none who have purchased from Low Water Mark, into the East River, pay less than eighteen pence, and some even one shilling and Nine Pence, a foot, to wit, from Cruger's to Coenties Corner. (Independent Reflector; February, 1753)

He continues, pausing only to observe that the petitioners in question were relatives of Common Council members, and states that the petitioners should have paid 6000 pounds because:

> . . . the Lots from High to Low Water Mark, will sell at public Vendue, at least for one thousand pounds, ready money, tho' many are of Opinion, for some hundreds more.

He compares the 1752 example to the 1732 public action in which a group of merchants purchased the last of the Dongan Charter high to low water mark lots (see above).

> These gentlemen it seems were not Adepts in the Art of cajoling Corporations out of their Lands, without a consideration. Nor did they expect or desire to possess them Twenty Years for Nothing, and then to pay only an annual Quit-rent of Nine Pence a foot, Nay, they were so totally ignorant of the modern refinement of claiming without title, and buying without paying, as chearfully to become the highest bidders at Vendue, and actually pay off their seven lots, Fourteen Hundred Pounds . . .

In closing he mentions the municipal debt, which as we have seen was negligible at that point, compared to later years.

> . . . I can urge a good reason for the Corporation's selling them at Vendue, to wit, the large sums they owe, necessarily occasioned by building that superb structure at the Ferry, the Pier at Coentie's Dock, the new Exchange etc.

A month later the Independent Reflector's editor printed his reply:

> . . . I cannot conceive that the Petitioners Right to a part of what is now beyond Low Water Mark should entitle them to anything not included in their just Bounds at a Lower Rate than others are willing to give . . . and why the Publick shoud not have the Advantage of the Rise of Lands as well as private Persons, I cannot conceive: (Independent Reflector March, 1753).

In his comments we see traces of the older pre-market economy ideology. That the municipality existed to serve the common good was clearly an assumption no longer shared by many of the city's inhabitants. Gordon (1978:29) accurately observes that the "Commercial City's" merchants depended upon political favors and franchises in order to consolidate their positions in the market place. Stephen Van Cortlandt, apparently no stranger to the art of political patronage, secured his sizable Telco Block water lot while he was a city alderman. Indeed, the politics of landfilling (which as G. A. Black has noted constituted one of the city's primary revenue sources), must have been a central focus of the emergent "Commercial City." With the eighteenth century granting of water lots we witness the transformation of the municipality into a mechanism for the distribution of commercial privileges.

Self-interest as a motivating principle was not restricted to the merchant elite. As early as 1734, factionalism had coalesced along class lines (see above). Although the letter writer and his colleagues at the coffee-house may well have been disgruntled merchants, the vehicle for his complaints, New York's Independent Reflector, has been described by Gary Nash as:

> . . . the first American magazine created for political exposé rather than amusement, [it] brought vituperative politics to a new height (1979:202).

Again self-interest has emerged at a number of levels. Many aspects of the emergent "Commercial City" thus suggest the transformation of social relations, and we see this quite clearly in the controversy surrounding the eighteenth century water lot grants.

Historians interested in New York's merchant class have often commented on the fragmentary nature of the city's documentary record. Harrington concludes:

> In no series of letter books nor in any complete set of financial books is the historian able to trace the career of even one merchant (1935:47).

Our research at the Telco Block suggests that a more productive approach might entail studying the physical remains of the seventeenth and eighteenth century merchant class's activities (such as the wharves, the configuration of specific areas of made land and other structural and artifactual remnants of this way of life) in conjunction with available documentary material. Many of the city's landfill sites represent the physical creation of the

waterfront by the merchant elite, and the excavation of these sites provides a means of charting "on the ground" those processes which are incompletely described in the records.

In conclusion we present several suggestions for future research based upon ideas included in this report. It would be interesting to develop a comparable theoretical framework encompassing late eighteenth and nineteenth century and Hudson River landmaking activities and to reappraise previously excavated seventeenth and eighteenth century landfill sites in terms of two distinct phases presented here. At this point it would be especially productive to correlate proposed and documented landfill episodes with the financial and political carrers of water lot grantees as well as with more general economic trends. A temporally comparative study of wharf ownership, construction technology, the rate at which parcels were actually filled, and relative capital investment would enable us to trace further the many aspects of New York's transition from an earlier urban form to Gordon's eighteenth century "Commercial City" and the growth of New York as a semiperipheral area.

The landfilling process, like all social action, occurred in the context of distinct social, political, and economic forces, and these have been described in the preceding pages. Far from being incidental phenomena, we have seen that alterations observed through time in the patterns of awarding and filling water lot grants can be grouped with a series of structural shifts symptomatic of the new social order.

The analysis of the occupational remains of the Telco Block resulted in the retrieval of a great deal of information about life on the block in the late eighteenth and nineteenth centuries. In the next section, the data from both the preceding section on the landfill and this section on the block's occupation will be used in addressing the research questions outlined in the Introduction.

C. Topic 2: Material Correlates of the Workplace and Residence in the Early Nineteenth Century

Wallerstein's perspective of the modern world system and his identification of the secular trend of the commercialization of land was useful in placing the process of the landfilling of the Telco Block in the eighteenth century in its social context. This trend is part of a larger process of commodification, primarily affecting land and labor, which facilitated the shift of the United States from a semiperipheral to a core area.

These larger processes are reflected in the history of New York City in the late eighteenth and early nineteenth centuries. New York during this period has been characterized as a commercial city (Gordon 1978) undergoing tremendous demographic and economic growth. The population of the city almost quadrupled in a 30 year period, from 33,000 in 1790 to 123,000 in 1820 (Rock 1979:238) and had more than doubled again by 1840 to 312,710 (Pred 1966:146). Trade underwent a dramatic increase; the value of New York City's exports alone grew from $2.5 million in 1792 to $34 million in 1840 (Albion 1970:8, 390). This growth was compounded by a resulting increase in the value of land, which appreciated 750% in value between 1785 and 1815 (Blackmar 1979: 137).

The expanding economy of this period both affected and reflected changes in the techniques of production, controlled by artisans, and marketing, controlled by merchants, which in turn led to changing social relations in the workplace. These changes were related to a change in social structure in late eighteenth and early nineteenth century New York City.

It has been stressed that one of the fundamental changes between the colonial period and the late nineteenth century was the transformation of the corporate economic unit of the family from a unit oriented toward production to a unit oriented toward consumption. This is exemplified by the separation of places of work from places of residence, a change which is of central historical importance (Ryan 1981:231). During the colonial period, the productive unit in both urban and rural areas has been depicted as consisting of a "small workshop on the ground floor of the family home, in which apprentices and journeymen, if any, were boarded and lodged" (Cochran 1972:19). Indentured servants, slaves, and children as well were integral parts of this unit (Nash 1979:5). Even among the merchants in New York City, "there was no loss of social consideration in living over one's store" (Harrington 1935:22).

By the late nineteenth century, this structural form had changed. Working-class residential neighborhoods with tenement housing had emerged, isolated from the middle and upper class residential areas. The members of the middle and upper classes had moved their homes away from the commercial center of the city to the suburbs (Gordon 1978:43).

This transformation of the household from a corporate unit of production to a unit of consumption and its correlate of the separation of places of work from places of residence has been studied in the context of the shift from agrarian economies to industrial capitalism in nineteenth century Lynn, Massachusetts, and Oneida County, New York (Dawley 1976, Ryan 1981). This shift in the role of the household was an important factor in the reorganization of social reproduction in nineteenth century life (Ryan 1981:235). The family was no longer the center of the social order, and the household lost its position as the primary link between the economy and society (Ryan 1981:233, Dawley 1976:35-36). This had significant ramifications in changing the structure and texture of family life.

After the labor of family members was divided into wages for individuals, these individuals, as opposed to household heads, had independent access to the market (Ryan 1981:231). The family no longer represented a microcosm of society for the socialization of children; it became a "launching pad into the world" (Ryan 1981:232). Schools took over much of the role of the household and, where formerly children had been workers and an integral part of household production, they became an expense (Ryan 1981:196).

The separation of places of work from places of residence is also thought to be reflected in the redefinition of "public" and "private", with the family redefined in the cult of domesticity as an idealized "refuge in the private home", as opposed to the public sphere (Ryan 1981:234, Sennett 1978:20).

Ryan found that these changes took place first among the leading merchants in Oneida County between 1810 and 1820 and were only felt among the middle and lower classes later in the century (1981:239). In Lynn, Dawley found that the artisans retained their position in their households until the later period (1976:224). In both of these communities the complex processes which resulted in these changes began in the late eighteenth and early nineteenth centuries and were closely associated with the growth of the modern world economy.

The dynamics of this transformation in larger urban areas have yet to be studied. Some have assumed that it is correlated with the growth of industrialization in the later nineteenth century (see Gordon 1978:35). Pred has indicated that it began slightly earlier, estimating from a study of the New York City directories that by 1840, 23% of New York's industrial workers worked outside their homes (1966:209-211). Blackmar, however, has stated that master craftsmen in New York had moved away from their shops by the end of the eighteenth century (1979:136).

The variations in these interpretations suggest that this transformation in New York City was a long and complex process, and that the members of different occupational groups in different parts of the city may have moved their residences away from their workplaces at different times and for different reasons, in accordance with their opportunities to manipulate their environment.

This transformation may be seen as related to the growth of the modern world system, with its trends toward the commodification of land and labor. The changes in the social context of one group, the artisans in the early nineteenth century, which has been studied by Rock (1979), provide an example of the complexities of this process. Artisans working in different trades were affected differently by changes in production and marketing techniques during this period. Some of the trades, such as shipbuilding, coopering, shoemaking, the building trades, tailoring, cabinetmaking, and printing, were particularly affected by the expanding market system. These trades, which before had served a custom market, were reorganized as production was expanded for the mass market. The master craftsmen in these trades either took on a more mercantile role (as small-scale men of commerce seeking wider commercial outlets, local contractors seeking mercantile connections, or agents of speculative investors supplying merchants with goods and services) or they became foremen in mercantile establishments. Many of these master craftsmen employed large numbers of journeymen and had opportunities to earn amounts of money unthinkable even decades earlier (Rock 1979:246). As the character of the workplace changed in those trades where the masters' role became more mercantile, it became the masters' task to get more work out of the journeymen, and the relationship between the masters and the journeymen became strict and impersonal (Pessen 1967:4, Rock 1979:126).

The position of the journeymen in these trades became quite unfavorable compared to what it had been before. They began to work for set wages, determined by piecework or daily salaries. While the masters in the more traditional trades continued to set their own work schedules, journeymen working in shops for contractors began to work a more systematized schedule (Rock 1979:250). The journeymen in these trades also underwent a drop in growth of real wages in the early nineteenth century (Rock 1979:253). A large percentage (ca. 65% in 1819) of the journeymen in New York City worked in these trades. Most of these journeymen could no longer expect to establish their own shops and become masters in their own right, because of the high capital investment needed to set up an establishment (Rock 1979:268). Rock refers to some of these trades as the "conflict trades," because most of the labor unrest in the first two decades of the nineteenth century took place within them.

The trades of other artisans, such as bakers, butchers, blacksmiths, goldsmiths, and cartmen, generally remained to some degree traditional family enterprises composed of a shop employing one or two journeymen and apprentices (Rock 1979:243). Masters in these trades often catered to a local, or neighborhood, clientele (Rock 1979:151). The journeymen continued to have the opportunity to become established in their own shops, becoming masters in their trade (Rock 1979:151, 268).

Rock's discussion makes it apparent that among the artisans, the secular trends associated with the growth of the modern world system affected different groups differently. The labor of the journeymen in the "conflict trades" was more directly linked to the economy of the expanding market, and journeymen status in these trades could no longer be considered a temporary position (Rock 1979:268). These journeymen, then, fit into Wallerstein's category of "lifetime proletarian" (Hopkins and Wallerstein 1977:135). The journeymen in the more traditional trades, however, still had the opportunity to advance to master status (Rock 1979:268), and therefore could become employers in their own right. Wallerstein has pointed out that core areas contain a higher proportion of lifetime proletarian households than do peripheral or semiperipheral areas (Hopkins and Wallerstein 1977).

The merchants and the artisans working in many of the "conflict trades" clustered in the area of the port, the economic focus of the city. Artisans producing luxury goods, such as cabinetmakers, and those serving the mercantile community, such as printers, coopers and those working in shipbuilding, tended to locate in this area (Pred 1966:196, 202). The merchants and the artisans working in most of these trades were therefore more affected by the commodification of land, as real estate costs in this area spiralled. Most of these trades used space intensively (Pred 1966:203). Shipyards, also located on the waterfront, needed a great deal of space and therefore were always on the periphery of the commercial district, moving uptown just ahead of the commercial center (Pred 1966:198).

As noted above, artisans in the traditional trades tended to cater to a neighborhood clientele (Rock 1979:151). Bakers and dealers in other perishable consumer goods and services dispersed their businesses throughout the city, so that they would be located in the middle of their markets (Pred 1966:205). Since land values in the outer areas of the city were lower, these trades were somewhat less affected by the rise of land values.

The application of Wallerstein's perspective to this material, then, allows us to make certain predictions about which groups would tend to separate their places of work from their places of residence. This transformation apparently served at least two functions: 1) it established a social distance between employers and employees which would be useful in reducing social conflict both in the mercantile community and in those trades where production had been expanded for the market and labor had become more of a commodity; and 2) the removal of living quarters from working quarters allowed the more intensive and therefore more efficient use of space for work in the commercial area of the city, where the value of land and real estate had spiralled. Thus, we would expect that this structural transformation first took place in the commercial area of the city, and that the businesses which were first affected were those of both the merchants and those artisans whose production had expanded for the new mass market. The docks, wharves, countinghouses, and warehouses in the area of the Telco Block continued to be the prime commercial area and the focus of New York's economy until the middle of the nineteenth century. The study of the structural transformation on this block provides a microcosmic view of this change in the port of New York, the economic center of the city.

The Telco Block is a particularly good place to begin to study this question, because this transformation can be documented using both historical and archaeological data. The New York City directories list most of the employers located on the lots on this block from the late eighteenth through nineteenth centuries, and they often list separate home and business addresses. Such good documentation does not exist for all socioeconomic strata and areas of the city.

Pred, for example, deduces that the completeness of an 1840 directory exceeds only 33 per cent. He reaches this conclusion by examining the number of entries in the directory, the prevailing size of the family, and the total population of the city (1966:159). The author of a study on poverty in late eighteenth and early nineteenth century New York City points out that in 1810, only 14% of those listed as receiving public assistance are also listed in the directory of that year (Mohl 1971:22). This indicates that the directories are biased, and that the listings of the poor are grossly underrepresented.

The documentation for the Telco Block, located in the rich, commercial heart of the city, was not affected by this bias in providing data for the employers on the block. The study of this question, using both the historical and archaeological data will allow us to identify the archaeological correlates of this transformation while using the historical data for control. Then, as sites are excavated in other parts of the city which are not well documented in the historical records, we will be able to identify this transformation by using the archaeological data alone.

The historical documentation on the separation of places of work from places of residence on the Telco Block are presented by five-year intervals in Table 5.1. Here, the assumption has been made that when business and home addresses are not listed sequentially, the single address listed is that of a combined work and residence. It should be pointed out, however, that the compilers of the directories may not have been completely thorough in acquiring sufficient information to make these double entries (*following* Pred 1966: 204, 208, n. 170) and that there may have been a bias on the part of the compilers and/or the people listed in listing home addresses in the directories.

It is clear from this table, however, that with three exceptions, the excavated lots on the Telco Block for which data were available were not used for residential purposes after 1825, and that therefore, this structural transformation was complete by that date. The exceptions to this statement are the three lots on Fulton Street, which continued to be the sites of boarding and victual houses until after this date. In addition, this transformation was apparently completed on the properties facing Front Street (Lots 24 and 28) by 1815, well before it was completed on those fronting Water Street (Lots 37 through 42) by 1825.

TABLE 5.1. The occupation of the occupants of the Telco Block by 5-year intervals from 1790 through 1830. The number given after the occupation refers to the number of addresses listed in the New York City directories for the occupant for that year.

Lot / Year	FRONT STREET 24	25	26	27	28
1790	boatbuilder:1	cooper:1	merchant:1		store:1
1795	boatbuilder:2	cooper:2	merchant:2		N/A
1800	boatbuilder:2	grocer:1	merchant/ tailor:1		N/A
1805	grocer:2	N/A	grocer/ clothing:1		merchant:1
1810	N/A	merchant:2	grocer/ clothing:1		sail loft:2
1815	grocer:2	merchant:2	grocer:2		sail loft:2
1820	merchant:2	merchant:2	merchant:2	merchant:2	sail loft:2
1825	merchant:2		merchant:2	grocer:2	merchant:2
1830	merchant:2	grocer:2	merchant:2	grocer:2	merchant:2

Table 5.1a: The Front Street Lots.

Lot / Year	WATER STREET 37	38	39	40	41	42
1790	cutler:1		merchant:1	shoemaker:1	N/A	N/A
1795	brass-founder:1	china store:1	N/A	shoemaker:1	cabinet-maker:1	N/A
1800	brass-founder:1	N/A	N/A	shoe manu-factory:1	cabinet-maker:1	N/A
1805	N/A	hairdress-er:2 grocer:1	cabinet-maker:1	N/A	cabinet-maker:1 hatter:1	N/A
1810	grocer:1 hatter:1	grocer:1 printer:1	cabinet-maker:1	shoemaker:1	cabinet-maker:1 hatter:1	N/A
1815	confec-tioner:1	grocery/ clothing:1	cabinet-maker:1	cabinet-maker:1	bellows manu-facturer:1	N/A
1820	saddler:1	furstore:1	vacant	vacant	vacant	stable:N/A
1825	saddler:2	furstore:2	furstore:2	vacant	vacant	crockery:2
1830	furstore:2	furstore:2	N/A	wire manu-factory:2	N/A	crockery:2

Table 5.1b: The Water Street Lots

	FULTON STREET		
Lot Year	46	47	48
1815	shipchandler:2	N/A	N/A
1820	victual house:1		N/A
1825	victual house:1 grocer:1		grocers:2
1830	victual house:1 grocer:1		boarding- house:1

Table 5.1c. The Fulton Street Lots

This variation within the block may be related to the differentiation in the value of land and labor, resulting from the commodification of land and labor on the block. In the middle of the decade between 1810 and 1820, the real estate assessment for three of the lots facing Front Street (Lots 24, 25, and 28; Lots 26 and 27 are not included as they constituted a single lot at that time) averaged $9666.67, while those which fronted on Water Street (Lots 37 through 42) averaged only $4200. The lots facing Front Street were closer to the waterside, the economic focus of the city, and therefore constituted more valuable real estate than those on Water Street, which faced inland. By 1836, however, when both sides of the block no longer housed residents, the average real estate values for the properties on each side of the block were almost equal; those facing Front Street (Lots 24 through 28) averaged $20,900, while those fronting on Water Street averaged $19,750.

The businesses on the Front Street side of the block between 1790 and 1830 were directly involved in the mercantile activity of the port. They consisted, in order of frequency for the sample listed in Table 5.1a, of merchants (13), wholesale grocers (8), boatbuilders (3), coopers (2), dealers in sail duck (2), and a sail loft. The businesses on the Water Street side of the block were quite different and were primarily artisan trades. These artisans, in order of frequency for the sample listing in Table 5.1b, included cabinetmakers (8), shoemakers (4), brassfounders (2), saddlers (2), hatters (2), a cutler, a hairdresser, a printer, a bellows manufacturer, and a wire manufacturer. The mercantile businesses were much less heavily represented on this side of the block and consisted of wholesale grocers (4), crockeries (3), and only one merchant. In addition, there was a stable, a confectionary, and fur stores (5) on this side of the block. It is unclear at this time whether the last two businesses were part of the import-export trade or were run by artisans manufacturing candy and fur products.

The three lots facing Fulton Street (Lots 46-48; Table 5.1c), the sites of victual and boardinghouses, present another example of the general trend toward commodification during this period. This is the transformation of domestic labor into a service commodity (Blackmar 1979:140). The presence of the boardinghouse also demonstrates a solution to a housing problem created when unmarried journeymen no longer lived with their employers (Rock 1979: 254). Other businesses on these lots included wholesale grocers (3) and a ship chandler, both of which are closely linked to port activities.

The documentary history of the Telco Block during this period produced clear information on the separation of places of work and residence on this block; it provides some insight into the nature of the factors which were related to this transformation. Although in 1840, only 23% of that part of the industrial population of New York City which was listed in the directories had separate places of work and residence (Pred 1966:209-211), the transformation had been completed on this block, located in the heart of the commercial city, well before this, by 1825. This structural change took place on the block in two phases. It was accomplished by 1815 among the merchants, wholesale grocers, and artisans directly involved in the seaport who worked on the port side of the block, where, between 1810 and 1820, the real estate values were more than twice as high as those on the inland side of the block.

This structural change took place later on the inland side of the block. Here, the lots were occupied primarily by artisans, many of whom can be identified as practicing those trades which were dramatically affected by expanded and reorganized production for the market, such as cabinetmaking, shoemaking, tailoring, and printing. By the 1830s, the land values for the lots on this side of the block almost equalled those on the port side of the block.

The correlations between this structural transformation, the increase in land values, and the presence of those tradesmen who are thought to have been most involved in the dramatic expansion in trade and production during this period indicated that there is in fact a relationship among these factors. This relationship tends to support the interpretation that these changes are reflections of the secular trend toward the commodification of land and labor during this period which first affected those in certain trades in this part of the city.

Now we will look at the archaeological evidence of this transformation on the Telco Block, in order to identify its archaeological correlates so that this model may be tested against archaeological data from other parts of the city which are not documented as completely in the historical records.

The archaeological correlates of this transformation may best be seen in the Telco Block material by analyzing the relative density of domestic artifacts from the features. This analysis has been limited to the features because of the similar refuse disposal patterns used in filling them. This similarity renders the samples from these features comparable. As noted in Section IV, the features often contained mixed deposits resulting from the inclusion of eighteenth century landfill materials and materials from the 1816 fire on the block. In order to control for this mixture with earlier materials, only the temporally diagnostic ceramics from these features are used in this analysis, and only some of these ceramics have been used for some of the sets of features. For the features ascertained in Section IV to contain deposits dating to before 1820 (Test Cuts AX, AT, F1), all of the datable ceramic types have been used. For the features which we ascertained in Section IV to contain deposits dating to ca. 1830 (Test Cuts AM and AS), only those ceramic wares with terminal manufacture dates of 1820 and later were used. For those features which we ascertained in Section IV to contain deposits dating to the second half of the nineteenth century (Test Cuts D, O, W, Y, AK1, AN, AX, G, R2, AQ, AR, AU, F2), only those ceramic wares with terminal manufacture dates of 1840 and later were used.

Table 5.2 presents the results of this analysis. The densities of ceramics in these features are strikingly different. The ceramic density per cubic foot in the features which were filled before 1820 range from 17.6 to 35.8, while those filled in the late nineteenth century range from 0.2 to 1.9. The density of ceramics in the features containing materials dating to ca. 1829 present a much broader range of 3.3. to 20.4. These features are both in Lot 48, which was documented as being the site of a boardinghouse during this period. The density of 3.3 for Test Cut AS is anomalously low, but is still almost twice as high as the greatest density exhibited by the later nineteenth century features.

TABLE 5.2: The density of ceramics in the features from the Telco Block.

Features dating to the turn of the nineteenth century:

Feature	Number of cu ft[1]	Number of ceramics used[2]	Density of ceramics per cu ft
TC AX	25.3	905	35.8
TC AT	28	983	35
TC F1	29.75	524	17.6
Features dating to ca. 1829:			
TC AM	113	2306	20.4
TC AS	61	203	3.3
Features dating to the mid- and late nineteenth century:			
TC D	18	10	.6
TC F2	59.5	48	.8
TC G	93	26	.3
TC L	60	50	.8
TC O	104	17	.2
TC R2	75	141	1.9
TC W	99.5	145	1.5
TC Y	65	41	.6
TC AK1	91.8	22	.2
TC AN	59.6	82	1.4
TC AQ	18.85	11	.6
TC AR	10.9	6	.6
TC AU	17.5	21	1.2
Deposits on the wooden floor in Lot 26, late eighteenth century:			
TC X, Z, AB, AE, AJ, AL	92	423	4.6

1 - volume corrected for sample excavated and screened.

2 - see text for a discussion of ceramics included for each set of features.

The analysis of these archaeological data, then, fully supports the historical data for determining a general date for the occurrence of the separation of work space and living space on this block. All of the features which have high densities of ceramics can be dated to the early nineteenth century, before the 1830s, while those which have markedly lower densities have been dated to the late nineteenth century. However, using the archaeological data alone, it is not possible to pinpoint all of the subtleties that we saw in analyzing the historical data. It is not possible, for example, to determine that the people on the eastern side of the block moved their residences away first, by 1815, and that the lots of the western side of the block continued to be used for residential purposes until ca. 1830. In fact, there was no archaeological evidence found that suggested that people continued to live on the lots which fronted on Water Street after 1816.

The explanation for this anomaly lies in the nature of the archaeological record on the Telco Block. The deposits in the features which we found were analyzed to reflect the use of the lots shortly before these features were abandoned. The abandonment of the backyard features on this block tends to follow a pattern. Those which were located on property lines (Test Cuts AT and F1) were abandoned when the properties were divided, which happened between 1810 and 1820. Other backyard features (Test Cuts D, F2, G, L, O, R2, W, Y, AK1, AN, AQ, AR, and AU) were abandoned and filled presumably when the properties on the block were hooked up to the water and sewer systems in the late nineteenth century. Only two features (Test Cuts AM and AS) were filled in between these two periods, in the 1830s, and the reason why they were abandoned is not clear. Therefore, the periods of lot use which were documented by the deposits in the features do not provide an even picture of the use of the lots through time, but only for specific periods of use.

The data from these features on the Telco Block may be used with those from other features (cisterns, wells, and privies) from other blocks to provide a more complete data base. In addition, the use of materials from other undisturbed occupational deposits such as early ground surfaces would help to provide a fuller picture of lot use, but unfortunately very few of these deposits were found on this block. The average of the ceramic densities in the units excavated on the floor in Lot 26 (Test Cuts X, Z, AB, AE, AJ, and AL) are presented in Table 5.2 for future comparison with materials from similar deposits from other sites.

As stressed in the introduction to this section, one of the primary goals of this report is to generate questions which can be asked of data from the Telco Block and other sites, including those which have already been excavated and those which will be excavated in the future, particularly in New York City. All of the large sites which have excavated in Manhattan (the Telco Block, the Stadt Huys Block, the 7 Hanover Square site, and 175 Water Street) are located in the area which was part of the port of New York from the seventeenth through the mid-nineteenth centuries. Therefore, if our interpretation of the Telco Block data is correct, we would expect to see the evidence of the separation of places of work from places of residences repeated as a pattern in the archaeological data from these other sites during the first decades of the nineteenth century.

We would expect that the residential deposits from these sites would reflect similarities in socio-economic class among the early nineteenth century residents in the commercial heart of the city. In addition, if indeed the function of the separation of places of work from places of residence was to establish social distance and thus reduce social conflict between employers and employees as the disparity in their standards of living grew, we would also expect to see an increase in the level of standard of living through time in the material culture of these early employers who resided on the Telco Block.

The use of techniques like Miller's method for the economic scaling of nineteenth century ceramics (1980) allows us to form a data base which can be used for comparing the socioeconomic classes of the people who used the materials which were deposited as part of the archaeological record. The values for three of the ceramic assemblages from the Telco Block (Test Cut AX, the wooden box in Lot 38; Test Cut AT, the privy in Lots 37/38; and Test Cut AM, the cistern in the boardinghouse in Lot 48) are presented, following Miller (1980) in Figure 5.1 and Table 5.3. Unfortunately, the data from the other large Manhattan sites have yet to be presented in a comparable form. However, in comparing these features to each other, we can see an increase in the values of the ceramics from these features through time. Our prediction that there is in fact an increase in the level of the standard of living of the employers on the Telco Block is supported by our data. The assemblage from Test AT is ca. four years later than that from Test Cut AX. It should be noted that both Test Cut AX and Test Cut AT contained pieces of porcelain (four cups and two bowls in Test Cut AX and four cups and eight bowls in Test Cut AT), and that these wares, which would rank among the most valuable, are not reflected in Figure 5.1 as documentation for their value relative to CC wares has not been ascertained (Miller 1980). The values for the assemblage from the boardinghouse (Test Cut AM) which dates to ca. 1829, is somewhat higher again. Only two porcelain cups were included in this assemblage, however.

There are also differences in the values and percentages of representation among the kinds of vessels in these assemblages. As we would expect, the assemblages from Test Cut AX and Test Cut AT are quite similar in these respects. The bowls in both of these assemblages are more valuable than the plates, and both also contain almost equal proportions of plates and bowls. This suggests that bowls and plates were both integral parts of the tableware used by these early nineteenth century occupants of the block. For Test Cut AM, on the other hand, the plates are of more value than the bowls, and the plates also constitute a much higher proportion of the assemblage than the bowls. This assemblage is from the boardinghouse and dates to ca. three decades later than the others.

It seems likely that these differences in the ceramic assemblages reflect differences in cuisine. The meals consumed by the residents of the boardinghouse may have consisted to a greater extent of meals which were eaten from plates, rather than bowls, and the low value of the bowls reflects a relatively small number of serving bowls (compared to the number of plates, which were used by each of the individual boarders) combined with the relatively low value of bowls used in the kitchen in preparing food (Miller 1980). This interpretation can be tested in the future by using the faunal materials from these features.

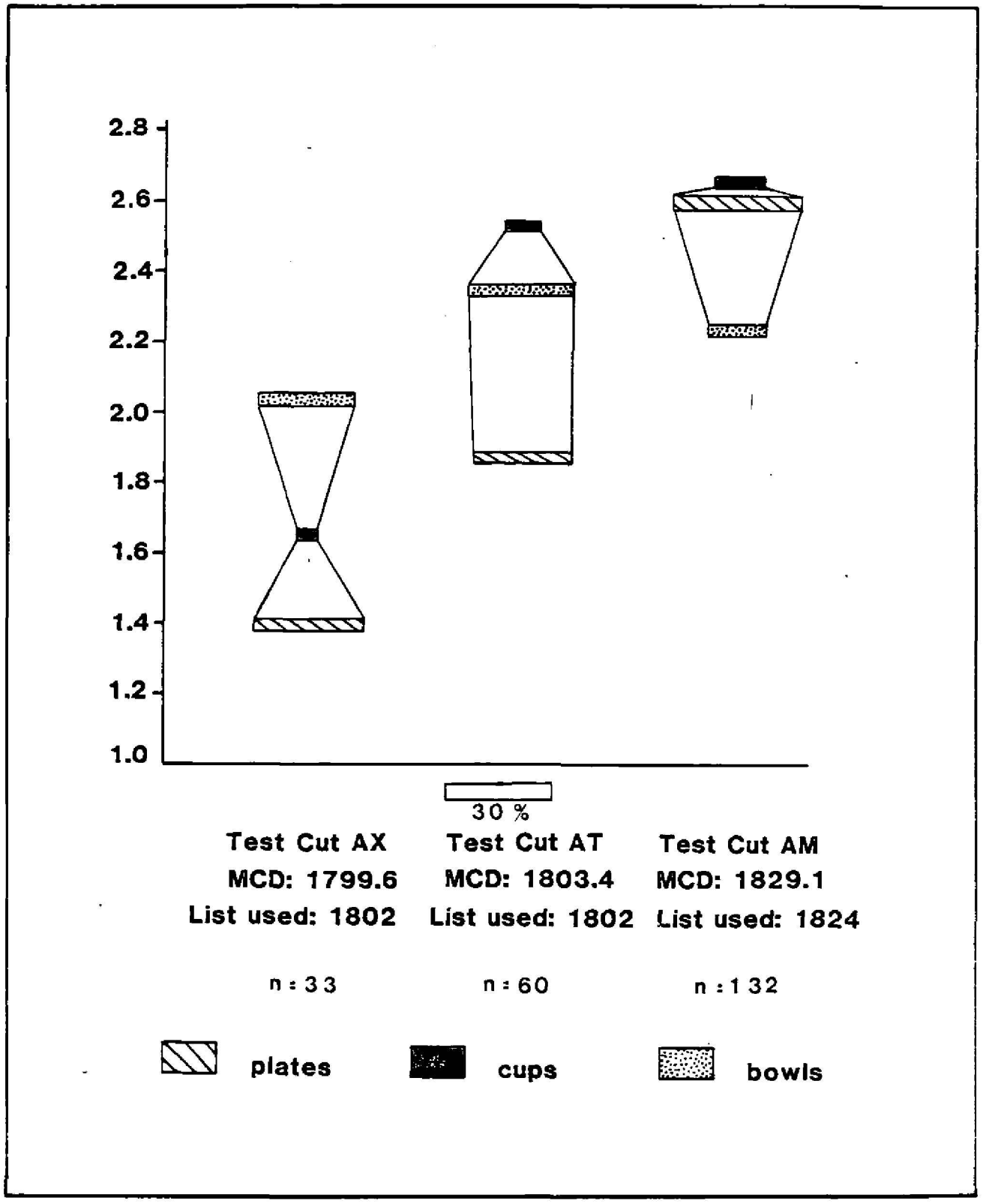


Figure 5.1. The average value of plates, cups, and bowls above the cost of CC vessels from three features, Test Cuts AX, AT, and AM. (after Miller, 1980).

TABLE 5.3: The minimal vessel count for cups, plates, and bowls from the three features graphically represented in Figure 5.1, following Miller (1980).

Table 5.3a: Test Cut AX, the Wooden Box in Lot 38, MCD:1799.64

Form	Decorative Type	1802 Index Value		Number		Product
cups	cc	1.00	x	0	=	0
	painted	1.65[1]	x	3	=	4.95
		total		3		4.95
		average value		1.65		
	(porcelain			4)		
bowls	cc	1.00	x	5	=	5.00
	painted	2.33	x	4	=	9.32
	printed	2.80[1]	x	5	=	14.00
		total		14		28.32
		average value		2.02		
	(edged			1		
	porcelain			2)		
plates	cc	1.00	x	4	=	4.00
	edged 10 in	1.37	x	8	=	10.96
	8 in	1.23	x	2	=	2.46
	7 in	1.37[3]	x	1	=	1.37
	printed 8 in	3.43	x	1	=	3.43
		total		16		22.22
		average value		1.39		

Table 5.3b: Test Cut AT, the privy in Lots 37/38. MCD:1803.44

Form	Decorative Type	1802 Index Value		Number		Product
cups	cc	1.00	x	1	=	1
	printed	3.21	x	5	=	16
	painted	1.651	x	2	=	3.3
		total		8		20.3
		average value				2.54
	(porcelain			4)		
bowls	cc	1.00	x	2	=	2
	printed	2.802	x	7	=	19.6
	painted	2.33	x	18	=	41.94
		total		27		63.54
		average value		2.35		
	(edged			1		
	porcelain			8)		
plates	cc	1.00	x	8	=	8
	edged 8 in	1.23	x	9	=	11.07
	printed 10 in	3.334	x	2	=	6.66
	8 in	3.43	x	4	=	13.72
	6 in	3.6	x	2	=	7.2
		total		25		46.65
		average value		1.87		

Table 5.3c: Test Cut AM, the cistern in Lot 48. MCD 1829.1

Form	Decorative Type	1824 Index Value		Number		Product
cups	cc	1.0	x	4	=	4
	painted	1.44	x	1	=	1.44
	printed	3.00	x	23	=	69
		total		28		74.44
		average value		2.66		
	(porcelain			2)		
bowls	cc	1.0	x	4		4
	painted	1.67	x	3		5.01
	printed	2.50	x	24		60
		total		31		69.01
		average value		2.23		
plates	cc	1.0	x	6		6
	edged 10 in	1.33	x	5		6.65
	8 in	1.29	x	8		10.32
	6 in	1.33	x	1		1.33
	printed 10 in	3.22	x	19		61.18
	8 in	3.21	x	28		89.88
	7 in	2.92	x	3		8.76
	6 in	2.50	x	3		7.5
		total		73		189.62
		average value		2.6		

1 - average between the values for 1796 and 1814 lists.

2 - value assumed to be the same as for 1802 and 1814, as printed plates maintained the same values in these years.

3 - value assumed to be the same as for 10 in. edged plates, as was true on 1796 and 1814 lists.

4 - value assumed to be same as on 1814 list, as was true for all of the other sizes of printed plates.

The explanations for these differences cannot be ascertained with the small samples at hand. Either the boardinghouse assemblage reflects a general temporal change in cuisine in early nineteenth century New York City, or this difference in cuisine reflects a socioeconomic difference between the residents of the boardinghouse and the occupants of Lots 37 and 38 earlier in the century. The status of the clientele of this boardinghouse is somewhat unclear. Boardinghouses in this area are known to have been used both to house journeymen (Blackmar 1979:140, Rock 1979:254) and to provide accommodations for merchants from Long Island who came into the commercial center of the city on the ferry, which docked a block away at the foot of Fulton Street, to buy wholesale goods (Stewart 1981). It is not known, however, whether these journeymen and merchants resided at the same establishments or whether there were different kinds of establishments which catered to different kinds of clientele. The occupations of some of the boarders in Lot 48 have been documented as fishermen, grocers, and cigarmakers, occupations of both relatively high and low socioeconomic status. The combination of this documentation, the location of the boardinghouse on Fulton Street (where the ferry to and from Brooklyn began to operate in 1815), and the relatively high value of the ceramics from the boardinghouse assemblage all tend to suggest that different kinds of clientele were accommodated in the same establishments. However, we need to be able to analyze the ceramic assemblages from other deposits of similar dates and various socioeconomic levels before the socioeconomic status of the clientele of this boardinghouse can be defined.

If the results of the analysis of the data from the other sites which were also located in the commercial heart of nineteenth century New York conform with those from the Telco Block, it would tend to support our interpretation that the separation of places of work from places of residence was in fact associated with the increase in the commodification of land and labor, secular trends closely associated with the growth of the modern world system. Then, as sites are excavated in other parts of the city, we can begin to explore other aspects of why and how this transformation occurred in nineteenth century life.

If one of the functions that the transformation served was in fact to reduce social conflict between employees and employers at a time when the employers, who owned the means of production, were accumulating greater and greater amounts of capital, while their employees' economic position either remained the same or declined, we would expect to see a growing disparity in wealth exhibited in the material culture of these socioeconomic classes throughout the nineteenth century. The use of archaeological data in addressing this question will allow us to document the standard of living of the poor, who often are ignored in the historical records, as well as the rich. Using methods of analysis like Miller's economic scaling of nineteenth century ceramics (1980) along with the analysis of associated vegetal and faunal materials, we can use archaeological materials to measure this disparity. Then, we can begin to get an idea of what it meant to be poor and to be rich and to understand the dynamics of the processes which changed the structure of life in nineteenth century New York City.

D. Topic 3: Work Discipline in the Nineteenth Century

The British social historian E. P. Thompson has pointed out that " . . . there is no such thing as economic growth which is not, at the same time, growth or change of a culture . . ." (Thompson 1967:97). One aspect of this cultural growth and change is what we wish to deal with here. We will focus on the changing social relations of production, changes in the work process, and the impact these factors had on culture.

Prior to the introduction of factory production, the role of the merchant capitalist was limited. The merchant generally supplied the raw materials to the artisans who worked for him, but intervention in the work process itself was minor (Gordon 1978:29). The artisan often worked in his own shop, generally a rooom in his house; he supplied his own tools and set his own hours. The tools that an artisan possessed were more than simply the means of earning a living; they were, as Dawley has noted, "emblems of the importance of human skill and industry" (1976:43).

The element of skill and flexibility of labor in this period of independent household, or small shop, production is captured in this quotation by Dawley which describes the situation of the shoemakers of Lynn, Massachusetts, prior to the rise of the central shop around 1830.

> The work pattern of the household allowed each member considerable scope for individual decision-making. Women decided when to boil tallow for candles, when to darn socks, and when to bind shoes. Men chose when to repair the front stoop, when to manure the garden, and when to bottom shoes. Their control extended into the character and quality of the product, since they determined when the leather had been hammered long enough, whether to make the instep snug or full, how much stiffening to put in the heel. This is where the cliche about the 'independent artisan' rings true - in the control artisans exercised over their own daily rhythms of work and in their influence over the final product. In these regards, artisans who did not own property were as independent as those who did (1976:46).

This theme of the diversity and flexibility of labor was even more pronounced among "outworkers", farm families who alternated their yearly round of agricultural tasks with spinning, weaving, shoemaking, or other such tasks. Both outworkers and full-time artisans set their own hours, worked at their own pace, and alternated work with leisure. Thompson has noted that "(t)he work pattern was one of alternate bouts of intense labor and of idleness wherever men were in control of their own working lives. (The pattern persists among some self-employed artists, writers, small farmers, and perhaps also with students-today, and provokes the question whether it is not a 'natural' human work-rhythm)" (1967:73).

The interjection of capitalist market relations and production methods into everyday life marked a revolutionary change in the lives of working people. The revolutionary element in this new equation was not the machine per se. It was not an "Industrial Revolution" that must be singled out; indeed, the central premise of this concept, that the late eighteenth century witnessed an unprecedented explosion of machine manufacture, can and has been questioned. "It is at the very least open to question that there was a significant technological or social caesura at the moment of the so-called 'Industrial Revolution' in the late eighteenth century" (Hopkins and Wallerstein 1977:126).

The commodification of labor is, in fact, the origin of this change that swept outward from the counting houses, shops, and storehouses, in the late eighteenth and early nineteenth centuries, eventually transforming all of society. "The transformation of land, labor and natural resources from phenomena utilized and distributed in terms of social conventions of limited flexibility into commodities available for 'purchase' on a 'market' has been used virtually as the defining characteristic of capitalism . . ." (Hopkins and Wallerstein 1977:125). Commodification should not be viewed as a localized event with a beginning and an end, commodification as a "world-wide process of transformation is what is to be seen as the essence of capitalism" (Hopkins and Wallerstein 1977:125).

To speak of labor as a commodity is, in fact, somewhat misleading. It is not the laborer who is sold on the market, nor is it the labor of the worker that becomes a commodity; in fact, quite the reverse is true. The trend toward the commodification of labor proceeds with the "freeing" of the worker from direct domination. The rise of capitalism sets the worker free: indentured servitude, slavery, and other forms of "unfree" labor tend to decline in direct proportion to the rise of the market economy. The laborer is separated from the net of social and legal restraints, obligations and roles that defined his place in the older social order. The laborer is set "free" to sell his or her labor <u>time</u> on the market.

This is the essence of the tranformation that defines the position of labor under capitalism. Under capitalism, "(t)he labor process . . . begins with a contract or agreement governing the conditions of the sale of labor power by the worker and its purchase by the employer" (Braverman 1974:52).

> The worker enters into the employment agreement because social (and economic) conditions leave him or her no other way to gain a livelihood. The employer, on the other hand, is the possessor of a unit of capital which he is endeavoring to enlarge, and in order to do so he converts part of it into wages. Thus is set in motion the labor process, which, while it is in general a process for creating useful values, has now also become specifically a process for the expansion of capital, the creation of a profit (Braverman 1974:53).

It should be clear at this point that, under this new economic order, time really is money. The advent of capitalism is marked by a transformation in the conception of time (see Thompson 1967; Leone 1982). The impact of this new view of time was particularly prevalent in industries characterized by the complex subdivision of the labor process or by the extensive use of machinery (Thompson 1967:69, 70-71). The spread of clocks and watches capable of measuring time in minutes as well as hours, devices that could mark the passage of time with accuracy, had become a necessity in this new work environment. Not unexpectedly, " . . . a general diffusion of clocks and watches is occurring . . . at the exact moment when the industrial revolution demanded a greater synchronization of labor" (Thompson 1967:69).

Thompson has summed up the impact of this new sense of time on both employee and employer. He observes that ". . . those who are employed experience a distinction between their employer's time and their 'own' time. And the employer must use the time of his labor, and see it is not wasted: not the task but the value of time when reduced to money is dominant. Time is now currency: it is not passed but spent" (Thompson 1967:61; emphasis in original).

By the mid-nineteenth century, the chiming of the factory bell was a common sound in many cities and towns across the country. It marked a new phenomenon in the cultural landscape. It was an insistent call to labor that could not be ignored; it commanded prompt obedience, it represented to many a new tyranny. The following poem, published in the May 25, 1844 edition of the Factory Girl's Garland, captures some of the emotions stirred up by the new work rhythm and the factory bell that marked the passage of a work day:

The Factory Bell

Loud the morning bell is ringing
Up, up sleepers, haste away;
Yonder sits the redbreast singing,
But to list we must not stay.

Not for us in morning breaking,
Though we with Aurora rise;
Nor for us in Nature waking,
All her smiles through earth and skies.

Sisters, haste, the bell is tolling,
Soon will close the dreadful gate;
Then, alas! we must go strolling,
Through the counting-room, too late.

Now the sun is upward climbing,
And the breakfast hour has come;
Ding, dong, ding, the bell is chiming,
Hasten, sisters, hasten home.

Quickly now we take our ration,
For the bell will babble soon;
Each must hurry to her station,
There to toil till weary noon.

Mid-day sun in heaven is shining,
Merrily now the clear bell rings,
And the grateful hour of dining,
To us weary sisters brings.

Now we give a welcome greeting,
To these viands cooked so well;
Horrors oh not half done eating-
Rattle, rattle goes the bell.

Sol behind the hills descended,
Upward throws his ruby light;
Ding dong ding, our toil is ended
Joyous bell, good night, good night.
(Quoted in Foner 1977:77)

The new economic order required more of the worker than simple punctuality and a new orientation to time. It "meant inner discipline and a tightening up of the moral code through either the abolition or drastic alteration of those customs, traditions, and practices that interfered with productive labor. More than ever before, life became oriented toward work" (Faler 1974:367). The arena in which much of this new morality was taught was not limited to the factory or workshop. The religious and secular moralists and improvement societies that flourished in the United States after the second decade of the nineteenth century aimed at little short of a total transformation of social life--and the social life of America's laboring masses was singled out for special attention.

If we may again cite Lynn, Massachusetts, as an example, this town saw, in 1826, the formation of a reform society: the Society for the Promotion of Industry, Frugality, and Temperance. Instrumental in the founding of this society were many of the town's major shoe manufacturers and dealers in leather, including Micajah Pratt, Jonathan Buffum, Isaiah Breed, and other manufacturers and community leaders. The goal of the society, as its name implies, was "to promote values that would foster industry and help Lynn prosper as a manufacturing center" (Faler 1974:368).

The widespread attempts at moral reform were a result of the need for better control over the work force by manufacturers who had to produce for a competitive market (Faler 1974:371). One of the key "vices" singled out by these reformers was alcohol consumption. Americans of the eighteenth and early nineteenth centuries consumed prodigious quantities of wine, spirits, and other alcoholic beverages (Rorabaugh 1979).

The consumption of alcoholic drinks permeated all social strata: "(m)en of all classes spent the morning drinking hot punch, porter, brandy and water, and eating bread and cheese while arguing and chatting about topics of the day" (Faler 1974:376). Shopkeepers, by custom, supplied alcohol (grog) to shoemakers in payment for shoes (Dawley 1976:36). Artisans often paused in their work to drink and socialize, as the following quotation from a ship carpenter employed in a New York city shipyard makes clear. He noted that at eleven o'clock, "there was a general sailing out of the yard and into convenient grog-shops after whiskey; only we had four or five men among us, and one apprentice . . . who used to sail out pretty regularly, ten times a day on the average; two that went for whiskey only when some one invited them to drink, being too mean to treat themselves; and two more who never went at all" (quoted in Gutman 1976:35). In Lynn, rum lubricated the work process and added to the sense of community in the shop: "At eleven and four each day, a boy went to the rum shop with a two-quart bottle for a supply of 'black strap' . . .. The shoemaker who made the best shoe treated his fellows to drinks; so did the one who made the worst (Faler 1974:379).

In 1804 the Medical Repository, a New York City medical journal, reported that in a typical working day, a laborer would consume something on the order of one quart of spirits. What most impressed the author of this paper was the fact that "the greater part of them can still keep about, and do their work, without being actually drunk" (quoted in Rock 1979:298).

Faler, in his study of Lynn, concludes: "Drinking was indulged in by all-minister, doctors, and teachers as well as by clerks, artisans, and workingmen, by young and old, by male and female. These drinking patterns were part of a preindustrial culture that did not stress self-denial, self-discipline, or the subordination of pleasure to productive labor" (1974:379).

Such regular and heavy drinking was blamed for the high rate of absenteeism that plagued employers. Often little work was done during the early part of the week: "Saint Monday" was a recognized holiday both in Britain and America (Rock 1979:296-300, Thompson 1967, Reid 1976, Gutman 1976:5). Commenting on this phenomenon, Benjamin Franklin noted that ". . . Saint Monday is as duly kept by our working people as Sunday; the only difference is that instead of employing their time cheaply at church they are wasting it expensively at the ale house" (quoted in Gutman 1976:5).

That intemperance was clearly thought to be linked with poor work discipline is highlighted in the following statement by Lebbeus Armstrong, an early New York temperance advocate, who noted that "(t)he effect of intoxicants on labor efficiency was the strongest argument that could be presented in support of temperance" (quoted in Faler 1974:379).

The attempts of business and "reform" societies to remake working class culture and work patterns during the nineteenth century culminated, in the last decades of the century, with the emergence of Taylorism and so-called "scientific management". These attempts at expanding control over the worker at the workplace and at "rationalizing" the work process were all aimed at removing the element of skill and decision-making from the workers' sphere and hence reducing employee control over the work process (see Braverman 1974). As Braverman has observed, "in the capitalist mode of production, new

methods and new machinery are incorporated within a management effort to dissolve the labor process as a process conducted by the worker and reconstitute it as a process conducted by management" (1974:170).

The question naturally arises as to the effectiveness of this attempt. This is a difficult question to answer. Undoubtedly the days of the independent artisan were long past by the closing decades of the nineteenth century. However, management still faced significant difficulties in controlling their work force. In 1877 a New York City manufacturer complained that "(t)he difficulty with many cigarmakers is this. They come down to the shop in the morning; roll a few cigars and then go to a beer saloon and play pinnocio or some other game, . . . working probably only two or three hours a day" (quoted in Gutman 1976:36-37). That manufacturers publicly worried about the personal habits of their work force as late as the 1880s is clear from this excerpt from the Age of Steel: "Saturday night debauches and Sunday carousels though they be few and far between are destructive of modest hoardings, and he who indulges in them will in time become a striker for higher wages" (quoted in Gutman 1976:39).

Gutman has pointed out that "(t)he persistence of traditional artisan work habits did not exist in a cultural or social vacuum. If modernizing technology threatened and even displaced such work patterns, diverse nineteenth-century sub-cultures sustained and nourished them" (1976:39-40).

America's labor force in the late nineteenth century, particularly (though not exclusively) in the urban centers, was composed predominantly of immigrants (Gutman 1976:40). Many of these immigrants came from non-industrial areas, and thus, "the United States faced the difficult task of industrializing whole cultures . . . the process was regularly repeated, each stage of American economic growth and development involving different first-generation factory workers" (Gutman 1976:14, see Hobsbawm 1975 chapter eleven). Those immigrants that did not come from agrarian or "preindustrial" backgrounds, and undoubtably many did not, carried with them firsthand experience of industrial labor and internalized techniques for resisting the demands of management.

The labor movement during the period that witnessed the emergence of monopoly capitalism was not a monolithic entity; it was characterized by division and debate on methods and technique but shared, by and large, a common ideological underpinning which "involved a conscious repudiation of the bourgeois ethic of acquisitive individualism. The workers' attempts to impose economic order . . . on competitive, deflationary capitalism were futile unless they also involved a moral repudiation of the egotism which that system spawned and acclaimed" (Montgomery 1980:204).

The individualistic bent inherent in capitalism is apparent throughout its development. The new legal structure developed by the merchants of the late eighteenth and early nineteenth centuries removed many of the social and legal sanctions that supported, to some extent, the public good over individual gain. The reform societies and the Victorian moralists offered constant encouragement to individual moral strength and ambition. Frederick Winslow Taylor, the pioneer of scientific management in the United States, stated that, in instituting his method, the "first step was the scientific selection

of the workman. In dealing with workmen under [scientific management], it is an inflexible rule to talk to and deal with only one man at a time, since each workman has his own special abilities and limitations, and since we are not dealing with men in masses, but are trying to develop each individual man to his highest state of efficiency and prosperity" (quoted in Braverman 1974:103).

The rejection by workers associated with the labor movement of the dominant ideology of individualism "was rooted in collective work practices (some customary, some quite new) by which workers defended their earnings and their dignity on the job. It was reinforced by the necessity for working-class families to function as economic units for survival, and hence to suppress individualistic striving" (Montgomery 1980:204).

What emerges from the works on social history cited above are the shadowy outlines of a complex and changing working class subculture. Working class culture in the nineteenth century represents more than a simple reaction to changing economic conditions or a conservative attachment to traditional beliefs and goals. This is not to say that this developing subculture did not have clear links to the past, or that it did not incorporate an attempt to resist changes imposed from outside. The point is, rather, that traditional beliefs and techniques of resistance were constantly being redefined in the context of a vibrant cultural whole into which individuals were born and their lives given meaning.

Historical archaeology can address some of the issues raised in the above discussion. However, few archaeologists have attempted to do so. Our analysis of the Telco Block does not attempt to provide answers to the questions but only to demonstrate that such questions can be addressed through archaeological data. We will indicate approaches to the study of the issue of alcohol consumption at the work place and its relationship to work discipline.

The contents of all of the features from the late nineteenth century commercial use of the Telco Block were examined in order to explore the question of alcohol consumption in the late nineteenth to early twentieth century workplace. The cistern designated Test Cut AM and the privies referred to as Test Cuts AS, AT, and F1 were not examined here because these features were filled during the early nineteenth century, the period when the structures these features serviced were being used for mixed residential/commercial functions.

The ceramic and glass bottles recovered from the remaining 15 cisterns, privies, and the dry well were assigned to functional groups (Tables 5.4 and 5.5). Four such groups were distinguished: Medicine; Wine/Liquor; Commercial/Utilitarian; and Food. The Medicine group includes patent medicine bottles and small vials. Wine/ Liquor includes flask shapes, labeled liquor bottles, and beer/ale/stout- shaped bottles. The Commercial/Utilitarian group is composed primarily of ink and mucilage bottles. The Food group includes canning jars, sauce bottles, and other identifiable glass food containers.

TABLE 5.4. The distribution of glass and ceramic bottles from features in lots occupied by business which did deal in bottled goods by feature, lot, and bottle function.

Lot #	TC	Medicine		Wine/Liquor		Commercial/ Utilitarian		Food		Total	
		f	%	f	%	f	%	f	%	f	%
24/25	W	3	4	67	86	5	6	3	4	78	100
	AV	0		129	100	0		0		129	100
Lot Total		3	1	196	95	5	2	3	1	207	99
26	D	2	67	1	33	0	0	0	0	3	100
	AR	1	50	1	50	0	0	0	0	2	100
	F2	6	35	7	41	2	12	2	12	17	100
	AU	1	33	2	67	0	0	0	0	3	100
Lot Total		10	40	11	44	2	8	2	8	25	100
37	O	0	0	1	33	0	0	2	67	3	100
	AQ	1	100	0	0	0	0	0	0	1	100
Lot Total		1	25	1	25	0	0	2	50	4	100
41	AN	5	13	25	66	8	21	0	0	38	100
	AK	8	31	10	38	8	31	0	0	26	100
Lot Total		13	20	35	55	16	25	0	0	64	100
TOTAL		27	9	243	81	23	8	7	2		
										f	%
						GRAND TOTAL				300	100

TABLE 5.5. The distribution of glass and ceramic bottles from features in lots occupied by businesses which probably did not deal in bottled goods, by feature, lot, and bottle function.

Bottle function											
Context		Medicine		Wine/Liquor		Commercial/ Utilitarian		Food		Total	
Lot #	TC	f	%	f	%	f	%	f	%	f	%
38	G	0	0	11	100	0	0	0	0	11	100
	L	2	5	37	95	0	0	0	0	39	100
Lot Total		2	4	48	96	0	0	0	0	50	100
40	Y	3	43	2	29	1	14	1	14	7	100
	R2	6	26	10	43	6	26	1	4	23	99
Lot Total		9	30	12	40	7	23	2	7	30	100
42	AI	1	33	2	67	0	0	0	0	3	100
TOTAL		12	15	62	75	7	8	2	2		
										f	%
						GRAND TOTAL				83	100

Vessel counts were based on a tally of whole or reconstructable vessels plus an estimate of the minimal number of vessels represented by base and/or finish fragments.

Of the 383 bottles and bottle fragments whose function could be identified with a high degree of confidence, a full 80 percent fall within the Wine/Liquor group, 10 percent contained medicine, 8 percent served commercial or utilitarian functions and the remaining 2 percent represent food containers. It is clear that bottles that contained alcoholic beverages account for a high percentage of the bottles recovered from the features studied. Indeed, the quantity of wine, liquor, and beer bottles present is remarkably high.

The question naturally arises as to the explanation for this observed high percentage of alcoholic beverage bottles. Before we attribute the presence of the wine, liquor, and beer bottles to alcohol consumption in the workplace, we must investigate the two possible alternate explanations for their presence that come to mind.

By the end of the first quarter of the nineteenth century, the rebuilding of structures on the Telco Block destroyed in the 1816 blaze was virtually complete. From this time until the 1950s, the backyards on the block were enclosed by structures and were not accessible from the street. Thus, the possibility that the artifacts contained in these features represent trash brought onto the site and dumped and, thus, result from activities unrelated to the site, seems very unlikely.

Second, it is possible that the bottle discards present in these Telco Block features did not result from on-site consumption but, rather, are by-products of businesses that produced liquor and other bottles as a result of their day-to-day operations. In some cases, it can be demonstrated that the bottles present in a feature are, in fact, probably discards related to a business present on the lot. Several of the bottle finishes, for example, from Test Cut AV still contained corks, retaining wire, and foil seals. Commission merchants, importers, and grocers would all be expected to have produced bottle discards as a result of day-to-day breakage of stock.

In order to control for the presence of bottles associated with commercial activities, those lots that we can document as having housed businesses that may have produced such discards in the late nineteenth century are presented in Table 5.4 and those lots for which we have no evidence of such businesses are listed in Table 5.5 (see Appendix B for the occupants of the lots).

It is evident that, even with the exclusion of those lots that are known to have housed businesses that could be expected to have produced business-related bottle discards, the high proportion of alcoholic beverage bottles present (75 percent) points to the consumption of such products in the workplace in the middle nineteenth to early twentieth centuries.

While these data indicating the on-premises consumption of alcohol are far from conclusive, they are suggestive and indicate the potential of historical archaeology in addressing this issue.

Future archaeological projects can profitably investigate the question of work discipline and alcoholic consumption at the work place in its social context. Archaeology, combined with documentary study, can provide insight into the effects of variables such as type and size of business on the spread of work discipline. Archaeological deposits from commercial sites representing businesses of various sizes (defined, for instance, by capital investment, value of output or other criteria) can shed light on the relationship between scale of business and the degree of discipline imposed on the work force. Do companies with a large capital investment tend to lead the way in introducing strict controls to the workplace?

Does the degree of skill involved in a given productive process influence the introduction of work discipline? British factory owners and managers found, at the very start of industrial development, that skilled artisans were often poor industrial employees because they were resistant to the new discipline factory work required (Pollard 1963:255). The analysis of archaeological deposits at industrial sites where the work performed required a high degree of skill can help address the relationship between skilled work and the introduction of work discipline.

The nineteenth century commercial trash deposits at the Telco Block proved to be extensively mixed, thus complicating the analysis of the artifacts they contained (see Section IV). In addition, it was not possible to complete the detailed and time consuming historic research in the late nineteenth century documents needed to address the above questions. However, it is important to note that the historic data needed to approach the questions raised above do exist. The Federal manuscript census of manufactures is an example of such a source; it offers invaluable data on specific businesses and industries. The 1850 census of manufactures, for example, lists such information as the names of firms, the businesses they engaged in, the capital invested in the business, the quantity of raw materials used during the year, a breakdown of the number of workers employed by sex, the average monthly wage paid by sex, and the annual value of the products produced.

Table 5.5 indicates that 96 percent of the bottles recovered from the features in Lot 38 are wine/liquor containers, whereas only 40 percent of the total sample of bottles from Test Cuts Y and R2 in Lot 40 are wine/liquor containers. Can factors other than sampling size account for this difference? A detailed study of the documentary record combined with comparative archaeological data has the potential for providing answers to such questions; these questions relate to the nature of work and working class culture.

Finally, we hope that we have demonstrated that historical archaeology can potentially provide valuable insights when it is placed within a detailed social and economic context.

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APPENDIX A: THE DOCUMENTED CHAIN OF TITLE FOR THE EXCAVATED LOTS ON THE TELCO BLOCK

I. WATER LOT GRANT 1: Lots 28 through 36

"In 1734 Egbert Van Borsam petitioned the council for a grant of water lots, 'lying on the east side of Van Clyff's Slip, the present site of John Street (M.C.C. Vol. IV: 236). On June 11, 1737 a committee charged with making a study of the intended water lot made its report and the council then granted the water lot to Egbert's son Henry Van Borsam . . . . The area granted was 200 feet in length, 60 feet 9 inches in width fronting the east river on a range with Burnett's Key (Front Street) and 71 feet 3 inches fronting Water Street.' Van Borsam was responsible for widening Water Street from 30 to 45 feet with the additional 15 feet apparently coming out of his 200 foot long grant. He was also ordered to construct two wharves or streets, one 40 feet in width along the East River (Front Street) and the other 14 feet 4 inches, along Van Clyff's Slip (John Street). Actual landfilling did not begin until at least 1740 at which time a committee was appointed to survey and lay out Van Borsam's lot (M.C.C. IV:496). The lot does not appear to have been filled to its full extent in either the 1742-44 Grimm Map or the 1755 Maerschalck Map" (Harris 1980:24).

By the mid eighteenth century the parcel was in the hands of the Remsens, a powerful mercantile family. A 1762 partition deed among the Remsen heirs states that an area corresponding to present day Lots 28, 29, and 30 remained unfilled (Liber 36 page 110).

Water Lot Grant 1: Lot 28

1737 (Lots 28-36)	Deed recorded June 23, 1737 in Grants of Land Under Water Liber B page 408. Corporation to Henry Van Borsam.
1762 (Lots 28-36)	Deed recorded March 22, 1762 in Liber 36 page 100. Elizabeth and Egbert Van Borsam to Rem Remsen
1762 (Lots 28-36)	Partition deed among Peter Remsem, Jeronimus Remsem, John and Dorothy Riker (heirs of Rem Remsen), recorded March 26, 1762 in Liber 36 page 110.
late 18th-early 19th century	Parcel conveyed to James Patton.
1807 (Lot 28)	Deed recorded August 17, 1807 in Liber 77, page 239. James Patton to Stephen Allen.
1879 (Lots 28 & 31)	Deed recorded March 17, 1879 in Liber 1491, page 41. Margaret Foote (descendant and heir of Stephen Allen) to Sarah Belden (decendant and heir of Stephen Allen), half interest.
1894 (Lots 29 & 31)	Deed recorded July 2, 1894 in Liber 25, page 34. Sarah Belden to James Jarvie.
1905 (Lots 28 & 31)	Deed, recorded March 1, 1905 in Liber 92, page 16, James Jarvie to William J. Matheson.

II. Water Lot Grants 2, 3, 4, and Parcels A, B, C: Lots 24, 25, 26, 27, 37, 38, 39 and 40

The title chains for Lots 37, 38, 39, and 40 are different from those throughout the rest of the block in that they do not originate in specific water lot grants recorded in Grants of Land Under Water (Topographic Bureau). The right to make land in the area of the river which became Lots 37, 38, 39, and 40 and the Water Street sides of Lots 24, 25, 26, and 27 originates in a February 5, 1712 Common Council Decision (recorded in Liber 35 page 159) granting to Bartholomew Feust the right to the low water mark (Water Street). His widow subdivided the parcel in 1717 (Liber 28 page 309, Liber 30 page 92) which then consisted of land between Pearl and Water streets and an as yet unfilled parcel beyond Water Street. Subsequent conveyances here included the right to make land. In 1756, three additional water lots were granted thus extending the fill an additional 70 ft, bringing it to the edge of what is now Front Street (Liber C page 146; Liber C page 151; Liber C page 157).

Water Lot Grant 2 and Parcel A: Lots 37, 38, 26, and 27

1717 (Lot 37,38 western part of Lots 27 & 26)	Deed recorded July 15, 1717 in Liber 28 page 309. Magdalene Feust to Lewis Gomez (southern border is low water mark plus 130 ft between the east and west line granted to make land).
1739 (Lots 37 & 38 western part of Lots 27 & 26)	Deed recorded March 7, 1739 in Liber 32 page 151. Lewis Gomez to Robert Bowne.
1742 (Lots 37 & 38 western part of Lot 27 & 26)	Unindexed 1742 deed. Summarized in 1763 Willis Map. Estate of Robert Bowne to Evert Byvanck.
1799 (Lots 26,27, 37,38)	Deed recorded July 24, 1799 in Liber 56 page 531. Estate of John Byvanck to Mary Codwise (daughter).

Parcel A: Lot 37

1818	Deed recorded March 9, 1818 in Liber 125 page 429. Mary Codwise to William Howard.
1888	Deed recorded February 2, 1888 in Liber 2112 page 437. Estate of Betsey and Amelia Hart to Richard Chard.

Parcel A: Lot 38

1818	Deed recorded March 9, 1818 in Liber 125 page 432. Mary Codwise to James Benedict.
1869	Deed recorded May 17, 1869 in Liber 1105 page 360. Estate of Samuel and Elizabeth Tweedy, Estate of Julia and Margaret Benedict to Catherine Lorillard Wolfe
1888	Deed recorded January 6, 1888 in Liber 2115 page 1. Estate of Catherine Lorillard Wolfe to heirs of George Lorillard, Catharine Thomas and Elizabeth Conkling.
1889	Deed recorded July 16, 1889 in Liber 2230 page 453. Victor and Marie Lesieur to Horace and John Ely, trustees, will of John and Eliza Lesieur.

Water Lot Grant 2 and Parcel A:

Lots 26 and 27

Approximately half of the square footage of Lots 27 and 26 follows the same chain of title as Lots 37 and 38. In 1799 the original parcel plus a water lot (filled under the provision of a 1756 grant) was subdivided into two lots. One lot contained Lots 37 and 38 and the other, Lots 26 and 27. This latter parcel contained 30 ft by 37 ft (fronting Front St.) of 1756 Water Lot footage. The remaining section was filled under provisions delineated in deeds for Lots 37 and 38 (Liber 28 page 39-09, Liber 32 page 151, and Willis Map 1763).

1756 eastern part of Lots 26-27)	Water Lot Grant recorded July 1, 1756 in Grants of Land Under Water Liber C page 146. Corporation to Evert Byvanck.
1799 (Lots 26 & 27)	Deed recorded Nov. 13, 1799 in Liber 57 page 163. Mary and Goerge Codwise Jr. to Jane Youle (the female children of John Byvanck). (Jane Youle was wife of Garrit Bleeker Liber 125 page 432).
1881 (Lots 26 & 27)	Deed recorded March 16, 1881 in Liber 1578 page 314. Estate of Jane Bleeker to Frederick and Bleeker Van Wagenen.
1893 (Lots 26 & 27)	Deed recorded December 1, 1893 in Liber 20 page 265. Bleeker and Kate Van Wagenen to Arthur Company.

Water Lot Grant 3 and Parcel B: Lots 25 and 39

1716 (Lots 39,40, western part of Lots 25, 24)	Deed recorded April 16, 1717, Liber 28 page 285. Magdalene Fuest to Joseph Latham. (Southern border is low water mark plus 130 ft between the east and west lines granted to make land.)
1719 (Lot 39 & western part of Lot 25)	Deed recorded August 14, 1719 in Liber 28 page 538 and summarized in Liber 32 page 195. Joseph Latham to Nicholas Brouwer (130 ft by 23 ft extension beyond low water mark included).
1722 (Lot 39 & western part of Lot 25)	Deed recorded April 11, 1722, summarized in Liber 32 page 105. Nicholas Brouwer to Benjamin Wyncoop (130 ft by 23 ft extension beyond low water mark included).
1738 (Lot 39 and western part of Lot 25)	Deed recorded July 4, 1738 in Liber 32 page 105. Benjamin Wyncoop to Robert Bowne (130 ft by 23 ft/25 ft extension beyond low water mark probably included).
1756 (eastern part of Lot 25)	Water Lot Grant recorded July 1, 1756 in Grants of Land Under Water Liber C page 151. Corporation to Margaret Bowne.

Water Lot Grant 3 and Parcel B: Lot 25

1807 (Lots 24 & 25)	Deed, recorded September 26, 1807 in Liber 77 page 406. George Boune to William and John Mott.
1846 (Lot 25)	Deed recorded February 5, 1846 in Liber 471 page 249. William Mott to David Wood.
1884 (Lot 25)	Deed recorded April 23, 1884 in Liber 1803 page 7. Estate of Samuel Wood to Van Wyck Brinkerhoff.
1903 (Lot 25)	Deed recorded January 2, 1903 in Liber 74 page 243. Mark Brinkerhoff to Arthur Company.

Parcel B: Lot 39

1800 (Lot 39)	Deed recorded in Liber 58 page 31. George Bowne to Samuel Stillwell.
1818 (Lot 39)	Deed recorded March 31, 1818 in Liber 127 page 214. Samuel Stillwell to Peter Lorillard.
1843 (Lot 39)	Deed recorded December 30, 1843 in Liber 442 page 3. Estate of Peter Lorillard to heirs Peter Lorillard, Jr., Eleanora Spencer, Dorothea Wolfe, Maria Ronalds, and Catherine Lorillard.
1848 (Lot 39)	Deed recorded January 7, 1848 in Liber 499 page 242. Estate of Maria Ronalds to trustees of Eleanora Ronalds.
1893 (Lot 39)	Deed recorded March 16, 1893 in Liber 18 page 1. Trustees of Eleanora Ronalds to Laura Conkling.

Water Lot Grant 4 and Parcel C: Lots 40 and 24

1716 (Lots 39,40, western part of Lots 24 & 25)	Deed recorded April 16, 1717 in Liber 28, page 295. Magdalene Feust to Joseph Latham. (Southern border is low water mark plus 130 ft between the east and west lines granted to make land).
1720 (Lot 40 & western part of 24)	Deed recorded August 16, 1720 in Liber 30 page 92. Joseph Latham to John Breested. (Southern border is lot water mark plus 130 ft between the east and west lines granted to make land).
1720 (Lot 40 and western part of 24)	Deed recorded May 31, 1759 (indenture made June 25, 1720) in Liber 35 page 159. John Breested to James Rennaudet.
1756 (eastern part of 24)	Water Lot Grant recorded July 1, 1956 in Grants of Land Under Water in Liber C page 157. Corporation to Mrs. Belita Rennaudet.
late 18th c. (Lots 40 & 24)	Parcel conveyed to George Bowne.

Water Lot Grant 4 and Parcel: Lot 24

1807 (Lots 24 & 25)	Deed recorded September 26, 1807 in Liber 77 page 406. George Bowne to William and John Mott.
1844 (Lot 24)	Deed recorded December 11, 1844 in Liber 450 page 607. William Mott to Mary Jones (sister)
1903 (Lot 24)	Deed recorded October 26, 1903 in Liber 80 page 144. Estate of Mary Jones to Arthur Company.

Parcel C: Lot 40

1804 (Lot 40)	Deed recorded June 4, 1804 in Liber 130 page 47. George Bowne to Thomas Payne
1818 (Lot 40)	Deed recorded June 6, 1818 in Liber 128 page 340. Francis Tillou, attorney, to Sarah Payne, widow of Thomas.
1825 (Lot 40)	Deed recorded March 22, 1825 in Liber 188 page 496. Sarah Payne to Charles Lawton.
1826 (Lots 40, 41, & 42)	Deed, recorded April 18, 1826 in Liber 202, page 206 Charles Lawton, broker to James Burling.
1856 (Lot 40)	Deed, recorded June 3, 1856 in Liber 709 page 405. Felix De Levalett & Samuel Welles to Charles C. brooks. De Lavalett and Welles apparently acquired the property through defaulted mortgages by Burling; see Liber 404 page 205. Property remained in the Brooks family until after 1910.

III. Water Lot Grant 5: Lots 41, 42, 43, 44, 45, 46, 47, 48, 23

This parcel was filled under the terms of Stephen Van Cortlandt's 1750 Water Lot Grant (Harris 1980:45). Van Cortlandt also owned land north of the water lot grant on Queen Street. "This Water Lot was 55'8" in breadth along Water Street and 200' long. The East River formed its southern boundary. Other terms (of the grant) included making a wharf contiguous to Water Street and also expanding Water Street's width from 30 ft to 45 ft. The grantee was also responsible for building a wharf or street, 40 ft wide along the newly created waterfront. . . ." (Harris 1980:45). This wharf was an extension of Burnett's Key, later Front Street (Grants of Land Under Water: Book B-408). This parcel seems to have been subdivided by Van Cortlandt's widow and most of the lots passed to the Schermerhorn family by the late 1780s (Liber 194 page 153).

Water Lot 35:

1750 (Lots 41, 42,43,44,45, 46,47,48,23)	Deed recorded May 30, 1750 (Grants of Land Under Water Book B-408) Corporation to Stephen Van Cortlandt.

Water Lot Grant 5: Lots 41 and 42

1768 (Lots 41 & 42)	Deed, recorded June 22, 1825 in Liber 194 page 151. William Ricketts Van Cortlandt to Lawrence Kortwright.
1787 (Lots 42 & 42)	Deed recorded June 22, 1787 in Liber 194 page 153 Lawrence Kortright to Simon Schermerhorn, Cornelius Schermerhorn, James Stewart and Catherine Schermerhorn (later appear as heirs of John Schermerhorn)
1793 (Lots 41 42)	Deed recorded June 22, 1825 (in Liber 194 pages 157-58). Simon, Peter, and Cornelius Schermerhorn and James Stewart, heirs of John Schermerhorn deceased to Catherine Schermerhorn.
1825 (Lots 41 & 42)	Deed recorded April 20, 1825 in Liber 190 page 13. Catherine Schermerhorn to Charles Lawton.
1826 (Lots 40, 41,and 42)	Deed recorded April 18, 1826 in Liber 202, page 106. Charles Lawton to James Burling.

Water Lot Grants: Lot 41

1844 (Lot 41)	Deed recorded February 28, 1844 in Liber 446 page 227. Philo T. Ruggles, Master in Chancery for James Burling and others, defendants, to John Ferguson.
1877 (Lot 41)	Deed recorded April 5, 1877 in Liber 1416 pages 35-36. William Ferguson to George P. Ferguson.

Water Lot Grant 5: Lot 42

1844 (Lot 42)	Deed recorded April 11, 1844 in Liber 446 page 458. Philo T. Ruggles, Master in Chancery, for James Burling and others, defendants, to Cornelius V. S. Roosevelt.
1871 (Lot 42)	Deed recorded Nov. 17, 1871 (partition of estate of Cornelius Roosevelt) Liber 1185 page 498 to James A. Robert B. Theodore, Cornelius V.S., Cornelius, Mary W. Hilborne L. James, W. Frank, S. Weir Roosevelt.
1871 (Lot 42)	Deed recorded Nov. 17, in Liber 1185 page 524 Hilborne L., James W. and Frank Roosevelt to James A., Robert B., Theodore, Cornelius V.S., Cornelius, Mary W. Roosevelt.

Water Lot Grant 5: Lots 43, 44, 45, 46, 47

late 18th-early 19th century	Parcel conveyed to Catherine Lawrence.
1809 (Lots 43-47)	Deed recorded June 2, 1809 in Liber 83 page 167. Estate of Catherine Lawrence to John Grayson.
1835 (Lots 43-47)	Deed recorded December 25, 1835 in Liber 346 page 204 Francis and Lettice Graham (formerly Lettice Grayson, widow of John Grayson) to Elizabeth and Martha Mowatt.
1843 (Lots 43-47)	Deed recorded May 8, 1843 in Liber 437 page 138. James C. Haviland, trustee, to Elizabeth Anne Mowatt.
	Elizabeth Anne Mowatt continues as owner through 1904.

Water Lot Grant 5: Lot 48

late 18th-early 19th century	Parcel conveyed to Catherine Lawrence.
1809 (Lot 48)	Deed recorded April 4, 1832 in Liber 282 page 455. Estate of Catherine Lawrence to Simon Schermerhorn.
1884 (Lot 48)	Deed recorded May 17, 1884 in Liber 1730 page 116. Hamilton Cole, referee, John Schermerhorn and others defendants to Charles C. Woodworth.
1885 (Lot 48)	Deed recorded July 2, 1885 in Liber 1892 page 199. Charles Woodworth to John Brosner.
1899 (Lot 48)	Deed recorded December 6, 1899. Michael Brosner to Mary J. Brosner in Liber 55, page 403.

APPENDIX B: THE DOCUMENTED OCCUPANTS OF THE EXCAVATED LOTS ON THE TELCO BLOCK

LOT 24

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1789	Burling Slip nr. Beekman Slip**	George Bowne* Walter Mitchell, boat builder**	
1790	Beekman Slip	Walter Mitchell, boat builder**	
1791	Front St. nr. Burling Slip**	Walter Mitchell, boat builder**	
1792-1793	Beekman Slip**	Walther Mitchell, boat builder**	
1794	186 Front St.*	George Brown, shop* Walter Mitchell, boat builder**	
1795-1804	186 Front St.	Walter Mitchell, boat builder**	
1805-1807	186 Front St.	T.H. Smith & Sons, grocers **	
1808	186 Front St.	T.H. Smith & Sons, grocers**	water on ****
1809-1811	186 Front St.	T.H. Smith & Sons, grocers	
1812-1815	186 Front St.	T.H. Smith & Sons, grocers** Widow Lincoln in rear*	
1816	186 Front St.	T.H. Smith & Sons, grocers**	brick store not damaged in fire***
1817	186 1/2 Front St.*	Thomas H. Smith, merchant**	improving*
1818	186 Front St.*	Thomas H. Smith, merchant**	
1819-1820	194 Front St.*	Thomas H. Smith, merchant**	
1821	194 Front St.*	Thomas H. Smith, merchant**	water stopped**** May, 1821-burned
1822-1826	194 Front St.*	Thomas H. Smith, merchant**	
1827-1828	194 Front St.*	Ellingwood and Taylor*	
1829-1835	194 Front St.*	Randolph & Crane, merchants**	
1836-1837	194 Front St.*	Randolph & Crane, merchants**	

Lot 24 (continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1838	194 Front St.*	Randolph & Crane, merchants Lucius H. Waite & Co., fruit store**	
1839	194 Front St.*	John Wait*	
1840-1850	194 Front St.*	Samuel Mitchell & Co., commission merchants**	moved from Lot 27
1851-1853	194 Front St.*	S.L. Mitchell, commission merchants**	
1859-1863	194 Front St.*	George Ricardo, guano	
1864	194 Front St.*	George Ricardo, guano	moved to Lot 41
1929	194 Front St.*	wire cables***** coffee merchants*****	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1789	between Burling & Beekman Slips**	Alexander Brown*, cooper** Smith*, F. Marschalk*	
1790-1793		Alexander Brown, cooper**	
1794	184 Front St.	Alexander Brown, cooper**	shop*
1795	Between Beekman & Burling Slips**	Alexander Brown, cooper** Bowne & Pearsall, bar iron store**	
1796		Norman Butler, merchant** Bowne & Pearsall, bar iron store**	
1797		Bowne & Pearsall, bar iron store**	
1798-1800		George Burchill, grocer**	
1801		George Burchill, grocer** Riley & Osmer, chairmaker**	
1802		George Burchill, grocer** Joseph Riley, Windsor chairmaker	moved to Lots 26/27
1804		Charles McCarthy, grocery store**	burned 1804, small wooden building
1808	184 Front St.	Wood, Mott, & Byrnes*	water on**** new building
1809-1810	184 Front St.	Wood & Byrnes, merchants**	
1811	184 Front St.	Wood & Byrnes, merchants**	moved to 92 South St.
1812-1813	184 Front St.	Thomas H. Smith*	also on Lot 24
1814-1815	184 Front St.	Gordon & Daniel Buck, merchant**	
1816	184 Front St.	Gordon & Daniel Buck, merchant**	brick store undamaged in fire***
1817	184 Front St.	Gordon & Daniel Buck, merchant**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1818	184 Front St.	Floyd & Barney * Gordon & Daniel Buck, merchant**	
1819	192 Front St.	Gordon & Daniel Buck, merchant**	
1820	192 Front St.	Gordon & Daniel Buck, merchant**	
1821-1826	192 Front St.	Thomas H. Smith, tea merchant**	also on Lot 24
1827-1828	192 Front St.	William McIntire, ship chandler**	
1829-1839	192 Front St.	W.E. & J.F. Craft, grocers**	moved from Lot 27
1840-1842	192 Front St.	W.E. & J.F. Craft, grocers** C.P. Williams, grocers**	
1843-1850	192 Front St.	C.P. Williams, grocers**	
1851	192 Front St.	C.P. & E. Williams, grocers** C.H. Reed, commission merchant** D.C. Freeman, commission merchant**	
1852-1855	192 Front St.	C.P. & E. Williams, grocers**	
1856-1857	192 Front St.	O'Neill, Forker, & Price, tobacco warehouse**	
1858-1859	192 Front St.	James Ainslie, importer** John Turton, naval stores** O'Neill, Forker, & Price, tobacco warehouse**	
1860-61	192 Front St.	James Ainslee, naval stores** John Turton, naval stores**	
1862	192 Front St.	John Turton, naval stores**	
1863	192 Front St.	Demill & Co., Richard Demill, lawyer** John Turton, naval stores**	
1865	192 Front St.	Sand A. Wood, commission merchant	
1890	192 Front St.	Wholesale tobacco house*****	

LOTS 26 & 27 before 1819:
these lots assessed together before this year

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1787-1788	Between Beekman & Burling Slips	John Blagge, merchant, store**	
1789	On Bowne's wharf*	John Blagge, merchant, store**	
1790-1793	Byvanck & Bowne's Wharf**	John Blagge, merchant, store**	
1794-1798	182 Front Street	John Blagge, merchant, store**	
1800	182 Front Street	George Robertson, merchant tailor**	
1801	182 Front Street	George Robertson, merchant tailor Lawrence & Whitney, merchants**	
1802	182 Front Street	Lawrence & Whitney, merchants**	
1805	182 Front Street	George Burchill, grocer & clothing store**	moved from Lot 25
1806-1810	182 Front Street	George Burchill, grocer & clothing store** Jacob Bansher, hairdresser**	
1811	182 Front Street	Jacob Bansher, hairdresser** Gilbert Horton & Son*	
1812	182 Front Street	Gilbert Horton & Son* Charles Baldwin, sign painter**	
1813	182 Front Street	Jacob Bansher, hairdresser** Gilbert Horton & Son **	water on****
1815	182 Front Street	Frances George* Sylvester Clarke, grocer**	
1816	182 Front Street	David Tracey, shoemaker** Thomas Matthews*	house burned down Dec. 3, 1816*** improving lot*

LOT 26: Assessed with Lot 27 before 1819

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1819	190 Front St.	Henry Hobart, merchant** Horace Learned, merchant**	new building
1820-1822	190 Front St.	Cyreneus Beers,* merchant**	
1823	190 Front St.	Mitchell & Bleeker, merchants** Cyreneus Beers, merchant**	
1824-1828	190 Front St.	Mitchell & Bleeker, merchants**	
1829	190 Front St.	Mitchell & Bleeker, merchants** Robert F. Manly, distiller**	
1830-1831	190 Front St.	Mitchell & Bleeker, merchants**	
1832-1837	190 Front St.	Mitchell & Neilson* Mitchell & Bleeker, merchants**	
1838-1839	190 Front St.	Mitchell & Bleeker, merchants	
1840	190 Front St.	G. Bleeker* David Hustace, wholesale grocer**	Mitchell moved to Lot 24
1841	190 Front St.	George W. Land, grocer** G. Bleeker	
1842-1843	190 Front St.	George W. Land, grocer** G. Bleeker	
1844-1852	190 Front St.	J.J. Craig & G.W. Lane, grocer	
1854-1855	190 Front St.	J.H. Bergman & Co., importers**	
1856-1858	190 Front St.	J.H. Bergman & Co., tobacco warehouse**	
1859-1862	190 Front St.	John Turton, naval stores**	also on Lot 27
1863	190 Front St.	John Turton, naval stores** Martin Bennett, fruits**	also on Lot 27 moved from Lot 23
1864	190 Front St.	Martin Bennett, fruits**	
1865-1869	190 Front St.	Martin Bennett, fruits** John Cuthbert, commission merchant**	

LOT 26 (Continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1870-1874	190 Front St.	W.H. Perego & Co., fruits** John Cuthbert, commission merchant**	
1875-1876	190 Front St.	W.H. Perego & Co., fruit & fireworks** John Cuthbert, general importer**	
1877-1888	190 Front St.	W.H. Perego & Co., fireworks**	
1896			structures on Lots 26 & 27 became one *****
1920		printing plant*****	

LOT 27: Assessed with Lot 26 before 1819

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1819	188 Front St.	Harvey Mulford*	New building
1820	188 Front St.	H.N. Bush, Merchant**	
1821-1828	188 Front St.	Craft and Smith, grocers**	Moved to Lot 25, 1829
1829-1830	188 Front St.	Benedict & Oakley, grocers**	
1831-1832	188 Front St.	J.C. Redmond & Co., merchants**	
1833-1835	188 Front St.	B. Blossom & Field, merchants**	
1836	188 Front St.	Benjamin Blossom, merchant**	
1837	188 Front St.	Garret Bleeker*	
1839	188 Front St.	Mitchell & Co.*	
1840-1848	188 Front St.	Poultney & Jenkins, wholesale dealers in sperm oil, spermaceti & English candles**	
1849-1856	188 Front St.	T.G. & A.L. Rowe, linseed oil manufacturer** J.G. Williams, commission merchant**	
1857-1858	188 Front St.	J.G. Williams, commission merchant**	
1859	188 Front St.	J.G. Williams, commission merchant** P. Holt & Sons, tobacco warehouse**	
1860	188 Front St.	J.G. Williams, merchant** Shepherd Knapp, candles** P. Holt & Sons, tobacco warehouse**	
1861-1864	188 Front St.	P. Holt & Sons, tobacco** Shepherd Knapp, candles**	
1865-1868	188 Front St.	Knapp Bros. & Co., oil & candles**	
1869-1890	188 Front St.	A.L. & C.L. Holt, tobacco warehouse**	
1896	188 Front St.		Lots 26 & 27 become structure*****
1820s	188 Front St.	printing plant*****	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1789	Near Burling Slip	John Riker*	
1794	180 Front St.*	John Ryker's store*	
1801-1804	180 Front St.	Kimberly & Warring, merchants** Henry Warring, store**	
1807-1810	180 Front St.	Stephen Allen, sail loft**	
1811	180 Front St.	Wright & Allen, sail duck loft** Justin & Elias Lyman, countinghouse**	
1812-1815	180 Front St.	Wright & Allen, sail loft & sail duck store	
1816	180 Front St.	Wright & Allen, sail loft & sail duck store	fire 12/3 heavily damaged store***
1718-1818	180 Front St.	Stephen Allen, sail duck store**	
1819-1820	186 Front St.	Stephen Allen, sail duck store**	
1821	186 Front St.	Stephen Allen, Mayor of the City** Cornelius M. Allen, sail store**	
1822-1826	186 Front St.	Stephen Allen & Son, sail duck store**	
1827	186 Front St.	Stephen Allen, & Son, sail duck store** James Reynolds, merchant**	
1828-1830	186 Front St.	Stephen Allen, merchant John Cole & Co., sail duck store** Thomas Ireland, sail duck store**	
1831	186 Front St.	Stephen Allen, merchant** Thomas Ireland & Co., sail duck store**	
1832-1837	186 Front St.	Thomas Ireland & Co., sail duck store**	
1838	186 Front St.	P. Balen & Co., fruits	
1839	186 Front St.	P. Balen & Co., fruits Charles C. Williams, gauger**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1840-1843	186 Front St.	P. Balen & Co., fruits**	
1844-1847	186 Front St.	P. Balen & Co., fruits** A.B. Dunlap, commission merchant**	
1848	186 Front St.	P. Balen & Co., foreign fruits, nuts, preserves, cigars, etc.** A.B. Dunlap, commission merchant**	
1849-1850	186 Front St.	P. Balen & Co., foreign fruits** A.B. Dunlap, commission merchant**	
1851	186 Front St.	P. Balen & Co., foreign fruits** A.B. Dunlap, Demill & Co., commission merchants**	
1852-1858	186 Front St.	P. Balen, foreign fruits** A.B. Dunlap, fruits	
1859-1861	186 Front St.	Demill & Co., merchants** Samuel Dayton, picklewarehouse**, manufacturer of preserves, pickles, sauces, catsups, and hermetically sealed goods (undated lithograph, NYHS)	
1863	186 Front St.	E.H. Swain & Co., oil brokers**	
1864	186 Front St.	E.H. Swain & Co., oil brokers** Curtis & Crowell, brokers	
1865-1866	186 Front St.	E.H. Swain & Co., oil brokers**	
1915	186 Front St.	Cassella Color Co., mixing & packing dry colors*****	

LOT 37

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1789	164 Water St.	Cornelius Brinckerhoff** John Thompson*	
1791	164 Water St.	William Parker, painter & glazier** Cornelius Brinckerhoff, cutler**	
1792	164 Water St.	Cornelius Brinckerhoff, cutler** Henry Troup, merchant**	
1793	164 Water St.	Cornelius Brinckerhoff, cutler & brassfounder** Caleb Pell, coppersmith**	
1794	187 Water St.	George Codwise, Jr.* Cornelius Brinckerhoff, cutler & brassfounder**	
1795-1798	187 Water St.	Cornelius Brinckerhoff, brass-founder**	
1799	187 Water St.	Cornelius Brinckerhoff, brass-founder** Pell & Harrison, coppersmith**	
1800	187 Water St.	Cornelius Brinckerhoff, brassfounder**	
1801	187 Water St.	James Farrell, tavern**	moved to Lot 38
1805	187 Water St.	Simon Bellamy, house carpenter**	
1808	187 Water St.	Harmon Shatzel, boot & shoemaker*	
1810	187 Water St.	Robert Charnley, grocer* Robert Charleton, hatter**	
1811	187 Water St.	Robert Charleton, hatter**	
1812	187 Water St.	Robert Charleton, hatter** Joseph Hart, clothier*** A. Mitchell, cloth**	
1813	187 Water St.	Jospeh Hart, clothier**	Also on Lot 38

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1815	187 Water St.	John Garland, confectioner**	
1816	187 Water St.	E. Mitchell* Joseph Hart, clothier***	fire 12/3 destroyed house***
1817	187 Water St.	Vacant lot*	
1818	187 Water St.	Improving lot*	
1819-1826	187 Water St.	Henry Storms, saddler**	new building
1827-1839	187 Water St.	Asa H. Center & Son, fur store**	
1840-1842	187 Water St.	S. Dunn, agricultural warehouse & wire cloth manufacturer**	
1843	187 Water St.	S. Dunn & Co., wire cloth manufacturer** William Steward*	
1844	187 Water St.	S. Dunn & Co., wire cloth manufacturer**	
1845	187 Water St.	S. Dunn & Co., wire cloth manufacturer** William Howard*	
1846	187 Water St.	S. Dunn & Co., wire cloth manufacturer**	moved to Lot 38
1850	187 Water St.	George Sheppard, commission merchant**	
1851	187 Water St.	George Sheppard, agent** Edward Boughton, wholesale furrier**	
1852	187 Water St.	George Sheppard, agent**	
1853	187 Water St.	George Sheppard, scales warehouse**	
1856-1858	187 Water St.	John J. Halsey, plush hatter** James & Henry Raymond, wholesale furrier**	

LOT 37 (Continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1859-1860	187 Water St.	Gustavus Mayer, cork cutter** James & Henry Raymond, wholesale furrier**	1860-Mayer moved to Lot 40
1861-1863	187 Water St.	James & Henry Raymond, furs**	
1869-1900	187 Water St.	Robert Reeves, fertilizers & agricultural implements**	1873 ad states that he deals in cotton gins & presses, mowing machines, grain drills, wheel rakes, seed & fertilizer sowers**
1942	187 Water St.	Oceanic Electric Products, storage lofts, factories, offices*****	1888-structure on Lots 37 & 36 combined*****

LOT 38

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
		PROBABLY ASSESSED WITH LOT 37 UNTIL 1794	
1794	189 Water St.	George Codwise, Jr., store* Albert Ryckman, china & glass store**	
1785-1796	189 Water St.	Albert Ryckman, china & glass store**	
1797-1798	189 Water St.	Dunlap & Judah, merchants**	
1801	189 Water St.	William Littlewood, hairdresser**	
1802	189 Water St.	William Littlewood, hairdresser** James Farrell, grocer**	Moved from Lot 37
1803	189 Water St.	James Farrell, grocer**	
1804-1805	189 Water St.	James Farrell, grocer** Jacob Bausher, hairdresser**	
1807-1808	189 Water St.	P.O. Brian, grocer**	
1809	189 Water St.	John Johnson, grocer**	
1810	189 Water St.	John Johnston, grocer**, A. Cartwood*, Asa Eastwood, city Marshall** George F. Largin, printer**	
1812-1813	189 Water St.	Sylvester Clarke & S.W. Andrews, printer**	
1815-1816	189 Water St.	Joseph Hart, clothier** A. Mitchell, clothier**	Also on Lot 37 fire 12/3/16 destroyed house***
1817	189 Water St.	Vacant lot*	
1818	189 Water St.	Improving lot*	
1819	189 Water St.	Fiton (Seton?)*	new building
1820-1826	189 Water St.	Halsey & Ebbets, fur store**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1827-1832	189 Water St.	Halsey & Moore, fur store**	
1833-1834	189 Water St.	John C. Halsey & Co.**	also on Lot 39 1834-improving lot*
1835	189 Water St.	John C. Halsey & B. Clapp*	
1836	189 Water St.	John C. Halsey & Co.**	
1837	189 Water St.	Van Winkle & Randall, fur merchants**	
1839-1842	189 Water St.	Stephen A. Halsey, furs**	
1843-1845	189 Water St.	Lewis J. White, furs**	
1846-1847	189 Water St.	A.B. Allan, agricultural implements, plows, harrows, cultivators**	
1848-1849	189 Water St.	A.B. Allan, agricultural implements** Simeon Dunn, wire cloth manufacturer**	Dunn moved from Lot 37
1850	189 Water St.	A.B. Allan, agricultural implements** Simeon Dunn, wire cloth manufactuer** Michael Baker, machinist**	Allan also on Lot 39
1851-1853	189 Water St.	A.B. Allan, agricultural warehouse & seed store**	
1854-1856	189 Water St.	A.B. Allan, agricultural warehouse** Allan & Co., publishers**	
1856-1869	189 Water St.	A.B. Allan, agricultural warehouse**	1860-publisher of The American Agriculturalist
1870-1888	189 Water St.	R.L. Allan, agricultural warehouse**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1786	163 Water St.	Backhouse, merchant**	
1787	163 Water St.	Gibbon Bourke, grocer**	
1789-1790	163 Water St.	Nicholas Delaplane, merchant**	
1791	163 Water St.	Nicholas Delaplane, merchant** Alex MacDonald, dry goods store**	
1792	163 Water St.	Nicholas Delaplane, merchant**	
1793	163 Water St.	Alex MacDonald, shipwright**	
1794	191 Water St.	Thomas Brantingham**	
1796-1798	191 Water St.	Henry Ellis, merchant**	
1799	191 Water St.	Penny & Cook, hairdressers**	
1801-1802	191 Water St.	George Shipley, cabinetmaker**	
1804-1805	191 Water St.	Hewitt & Ansley, cabinetmakers**	
1808-1810	191 Water St.	Hewitt & Mandeville, cabinetmakers**	
1811-1815	191 Water St.	John Hewitt, cabinetmaker**	
1816	191 Water St.	John Hewitt, cabinetmaker & hardware	water on**** fire on 12/3/16 originates here***
1817-1820	191 Water St.	Vacant lot*	
1821-1828	191 Water St.	Dilworth & Vorhees, fur store**	new building water on 11/21****
1829	191 Water St.	Alfred Seaton*	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1832-1833	191 Water St.	John C. Halsey & Co., furs**	Also on Lot 38
1834	191 Water St.	John C. Halsey & Co., furs** improving lot*	
1835	191 Water St.	Benjamin Clapp**	new building
1837-1838	191 Water St.	Pollen & Colgate, importers & dealers in paints, oils, glass**	
1839	191 Water St.	Gilbert & Jessup, paints**	
1841-1842	191 Water St.	Daniel Colt, crockery**	
1850-1889	191 Water St.	A.B. Allen & Co., agricultural implements and seed**	Also on Lot 38

LOT 40

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1786	162 Water St.	Nicholas Conroy, boarding-house**	
1787	162 Water St.	Elias Herring, boot & shoe-maker**	
1789-1793	162 Water St.	Seymour Stout, shoemaker**	
1794	193 Water St.	Seymour Stout, shoemaker** Alex MacDonald*	Also on Lot 39
1795-1799	193 Water St.	Seymour Stout, shoemaker**	
1800	193 Water St.	Seymour Stout, shoe manu-factury**	
1801	193 Water St.	Seymour Stout, shoemaker** George B. Smith, surgeon's instrument maker**	
1804	193 Water St.	John Annely, gunsmith**	
1805	193 Water St.	Thomas David, grocer**	
1807	193 Water St.	Jacob Heyerde, fruiterer**	
1808	193 Water St.	Jacob Heyerde & John McMurray, fruiterer and grocer**	
1809	193 Water St.	Jacob Heyerde, fruiterer**	
1810	193 Water St.	Thomas Payne, cabinetmaker** Thomas Underwood, shoemaker** William Haycock, grocer**	
1812	193 Water St.	Thomas Payne, cabinetmaker** Solomon Phillipps, broker** Joseph Solomon, broker**	
1814-1816	193 Water St.	Thomas Payne, cabinetmaker**	1816 fire on 12/3 destroyed building*** water on****

LOT 40 (Continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1817-1825	193 Water St.	Vacant Lot*	
1826-1827	193 Water St.	James Burling*	New building
1829	193 Water St.	Boyden & Lampson, fur store**	
1830-1839	193 Water St.	Simeon Dunn & Co., wire manufacturer**	1840 moved to Lot 47
1842	193 Water St.	John D. Locke, tinware**	
1843-1845	193 Water St.	Locke & Carter, tinsmith**	
1846-1854	193 Water St.	John Locke, tinware**	
1955-1858	193 Water St.	Locke, Ketcham & Co., japanned ware**	
1859	193 Water St.	Locke, Ketcham & Co., japanned ware** Henry Ackerman, clerk**	
1860-1865	193 Water St.	Gustavus Mayer, cork**	Moved from Lot 37
1865-1882	193 Water St.	Gudewill, Mayer & Co., importer of cork**	
1883-1900	193 Water St.	Gudewill & Buckhall, corks**	
1907	193 Water St.	Cork house***	
1947	193 Water St.	Paper baling, dead storage*****	

LOT 41

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1879	161 Water St.	Thomas Ginners, tobacconist**	
1791	163 Water St.	George Shipley, cabinetmaker**	
1792	163 Water St.	George Shipley, cabinetmaker** John Bogert, cooper, culler of staves**	
1793	163 Water St.	George Shipley, cabinetmaker	
1794-1798	195 Water St.	George Shipley, cabinetmaker	
1799	195 Water St.	Thomas Payne, cabinetmaker** Robert Charnley, hat store**	
1800-1805	195 Water St.	Thomas & Jonas Payne, cabinet-makers** Robert Charnley, hat store**	moves to Lot 43
1806-1807	195 Water St.	Thomas & Jonas Payne, cabinets**	
1808-1811	195 Water St.	Thomas & Jonas Payne, cabinets**	1810-1816 T. Payne also on Lot 40
		John Cheetham, hatter**	1806-1809 J. Cheet-ham also on Lot 42
1812-1813	195 Water St.	Thomas & Jonas Payne, cabinets**	
1815	195 Water St.	Samuel Southall, manufacturer of bellows** William Hale, bellows mender**	
1816	195 Water St.	Underhill** Moore & Hoffman, crockery store**	fire 12/3 destroys building***
1817-1826	195 Water St.	Vacant lot*	
1826-1829	195 Water St.	James Burling*	also listed for Lot 40 new building
1832-1834	195 Water St.	Henry Haydock, crockery**	
1835	195 Water St.	Thomas D. Moore*	

LOT 41 (continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1836-1839	195 Water St.	James D. Sparkman & Co., cork dealers**	
1843-1853	195 Water St.	Ebenezar Stevens, wine and liquor importers**	
1854-1859	195 Water St.	Ebenezar Stevens, commission merchant**	
1860	195 Water St.	Thomas M. Adriance, merchant**	
1865-1884	195 Water St.	George Ricardo, guano**	
1885-1888	195 Water St.	George Ricardo, agricultural implements Buffalo Alcholene Co., alcohol**	
1889	195 Water St.	George Ricardo, machinist** Buffalo Alcholene Co., alcohol**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1795	197 Water St.	Henry Waring, merchant (store)**	
1796	197 Water St.	Tredwell & Co., china and glass warehouse**	
1797	197 Water St.	Jonathon Tredwell & Co., china merchant**	
1805	197 Water St.	James Muir, merchant**	
1806-1809	197 Water St.	John Cheetham, hatter	1808-1811 also on Lot 41
1812	197 Water St.	Mrs. Hale**	
1816	197 Water St.		12/3 fire destroyed building**
1817	197 Water St.	Vacant lot	
1818	197 Water St.	Biddell, stable*	new building
1819-1820	197 Water St.	Whitson, stable**	
1821-1823	197 Water St.	Daniel Sammis & Whitson* Place & Whitson, livery stable***	water on****
1824-1825	197 Water St.	James Burling* Thomas Moore, merchant**	
1828-1833	197 Water St.	Adeninan Underhill, crockery**	
1834	197 Water St.	Underhill & Seymour, crockery**	
1835	197 Water St.	William Odell, crockery**	
1836	197 Water St.	Dewey & Everett, crockery** Daniel Colt*	
1837-1839	197 Water St.	Dewey & Everett, crockery**	
1840	197 Water St.	Squire P. Dewey, crockery**	

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1841-1843	197 Water St.	Squire P. Dewey, crockery** Wells & Co., of Paris*	
1844-1848	197 Water St.	Squire P. Dewey, crockery**	
1848-1865	197 Water St.	John Mayner & Co., plows & agricultural warehouse**	
1866	197 Water St.	George Mayner, agricultural implements**	
1875-1896	197 Water St.	Aaron B. Cohu, agricultural implements**	

LOT 46

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1811	24 Beekman Slip	Vacant lot*	
1812-1813	24 Beekman Slip	Peter Schermerhorn*	Also listed for Lot 47
1814-11816	24 Beekman Slip	J.P. Schermerhorn, ship-chandler**	1816-fire 12/3 destroys building***
1818-1819	24 Beekman Slip	Stephen Holt, victualler**	Also on Lot 47 New building
1820	24 Fulton Slip	Stephen Holt, victualler**	
1821-1824	24 Fulton Slip	Stephen Holt, victualler** Nicholas Miller, hairdresser**	
1825	24 Fulton Slip	Stephen Holt, victualler** John Burgess, grocer** John Jackson*	
1826	24 1/2 Fulton St.	Stephen Holt, victualler** John Burgess, grocer**	
1827	24 Fulton St.	John Burgess, grocer**	
1828-1835	24 Fulton St.	Stephen Holt, victualler** John Burgess, grocer**	Lots 46 & 47 combined
1836-1843	24 Fulton St.	John Burgess, grocer**	
1846	24 Fulton St.	Robert Gendar, fruiter**	
1847-1849	24 Fulton St.	Robert Gendar, fruiter** William Fogg, upholsterer**	
1850	24 Fulton St.	William Fogg, upholsterer** Robert Gendar, wholesale fruit** Case & Lawrence, bakers**	Also on Lot 45
1851-1854	24 Fulton St.	William Fogg, upholsterer** Robert Gendar, wholesale fruit**	
1855	24 Fulton St.	William Fogg, upholsterer**	

LOT 46 (continued)

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1856-1860	24 Fulton St.	William Fogg, upholsterer** Augustus Semanos, cigar importer**	
1861-1864	24 Fulton St.	William Fogg, upholsterer**	
1865	24 Fulton St.	William Fogg, importers & dealers in bedding	
1869-1872	24 Fulton St.	Henry Hirsch, cigar dealer**	

LOT 47

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1811	22 Beekman Slip	Vacant lot* Peter Schermerhorn*	
1812-1813	22 Beekman Slip	Peter Schermerhorn*	New building also listed for Lot 46
1814	22 Beekman Slip	P.W. Gallande*	
1816	22 Beekman Slip	Smith & Maintain, grocers	Fire 12/3 destroys building **
1818-1819	22 Beekman Slip	Stephen Holt. victualler**	Also on Lot 46 New building
1820-1822	22 Fulton Slip	Stephen Holt, victual house****	
1823-1827	22 Fulton Slip	Stephen Holt, tavern****	
1828-on	24 Fulton St.	SEE LOT 46	Lots 46 & 47 combined

LOT 48

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
pre-1818		Not individually assessed	
1818-1819	20 Beekman Slip	Robert Back*	
1820	20 Fulton St.	Peter Back*	
1821	20 Fulton St.	Robert Back*	
1822	20 Fulton St.	Back & Bradish*	
1823	20 Fulton St.	William Torry*	
1825	19 1/2 & 20 Fulton St.	S.N. & J.G. Mott, grocers**	
1826	20 Fulton St.	Waite & Phelps, grocers**	
1827-1829	22 Fulton St.	Thomas P. Orten, boarding-house**	
1830	22 Fulton St.	Thomas P. Orten, boarding-house** Benjamin Rogers*	
1831	22 Fulton St.	Thomas P. Orten, boarding-house** Benjamin & Thomas Rogers, fishermen*	
1832	22 Fulton St.	Thomas Orten, boardinghouse** Aaron Rumsey, grocer* Benjamin & Thomas Rogers, fisherman* Andrew Cunningham, cigarmaker*	
1833-1834	22 Fulton St.	Fulton Hall, boardinghouse** Leonard & Roe* E.H. Chandler, jeweler* Benjamin Rogers, fisherman*	
1835	22 Fulton St.	Fulton Hall, boardinghouse** Leonard & Roe, boardinghouse**	

LOT 48

YEAR	ADDRESS	OCCUPANT/OCCUPATION	COMMENTS
1836-1837	24 Fulton St.	George Smith, brooms	
1839	22 Fulton St.	N. Bradfor*	
1840-1843	22 Fulton St.	J. Schermerhorn*	
1847-1858	22 Fulton St.	Hervey G. Law, woodenware**	
1859-1860	22 Fulton St.	Hervey G. Law, woodenware dealer** Silas G. Ayres, clerk**	
1861-1873	22 Fulton St.	H.G. Law, woodenware**	
1898	22 Fulton St.	Saloon, 1st floor; cigar factory, upper floors*****	

Key to Sources Used in Appendix B

* Tax Records, Second Ward, Municipal Archives, New York City, 1789, 1791, 1794-1795, 1808-1843.

** New York Directories, New York Public Library, New York Historical Society.

*** New York Evening Post, December 4th and 5th, 1816.

**** Manhattan Water Book, 1820-1825, Chase Manhattan Archives.

***** Records of the New York City Department of Buildings.

NOTE: The tax records after 1843 indicate the ownership of a property, but not its occupant.

APPENDIX C

Preliminary Report on Ethnobotanical Remains from the Telco Block Site, a Historic Site in Lower Manhattan

by
Josselyn Flowers Moore

The Telco Block site, located in the South Street Seaport Historic District in Lower Manhattan, was excavated under the direction of Diana Rockman, Soil Systems, Inc., from July to November, 1981. In the process of excavation, 38 4-quart flotation samples were taken from a variety of contexts. Twelve samples were taken from the backyard of Lot 40, 9 samples from landfill deposited from the 1730s to the ca 1770s, and 17 samples from features (primarily privies and cisterns, but also a wooden box, a dry well, and a house floor) from several of the lots on the block. Flotation processing was done by Soil Systems, Inc.

Methodology

Due to the abundance of the vegetal remains in the samples, all material was first weighed and then screened through two geological screens with 3.3 mm and 2.0 mm screen openings. The resulting three fractions--coarse, medium and fine--were analyzed separately.

All seeds and plant parts were removed from the coarse fractions and most of the medium fractions. In those samples where either the volume was great (200+ grams) or the seed counts extremely high (1000s) the medium fraction was split. Fine fractions were broken down by pouring through a random splitter to allow a statistically significant sample to be taken. The numbers in the tables represent the samples as reconstituted after splitting. If, for example, the coarse fraction of a sample was not split, but the medium fraction was split once and the fine fraction three times, the final seed counts for each fraction were then multiplied by a factor of 1, 2 and 8, respectively. As an indication of the wealth of botanical remains, these 38 4-quart samples produced over 32,000 seeds.

Each sample fraction was scanned using a binocular microscope with a magnification range of 10x to 60x. Seed and wood identification was accomplished with the aid of the comparative collection and reference materials in the laboratory. A "grab sample" of 20 pieces of wood or wood charcoal was attempted for each sample. Some samples were either too small or the wood too poorly preserved to permit a full 20 pieces to be identified. Although this "grab sample" is not a statisically random sample, it is the experience of the laboratory that it provides a good representation of the wood species present (Minnis and Ford 1977). Wood and wood charcoals were identified by analyzing a cross-section under the microscope at 30x. In all, 32,092 seeds were identified, in addition to 558 pieces of wood and wood charcoal, weighing 66.35 grams.

Analysis

Although all flotation samples taken were 4 quarts, the post-flotation weights varied considerably, indicating the differing densities of vegetal material in the sample. The least dense material appeared in the dry well sample, which had a weight of less than 4 grams. Landfill, cistern, stratified backyard deposits and the wooden box samples had average weights which fell between 35 and 45 grams. The house floor sample and the privies produced samples which were comparatively rich in vegetal materials; the averages for these types of cultural features were around 140 grams.

Vetegal remains are classified in three major categories; these are economic plants, weeds, and wood. Economic plants are represented by seeds from genera which are of economic value. Many of these plants are domesticated and some possibly imported. The "weeds" are generally understood to be any plant growing as a volunteer, usually in a disturbed area. All of these species are common today throughout much of the United States and many are regarded as rather formidable pests appearing in fields, gardens, yards and vacant lots. Although these plants are hardy pioneers in disturbed areas, this does not necessarily exclude them from human use. The wood category is represented by the wood and wood charcoals identified in the samples.

Twenty-one species of economic plants were identified, including peach, plum, cherry, apple, watermelon, cucumber, grape, raspberry, strawberry, fig, peanut, pepper, tomato, olive, cactus, anise, nut shells, persimmon, coffee, hazel/filbert and squash. An acorn meat was also found. The weeds were represented by 13 species; these were amaranth, a daisy family member, mustard, lambsquarter, jimsonweed, carpetweed, purslane, nightshade, goosegrass, knotweed, smartweed, dock and bulrush. Ten species of trees were also identified; these were maple, hickory, ash, pine, oak, birch, beech, willow, cherry/plum and elm.

Stratified Deposits, Composed of 1730s Landfill and Later Occupational Materials

The stratified deposits in the backyard of Lot 40 produced a seed population which largely represented weedy species (89%). A few seeds (9%) were from such economic species as plum, squash, apple, cherry, grape, fig, raspberry and strawberry. Nut shell fragments were also recovered. It is important to note that the raspberry and strawberry seeds account for 85% of the economic seeds. Only slightly over 1% of the total seed count came from economic species other than these two berries.

Two-thirds of the wood charcoals, by weight, derived from pine (29%), oak (20%), and hickory (13%). Ash (10%), maple (3%) and elm (.2%) were also represented.

Landfill Sampled in the Backhoe Trenches

Nine samples were taken from landfill dating to three different time periods. The wood species in the landfill dating to the 1730s from Backhoe trenches K and N consisted mainly of oak (50%), ash (15%), hickory (13%), and pine (4%), as well as bark (9%), with some traces (1% or less) of maple, birch, cherry/plum and elm. The 1740s and 1750s landfill yielded primarily hickory (44%), pine (34%), and oak (10%), with traces of maple, birch, and ash. The most recent landfill, dating from the 1760s to 1770s and represented here by a single sample, resembles the earlier landfill profile, with hickory (40%), and oak (10%) predominating in the sample. Present also were maple, birch and traces of ash, willow and bark. A large population (31%) of this later landfill wood was not identified to the genus level because it was either in bad condition or burned while still green, which causes the sap in it to bubble and distort the cell structures.

A difference between the time periods may be the sharp decrease in the occurrence of oak in the landfill. It drops from a high in the 1730s of 50% of the wood by weight, to 10% in the 1750s through the 1770s.

Economic plants seed represent 47% of the seeds recovered from the backhoe trenches excavated in the fill. As with the stratified deposits, however, 90% of these economic seeds are either strawberry or raspberry. Since strawberries also occur in the wild and raspberries like disturbed habitats, caution should be used in interpreting the economic significance of these species. Weedy species are well represented in the seed population, and weed seed counts are high, especially when compared to the features examined from this site. Most of the weedy species represented in the landfill are fond of disturbed, but fairly well-drained habitats. They are not wetland or aquatic species. This may indicate the source of the landfill.

Features

Generally, the features yielded a high proportion of pine wood by weight (82%) when compared to the percentage of pine in landfill (14%) and in the stratified deposits (29%). This situation would be congruent with a model of cultural selection for this particular wood species for construction purposes. Oak represents 11% of the wood from features, while other species (maple, birch, hickory, beech and ash) are each 2% or less.

Since these features represent a considerable time span, it is possible to address questions concerning change over time. This may be done by comparing similar features (with presumed similar functions) at various points in time. In this way, it is possible to control for taphonomic variation in plant deposition.

Privy

Privies are potentially the most interesting of all these features. Privy samples represent three time periods. Overall, these samples contain virtually all economic plant species (96% to 99% of the seed counts). Weedy seeds account for only .2% to 3% of the samples.

The single sample from the 1830s boardinghouse privy contained numerous economic seeds, including plum, cherry, apple, watermelon, grape, strawberry, raspberry, pepper (green), tomato, filbert nut shell and unidentified nut shells. The two early nineteenth century samples were nearly identical, but also contained fig seeds and a peanut shell, and lacked the pepper seeds. The later nineteenth century samples were nearly identical, but also contained fig seeds and a peanut shell, and lacked the pepper seeds. The later nineteenth century commercial-use privy samples were very much like the preceeding samples with the exception of the lack of peanut or other nut shells and the addition of squash and cucumber.

Perhaps the most interesting information is the lack of bone in the three samples from the 1830s and early nineteenth century privies, and its presence in all of the five later nineteenth century samples. Whether this indicates lack of meat in the diets of the earlier population, or merely a change in butchering, food preparation or consumption practices is not known. Analysis of the bone from the samples would clarify this point.

The single sample from the 1830s privy produced only pine wood. The two samples from the early nineteenth century privy yielded mostly pine (90%), a little oak (5%) and a trace of birch. The five samples from the later nineteenth century privies still show a large amount of pine (88%) and some oak (9%), with traches of hickory, ash and maple.

Cistern

Seeds from the cistern samples were largely from economic species. The two 1830s cistern samples yielded 10% weed seeds and 88% economic plant seeds. The two later nineteenth century cistern samples contained no weed seeds at all. The weed species present in the 1830s cistern were the same ones present in the landfill and stratified backyard deposits.

Among the economic species represented in the cistern samples, there are the ubiquitous raspberry and strawberry, in addition to fig, cherry, grape, a single carbonized acorn meat, nut shell, another peanut shell and the unique appearance of anise seed.

The wood charcoal identified from the 1830s cistern was oak (68% by weight), pine (26%), maple (5%) and beech (.3%). By the later nineteenth century, the charcoal percentages had changed to pine (50%), ash (23%), oak (13%), maple (.5%) and bark (5%). This decrease in the proportion of oak appearing in the samples over time concurs with the decrease in oak in the landfill samples.

House Floor

The house floor was remarkably clean. Only carbonized coffee beans were recovered. There were no weed seeds, and only pine wood was identified. The lack of other tree species in the wood fits the model of cultural preference for pine woods in construction.

Dry Well

A single sample of a later nineteenth century dry well yielded primarily economic seeds (92%). There was, of course, the ever-present raspberry and strawberry, and some fig and tomato. Only two weedy species were identified -- species which occur also in the landfill and stratified deposits.

Wooden Box

A wooden box in Lot 38, dating to the first decade of the nineteenth century, produced predominantly economic plant seeds (94%), and few weedy seeds (2%). Economic plant species included plum, cherry, peach, apple, watermelon, grape, raspberry and strawberry, cucumber, fig and pepper -- not unlike the cistern and privies. In addition, a single persimmon seed was identified.

Discussion

One of the general patterns which emerged from analysis of these samples is the preponderance of pine among the wood in the grab samples. Pine accounted for nearly two-thirds (62%) of all woods identified, by weight. Oak (16%) was a poor second, followed by hickory (6%) and ash (4%). All other tree species were only 3% or less, by weight. This may be an indication of either the availability of pine or a cultural preference for pine, or both. It has already been noted that pine was used at least in the construction of wharves and docks in eighteenth century Manhattan (Rockman n.d.). Pine is well suited for construction purposes because of its straight and tall trunk. Pine is also a pioneer plant itself, more characteristic of disturbed, sub-climax plant communities. Also, the decreasing percentages of oak in both the landfill and cisterns over time may suggest a decline in the availability or use of this tree over time.

The most obvious feature of the seed data is the almost monotonous presence of raspberries and strawberries in the samples. Both berries are of economic importance for their fruits, and, as is fitting, occur alongside the other economic plant species. But they also occur in force where weedy seeds dominate the samples in the landfill. There data are congruent with a scenario of historic lower Manhattanites growing these plants locally. They may have been purposefully raising these plants, or simply permitting the berries to grow in their yards and adjacent lots.

The dietary information afforded by the samples, especially the privy samples, is biased. The fruit species, of course, dominate the seed counts since the people are utilizing the fruit, or seed housing, itself. We have no information on plant species used as vegetables, where such non-seed bearing parts were used, such as stems, leaves, tubers, etc. A change in meat consumption patterns may be indicated by the data, either changes over time, or from one social group to another. Corroboration is required from faunal analysis of the bone from the privy samples. There is, of course, the possibility that the bone represents a post-depositional intrusion. Even if this is true, the absence of intrusive bone in earlier privies and presence in later privies would require explanation.

The flotation samples shed some light on the possible source of the eighteenth century landfill. Birches and willows are often found in moist soils, some species even preferring stream banks and lake margins. These two species occur in enough of the fill samples to suggest such an environment for the landfill source.

Conclusion

Flotation sampling from historic archaeological sites can provide information which may be used to address a wide variety of problems. Ethnobotanical data may either be used in forming hypotheses or in providing corroboration for what types of plant materials were selected for use in construction, and if these selection patterns changed over time. It also provides clues as to sources of fill dirt prior to construction.

Humans not only use natural resources, but they also influence their environment. Oak has long been an important lumber tree, of particular importance to barrel-making and shipbuilding. Historic Manhattanites may have used up much of their locally available supplies of oak, since oak is a slow-growing tree, particularly when compared to the more ambitious pine.

Ethnobotanical information can contribute to our knowledge about subsistence, although it cannot provide a complete dietary picture. Such data can indicate changes over time, however, and variation among contemporary groups in a population.

Finally, ethnobotanical analysis helps to create a picture of local environment. The large numbers and wide variety of weed species in the samples indicates a disturbed habitat and perhaps a casual maintenance of the lots. Such analysis provides information about gardening practices, such as the local cultivation of raspberry and strawberry plants.

TABLE C1. The Contents of the Flotation Samples from the Deposits in Lot 40

Cultural Unit	Excavation Unit	Stratum	Catalogue #	Weight (G)	Economic plants					
					Prunus americana (plum)	Cucurbitaceae (squash family)	Malus sp. (apple)	Prunus (cherry)	Vitis sp. (grape)	Rubus (prob. raspberry)
Late 18th-early 19th occupa.	AC	18	834	37.9						
		22	712	9.26						4
		23	733	240.5		1			1	
	AF	6	721	4.26						8
	AH	4	640	27.61						2
1730s landfill	AC	26	859	16.51						
		26	867	47.87			1			1
	AD	14	847	31.87						88
		14	856	44.69				1		36
	AF	11	848	19.07						
		11	832	43.36	1					8
	AH	12	870	3.88						4
TOTAL					1	1	1	1	1	151

TABLE C1. (continued)

Cultural Unit	Excavation Unit	Economic Plants (cont.)			Weeds				
		Fragaria (strawberry)	Ficus (fig)	Unident. nut shell frags	Amananthus (amaranth)	Brassica (mustard)	Chenopodium (lambs-quarter)	Datura (jimson-weed)	Eleusine (goose-grass)
Late 18th-early 19th occupa.	AC	67	3			10			
	AF	1	5						
	AH	6							
1730s landfill	AC	32		2/.01	16		128		320
		8					48		88
	AD	8					32	3	24
		12		2/.02			6	3	
	AF	12	4		4	4	24	7	28
		32	16			4	16		132
	AH						18	3	2
TOTAL		178	28	11/.03	20	18	272	16	594

TABLE C1. (continued)

Cultural Unit	Excavation Unit	Weeds (cont.) Mollugo (carpet-weed)	Polygonum (knotweed)	Polygonum (smartweed)	Portulaca (purslane)	Rumex (dock)	Scirpus (bulrush)	Solanum (night-shade)	Unident. seeds/ frags.	Sample Total*	Comment
Late 18th-early 19th occupa.	AC								2°	3	mainly charcoal
									1		
										84	entire sample yellow
										2	badly preserved
	AF		1	1					1	17	
	AH			2						10	
1730s landfill	AC		480		928				8	1914	mostly uncarb. wood chips
			32	184	120	8			48	538	"
	AD		24		64		8		32	283	
			4		4				4	72	
	AF	24	20	12	204			16		359	
		8	136	8	400		4		12	776	
	AH	94			98			2		221	
TOTAL		126	697	207	1818	8	12	18	108	4280	

° carbonized
* totals for preceding 22 plant categories

TABLE C1. The Contents of the Flotation Samples from the Deposits in Lot 40 (continued)

Cultural Unit	Excavation Unit	Stratum	Catalogue #	Weight	Wood (ct/wgt) Acer sp. (maple)	Carya sp. (hickory)	Fraxinus sp. (ash)	Quercus sp. (oak)	Pinus strobus (pine)	Ulmus sp. (elm)
Late 18th-early 19th occupa.	AC	18	834	37.9	1/.28	10/1.27		5/.52		
		22	712	9.26						
		23	733	240.5						
	AF	6	721	4.26	2/.02	2/.01	2/.01	1/.01	1/.01	
	AH	4	640	27.61	1/.02	1/.01	7/.72	2/.14	4/.57	
1730s landfill	AC	26	859	16.51		2/.28	1/.01	3/.16	1/.01	
		26	867	47.87			1/.01	2/.01	1/.28	
	AD	14	847	31.87			1/.01	7/.36	11/.43	1/.02
		14	856	44.69			10/.38	3/.39	7/.30	
	AF	11	848	19.07	1/.01			3/.24	6/.54	
		11	832	43.36				7/.52	5/1.24	
	AH	12	870	3.88		3/.01				
TOTAL					5/.33	18/1.58	22/1.14	33/2.35	36/3.38	1/.02

TABLE C1. (continued)

Cultural Unit	Excavation Unit	Wood (ct/wgt) Ring-porous	Diffuse porous	Bark	Unidentified	Sample Total*	Fish Scales	Bone	Pottery	Comments
Late 18th-early 19th occupa.	AC			2/.32	2/.29	20/2.68		1	1	no ident. wood uncarb. wood & compressed globs of vegetal matter
	AF	4/.02	1/.01			13/.09				
	AH	2/.02	2/.36	1/.01		20/1.85				
1730s landfill	AC	1/.01	1/.02	1/.01	1/.01	10/.50 4/.30				
	AD		1/.58	1/.03	1/.05	23/1.48 10/1.07	1	7		
	AF	4/.19	1/.03	5/.46 7/.5	 1/.01	20/1.47 20/2.27				
	AH			1/.01	7/.02	11/.04	1			
TOTAL		11/.24	6/1.00	18/1.34	11/.37	161/11.75	2	8	1	

* totals for preceding 10 plant categories

TABLE C2. The Contents of the Flotation Samples from the Backhoe Trenches in the Landfill

Excavation Unit	Catalogue #	Cultural Provenience (Lot #)	Weight (G)	Economic Plants					
				Lycopersicon esculentum (tomato)	Amygdalus (peach)	Cucurbita (squash)	Malus sp. (apple)	Prunus (cherry)	Vitis sp. (grape)
K	112	39	16.64						
	165	40	62.06				2	2	1
	166	40	54.65					2	
	167	40	6.58						
N	176	41	19.44					1	
M	160	25	70.65		1	1		2	
	184	24	38.47						
I	132	46	30.04	6				1	
J	126	25	21.03			1			
TOTAL				6	1	2	2	8	1

TABLE C2. (continued)

Excavation Unit	Economic Plants (cont.)				Weeds				
	Rubus (raspberry)	Fragaria (strawberry)	Ficus (fig)	Unidentified nut shell fragments (count/wt.)	Tiny Dried Berry	Fruit Part	Amaranthus (Amaranth)	Asteracede (daisy family)	Brassica (mustard)
K	6	2	2					2	
	4			1/.12					
	12	40							
	1	9				1			
N	2	1							
M	116	32					8		
	16	68							
I	38	48	24		4				
J	8	4	2						2
TOTAL	203	204	28	1/.12	4	1	8	2	2

TABLE C2. (continued)

Excavation Unit	Weeds									Sample* Total
	Chenopodium (lambs quarters)	Danra (jimson weed)	Eleusine (goosegrass)	Mollugo (carpet-weed)	Polygonum (knotweed)	Polygonum (smartweed)	Portulaca (purslane)	Solanum (night-shade)	Unident.	
K	32	15		4	2	6	10		4	85
	8				8	8	12			46
	24	1	8		8	25	8			128
	8		3		1	1	16		2	42
N	1	2								7
M	32	2			16	19	40	16	8	293
	4	2		4	6	4	56	4		164
I						8	4	4	8	145
J	8	3			9	2	24	2	4	69
TOTAL	117	25	11	8	50	73	170	26	26	979

* totals for preceding 24 plant categories

TABLE C2. The Contents of the Flotation Samples from the Backhoe Trenches in the Landfill (continued)

Excavation Unit	Catalogue #	Cultural Provenience (Lot #)	Weight (G)	Wood (ct/wgt)							
				Acer sp. (maple)	Betula (birch)	Carya (hickory)	Fraxinus (ash)	Pinus (pine)	Populus (willow)	Prunus (cherry/ plum)	Quercus (oak)
K	112	39	16.64			2/.19	4/.30	2/.01			11/.82
	165	40	62.06	1/.06	1/.02	2/.33		3/.06			10/.73
	166	40	54.65	4/.02			3/.34	4/.16		1/.01	6/1.37
	167	40	6.58			5/.24					2/.13
N	176	41	19.44			3/.02	3/.25	1/.01			1/.01
M	160	25	70.65	1/.01	2/.09	12/1.16	1/.10			1/.01	3/.17
	184	24	38.47	1/.01		5/.38		8/1.00	1/.01		2/.16
I	132	46	30.04	2/.09	2/.06			6/.19			1/.01
J	126	25	21.03			6/.31	1/.01	1/.01	1/.01		4/.08
TOTAL				9/.19	5/.17	35/2.32	12/1.00	25/1.44	2/.02	2/.02	40/3.48

TABLE C2. (continued)

Excavation Unit	Wood (ct/wgt) Ulmus (elm)	Ring-Porous	Diffuse-Porous	Bark	Resin	Unident.	Sample Total*	Fish scales	Bone	Snail
K					1/.27		20/1.59			1
				1/.01		2/.17	20/1.38		1	
						2/.01	20/1.91			
				1/.01			8/.38			
N	1/.01			1/.53			10/.83			
M						1/.01	21/1.55		3	1
			2/.07	1/.01			20/1.64			
I						1/.01	12/.36			
J		4/.33	2/.01	1/.01			20/.77			
TOTAL	1/.01	4/.33	4/.08	5/.57	1/.27	6/.20	151/10.41			

*totals for preceding 14 plant categories

TABLE C3. The Contents of the Flotation Samples from the Commercial Features

Excavation Unit	Catalogue #	Cultural Provenience	Weight (G)	Economic Plants						
				Prunus americana (plum)	Prunus Cerasus (cherry)	Malus (apple)	Citrullus vulgaris (water-melon)	Cucurbita (squash)	Cucurbitacede (squash family)	Vitis (grape)
O	430	privy	34.98	1	7					16
G	251	privy	163.20	1	6	16	3		1	201
	241	privy	40.89					1		1
AR	871	dry well	3.74							
D	470	privy	220.54		1	2	13			
Y	302	cistern	83.34		1					1
AK	684	privy	81.22		7	13	2			131
AN	818	cistern	66.70							
V	216	oven	22.75							
TOTAL				2	22	31	18	1	1	350

TABLE C3. (continued)

Excavation Unit	Economic Plants (cont.)									
	Rubus (prob. raspberry)	Fragaria (strawberry)	Cucumis (cucumber)	Ficus (fig)	Peanut	Copsulum (pepper)	Tomato	Olive	Fruit Parts	Unident. nut shell frags.
O	507	784	2				30		8	
G	1548	2304	6	496			324			1/.01
	48	156	2	4			2		1	
AR	190	114		6			6			
D	1813	5008		1056		43	1010	5		
Y	1								10	
AK	1218	2080	8				216			
AN					1				178	
V	4	556		36						
TOTAL	5329	11002	18	1598	1	43	1586	5	197	1/.01

TABLE C3. (continued)

Excavation Unit	Economic Plants (cont.)		
	Opuntia sp. (cactus)	Pimpinella anisum (anise)	Sample Total*
O			1355
G			4907 215
AR			316
D	3		8954
Y		2	15
AK			3675
AN			179
V			596
TOTAL	3	2	20212

* totals for preceding 19 plant categories

TABLE C3. The Contents of the Flotation Samples from the Commercial Features

Excavation Unit	Catalogue #	Cultural Provenience (Lot #)	Weight (G)	Weeds			
				Brassica (mustard)	Chenopodium (lambs quarters)	Datura (jimson weed)	Mollueo (carpet-weed)
O	430	privy	34.98			1	
G	51	privy	163.20			6	
	241	privy	40.89			1	
AR	871	dry well	3.74				14
D	470	privy	220.54	464			
Y	302	cistern	83.34				
AK	684	privy	81.22		16		
AN	818	cistern	66.70				
V	216	oven	22.75				
TOTAL				464	16	8	14

TABLE C3. (continued)

Excavation Unit	Weeds (cont.) Portulaca (purslane)	Solanum (night-shade)	Solanaleae (nightshade family)	Unidentified seeds/frags.	Sample Total*
O		24		50	75
G			160	29	195
			1	4	6
AR	12			2	28
D				178	592
Y				2	2
AK					16
AN					0
V				4	4
TOTAL	12	24	161	219	918

* totals for preceding 8 plant categories

TABLE C3. (continued)

Excavation Unit	Wood (ct/wgt)									
	Acer (maple)	Carya (hickory)	Fraxinus (ash)	Pinus (pine)	Quercus (oak)	Bark	Twig	Ring-porous	Unident. wood	Sample Total
O		1/.02	1/.06	8/3.22	9/.57				1/.01	20/3.88
G				18/1.14	1/.01				1/.01	20/1.16
		1/.01		19/.97						20/.98
AR					3/.01		1/.01			4/.02
D										0/0
Y	1/.02		1/.11	18/.98						20/1.11
AK	1/.01			4/.14				3/.06		8/.21
AN			2/.66	11/.72	5/.44	1/.16			1/.31	20/2.29
V										
TOTAL	2/.03	2/.03	4/.83	78/7.17	18/1.03	1/.16	1/.01	3/.06	3/.33	112/9.65

TABLE C3. (continued)

Excavation Unit	Cork Artifacts	Coal	Fish Scale	Bone	Snail
O				1	
G		1/.16		8	
				1	
AR					
D				5	
Y	3				
AK				2	
AN					1
V			1	7	1

TABLE C4. The Contents of the Flotation Samples from the Residential Feature

Excavation Unit	Catalogue #	Cultural Provenience (Lot #)	Weight (G)	Economic Plants: Prunus americana (plum)	Prunus cerasus (cherry)	Amygdalus persica (peach)	Malus (apple)	Citrullus vulgaris (water-melon)	Vitis (grape)	Rubus (prob. raspberry)
AX	555	box	59.51		8	1	14	11	15	549
	527	box	31.82	2				2	7	189
AT	946	privy	200.87	5	16			1	227	10338
	954	privy	287.09	4	42		9	62	378	3096
AL	544	house floor	140.41							
TOTAL				11	66	1	23	76	627	14172
AS	908	privy	81.34	1	11		3	2	23	4624
AM	890	cistern	11.24							133
	909	cistern	19.84							80
TOTAL				1	11		3	2	23	4837

TABLE C4. (continued)

Excavation Unit	Economic Plants (cont.)									
	Fragaria (strawberry)	Cucumus (cucumbers)	Ficus (fig)	Diospyros virginiana (persimmon)	Peanut	Coffee	Capsulum (pepper)	Tomato	Fruit Part	Quercus sp. (acorn meat)
AX	176 56	2	156 32	1			2		7 1	
AT	1216 928		1152 4609		1			570	8 24	
AL						20*				
TOTAL	2376	2	5949	1	1	20	2	570	40	
AS	272						390 98*	4		
AM	2 4		44 8							1*/.06
TOTAL	278		52				488	4		1/.06

TABLE C4. (continued)

Excavation Unit	Economic Plants (cont.)		Sample Total*
	Corylus (hazel/ filbert)	Unident. Nut shell frags.	
AX			942 289
AT		3/.24 1/.01	13537 9151
AL			20
TOTAL		4/.25	
AS	1/.27	1/.06	5430
AM		1/.02	181 92
TOTAL	1/.27	2/.08	5703

* totals for preceding 19 plant categories

TABLE C4. The Contents of the Flotation Samples from the Residential Features (continued)

Excavation Unit	Catalogue #	Cultural Provenience (Lot #)	Weight (G)	Weeds			
				Brassica (mustard)	Chenopodium (lambs-quarter)	Eleusine (goose-grass)	Polygonum (knotweed)
AX	555	box	59.51	12	8		
	527	box	31.82		2		
AT	946	privy	200.87				
	954	privy	287.81				
AL	544	house floor	140.41				
TOTAL				12	10		
AS	908	privy	81.34	128			32
AM	890	cistern	11.24			2	
	909	cistern	19.84				8
TOTAL							

TABLE C4. (continued)

Excavation Unit	Weeds (cont.) Polygonum (smartweed)	Portulaca (purslane)	Solanaceae	Unident. seeds/ frags.	Sample Total*
AX				52	
		2			
AT			16		
			32	176	
AL					
TOTAL		2	48	52	
AS	2			112	
AM		2			
		20		4	
TOTAL					

* totals for preceding 8 plant categories

TABLE C4. (continued)

Excavation Unit	Wood (ct/wgt) Acer (maple)	Betula (birch)	Carya (hickory)	Fagus (beech)	Pinus (pine)	Quercus (oak)	Ring-Porous	Diffuse-Porous	Bark	Unident. wood	Sample Total
AX			1/.02		10/.97	6/1.46			2/.16	1/.62	20/3.23
					1/.01	1/.12					2/.13
AT					18/2.78	2/.21					20/2.99
		1/.02			4/2.97	3/.14	2/.12			2/.17	12/3.42
AL					20/17.98						20/17.98
TOTAL		1/.02	1/.02		53/24.71	12/1.93	2/.12		2/.16	3/.79	74/27.75
AS					20/3.69						20/3.69
AM	2/.03			1/.01	2/.29	13/.57		2/.02			20/.92
	3/.13				7/.51	10/1.54					20/2.18
TOTAL	5/.16			1/.01	29/4.49	23/2.11		2/.02			60/6.79

TABLE C4. (continued)

Excavation Unit	Fish Scale	Bone	Snail
AX	2	23	
AT			1
AS			3
AM		1 1	1
TOTAL	2	25	5

APPENDIX D: PATTERNS IN URBAN FOODWAYS: TELCO BLOCK FEATURES TCAM AND TCAX

PATTERNS IN URBAN FOODWAYS:
TELCO BLOCK FEATURES TCAM and TCAX

INTRODUCTION

The value of recovery of bones, teeth, shell, seeds and other plant and animal remains has become widely recognized and acknowledged for the contribution that these artifactual specimens can make to enhanced understanding of a total cultural system. Garbage is artifactual in the sense that the remains of food animals have passed in Reed's (1963:214) classic phrase, "through the cultural filter". Daley (1969) makes the valid point that food remains do not constitute a chance assemblage and their presence in the site is due solely to human behavior.

Ultimately, the goal is to understand cultural attitudes toward food, and traditions that relate to every aspect of obtaining, preparing and eating food. Of course, many customs, methods and kinds of food procurement have no tangible manifestations and will not be possible to trace. It is as important to realize the limitations to a full reconstruction of past foodways as it is to know the potential ways for interpretation of past nutritional procurement.

Data upon which the reconstruction of historic diet is based are the identified remains of animals, plants and artifacts related to food use that are associated with an historic occupation. Those remnants that provide clues about historic diet are the durable, inedible portions of food, such as shell, bone and tooth fragments of animals, or grains, seeds, fruit pits, and cobs. Even in the best of circumstances, these remnants are a small and disproportionate reflection of the past subsistence as all foods do not have potentially preservable inedible portions. Although reconstruction of an historic food pattern is aided by written accounts of what dietary practices were followed in the form of cookbooks, records of supply purchases, etc., the reconstruction is clouded somewhat by the biased nature of floral-faunal preservation and the imperfect understanding of refuse depositional patterning.

Although a floral and faunal analysis cannot completely recreate a subsistence system, the data was analyzed in such a manner as to discern patterned trends or relationships either between stratums or between assemblages which will enhance understanding of the diachronic and synchronic socio-economic characteristics of the project area.

FAUNAL ANALYSIS

A total of 2,502 fragmentary faunal specimens were recovered from TCAX, a domestic feature of the TELCO block. A total of 10,116 fragmentary faunal specimens were recovered from TCAM which was identified as a feature from a boarding house. Tables 1 and 2 list gross faunal specimen counts and weights. Each recovered faunal specimen received a count value of one. A comprehensive inventory of each feature's contents, by stratum, is included. The inventory lists species and skeletal elements identified. In addition,the inventory

TABLE I TCAM BOARDING HOUSE

	FISH		BIRD		MAMMAL		RODENT		SHELL	
Strata Ia	#	weight	#	weight	#	weight	#	weight	#	weight
#633	5	3.2gm	15	13.2gm	78	105.5gm	5	.6gm	1	.2gm
#648	36	8.1	39	25.2	114	377.2	2	.1	-	-
#921	121	26.9	326	181	632	518.5	28	4.1	1	1.5
TOTAL	162	38.2	380	219.4	824	1001.2	35	4.8	2	1.7
Strata Ic										
#879	569	122.5	418	293.7	1,726	1,460	22	5:6	-	-
Strata Id										
#890	474	102.6	275	233.1	2,416	1,481	24	6.2	8	9.4
Strata Ie										
#895	83	19.7	104	105.7	1,356	1,190.5	2	.9	13	15.7
Strata IIa										
#903	11	3.1	21	5.2	154	362.4	2	.2	-	-
Strata IIb										
#904	42	13.3	25	6.3	376	402.9	2	.2	-	-
Strata IIc	74	20.5	188	194.4	320	564.1	6	3.1	2	.2
Feature total	1,415	319.9gm	1411	1057.8gm	7172	6462.5gm	93	21.0	25	27.0gm

TABLE 2
TC AX FEATURE 17
DOMESTIC DEPOSIT

	FISH		BIRD		MAMMAL		RODENT		SHELL	
	#	Gram Weight	#	Gram Weight	#	Gram Weight	#	Gram Weight	#	Gram Weight
Strata Ia #716	28	3.5	9	3.1	35	226.1	-	-	4	1.3
Strata Ib #553	2	.2	1	1.1	7	8.0	3	.5	-	-
Strata Ic #655	7	1.1	4	1.3	29	28.4	5	1.0	-	-
Strata Id #691	5	.3	4	.9	14	62.7	-	-	-	-
Strata If	5	.5	4	.4	16	220.6	-	-	-	-
Strata IIa #527	143	19.3	15	5.3	47	57.8	2	.9	-	-
Strata IIIa #554	1,211	334.0	29	16.4	75	360.4	22	4.3	-	-
Strata IVa #555	346	58.4	42	6.3	45	87.6	-	-	8	11.4
Strata Va #635	70	2.4	8	1.3	-	-	5	6.2	1	1.2
Strata VIa #666	10	.4	-	-	3	1.2	3	.6	-	-
Strata VIIIa #695	-	-	14	4.1	1	34.8	-	-	-	-
Strata IXa	-	-	10	1.4	-	-	-	-	-	-
Floor #515	114	23.0	22	12.7	69	42.0	5	1.2	-	-
Feature Total	1941	443.1	162	54.3	341	1129.6	45	14.7	13	13.9

notes the presence of butchering and charring of specimens. Material was identified to the genus level where possible and in some cases to the species level. Confirmation of species was aided by cross checking faunal identification manuals (Cornwall 1956; Olsen 1979, 1968, 1964; Ryder 1969) and cross checking with a type collection of faunal material.

Species Present

Six domesticate species are present in the faunal assemblages. The six are cow (Bos indet. sp.), pig (Sus scrofa), sheep (Ovis aries), chicken (Gallus domesticus), turkey (Meleagris gallopavo) and duck (Aythya collaris). Non-domesticate bird, rodent and reptile bone are also present. Fish is also well represented within the project area.

Among the taxa represented, several species are not associated with dietary activity, the Corvo brachyrhynchos (crow), the Colinus virginicus (bobwhite) and the Sturnella neglecta (meadowlark) may appear within the assemblage as a result of their natural activities. The Canis familiaris (dog) and the Felis domesticus (cat) remains may represent a pet or stray animal. The presence of rodents may be suggestive of a parasitic relationship between rodents and the block dwellers garbage debris.

The birds of economic importance within the assemblages are Gallus domesticus (chicken) and Meleagris gallopavo (turkey). Turkey was considered a domesticate in this study because of the difficulty in determining wild from domestic. Both turkey and chicken are well represented within assemblages TCAM and TCAX suggesting that fowl was an important dietary component. In assemblage TCAX the remains of a duck were recovered but this appears to be an isolated recovery suggesting infrequent consumption. Although Aythya collaris was listed as a domesticate, it is difficult to assess whether it was hunted or purchased.

By far the most popular mammal consumed would seem to be beef for both assemblages. It is interesting to note that while pork comprises a portion of the mammal remains for the domestic household assemblage(TCAX), there are virtually no pork remains recovered from the boarding house feature (TCAM). Given the large amount of mammal remains that were recovered, it is unlikely that this is reflective of sampling error. It is more likely that this absence of pork within the boarding house context is reflective of ethnic preference.

Ovis aries (sheep) is represented within both assemblages. This species is primarily represented by limb bones which suggest that "leg of lamb" was an occasional dietary component.

There was a high recovery rate for fish bones. From the domestic assemblage 1,941 skeletal elements were recovered. Undoubtably fish was a dietary component but it should be remembered that this high frequency of fish bone recovery is somewhat reflective of the high number of skeletal elements each fish possesses; therefore it is difficult to truly assess the proportional contribution of fish to the diet by gross skeletal element count alone.

Mollusc fragments were recovered in small amounts from both assemblages. Mollusc shell preserves quite well, therefore the low recovery rate suggests that mollusc were not a major dietary component.

Analytical Perspective

Nearly all faunal analyses performed include a calculation of the minimum numbers of animals represented by each species in the faunal assemblage. Even under the best of circumstances these calculations can be spurious. Different aggregation techniques applied to a single faunal assemblage may produce minimum numbers that are not necessarily comparable. As the collection is divided into smaller aggregates of faunal material, for instance, by subdividing the collection according to the strata or vertical excavation units, the number of separate specifications of most abundant elements will increase. Thus dividing a faunal collection into a smaller number of larger faunal aggregates will eventuate in the definition of smaller absolute minimum number values than would dividing the same collection into a larger number of smaller aggregates (Grayson 1973,1978, 1979).

The early inhabitants of the project area participated in a market economy whereby butchered cuts of meats were purchased. Given the amount of butchered bone present in the assemblage it would seem imprudent to assign minimum numbers to the species present. A high frequency of Bos pelvis fragments or scapulae may not necessarily represent parts of the same animal and to assign a minimum number of one cow to these skeletal elements may be highly misleading. It is much more likely that Bos butchered pelvis remains represent the separate purchase of a rump roast. The Bos scapula more likely represents a shoulder roast than the slaughter or purchase of an entire cow. It is therefore thought that minimum species numbers are without significant meaning at best, and at worst may be misleading to analysis. For purposes of this analysis, it was thought that frequency of skeletal elements was a considerably more fruitful line of investigation. Therefore, more attention was paid to what parts of each species were occuring with what frequency than attempting the more conventional minimum numbers determination.

Further, given the urban context of analysis, attention was not focused on sex or age of butchered mammal. It was thought that animal husbandry in this urban context was minimal, and ascertainment of sex and age of purchased butchered animals would not enhance understanding of dietary regimes of either faunal assemblage.

Because the project area consumers purchased butchered cuts of meat, of particular interest to this analysis was understanding the economic significance of frequency of certain skeletal elements of purchased butchered domesticates.

Butchered Mammal

For the most part, bone that has been modified by butchering has been rendered less species diagnostic. It is problematic in terms of analysis, to fully understand which species were truly represented by a high occurence frequency because butchering can obliterate major diagnostic properties of skeletal elements. For the most part, both epiphyses are lost in butchering and the analyst is left with merely the width of a longbone cut at some point along the shaft to aid in species identification. With specimens modified in this manner, and where it could be ascertained that the specimen

was a rib fragment or a longbone fragment, but no species could be determined; small, medium and large mammal determinations were made by a process of measurement and elimination. If a fragment was judged to be too large to possibly have belonged to a small animal, it was placed in the appropriate category. For example, a seven inch diameter butchered longbone could not have belonged to a small animal. The small category included rabbit, squirrel, dog and cat. The medium category would be the size range of a sheep, goat, or a pig, whereas the large category would include animals the size of a cow, horse or deer.

Although butchering and fragmentation impede one aspect of analysis, it is best to ask questions which ellicit the most information from butchered and "non-diagnostic" bone. In a sense, the butchered bone is diagnostic in and of itself. Out of the total bone from TCAX , only 341 can be assigned to the mammalian category, and of these, 21 bones were modified by butchering. Since it is anticipated that mammals will be butchered, the total number of mammals was used to ascertain percentage of butchering. Only six percent of bone which would be expected to be modified is modified. From the TCAM assemblage there are 213 butchered specimens which comprise three percent of the mammalian population.

A useful method of understanding meat value is suggested by Hans Uerpmann (1973) whereby bones can be classified into three grades:

A: The vertebral colum (excluding the tail), upper leg bones, and the bones of the shoulder and pelvic girdle; these are muscular parts of the body with high meat value;

B: the lower leg bones and skull (with brain and jaw musculature) and mandible (jaw musculature and tongue), ribs and sternum: medium meat value;

C: face bones, tail, feet (including ankle joints): lowest meat value.

By partitioning the skeletal specimens into this framework, butchered as well as non butchered elements could be incorporated into analysis. Therefore, by utilizing Uerpmann's (1973) categorization, specimens which had previously not promoted understanding of the assemblages were incorporated in a meaningful way into analysis.

In terms of translating skeletal elements into consumer cuts of meat, it was assumed that butchered vertebrae would represent a "chop". Chops are generally considered a tasty cut of meat and are not inexpensive. A butchered longbone would represent a "steak", whereas a non-butchered longbone might represent a roast. Steaks are highly desirable cuts of meat as they are the most highly marbled with fat, therefore contain a great deal of flavor and require short cooking times. Although roasts require somewhat longer cooking time, they are considered a high value meat product. Depending on the thickness of butchered longbone, either a steak or a roast might be indicated.

Butchered and non-butchered scapulas represent a shoulder section of meat, either a shoulder roast or in the case of pork, a shoulder ham. Femurs indicate a substantial cut of meat, i.e. a "leg of lamb", and would be considered a high value meat. Ribs must be cooked for a rather prolonged period and yield small quantities of meat, but are considered to

be quite tasty. These are a medium value meat. Cranial elements, i.e. teeth and skull fragments, as well as elements from the foot are considered low value meat products. Table 3 gives a categorization of skeletal elements by meat value for each Stratum of both assemblages.

Cooking

Chaplin (1975) discusses the structure of biological properties of bone and the ramifications of cooking in order to explain the taphonomy of bone. Taphonomy is the study of processes that operate on organic remains after death to form fossil deposits (Gifford 1981). The chance of survival of bone after disposal will, of course, depend on the nature of the environment into which itis put and the physical and chemical properties of the bone when it was discarded.

The vast majority of animal bones from archaeological sites are found in a more or less fragmentary condition. Much of the fragmentation results from both pre- and post-depositional variables. Before a bone is discarded, a number of things can happen which will affect its ability to survive burial: modification by butchering, modification by cooking, modification by dogs or rodents. After a bone is discarded, it can be further modified by lack of rapid burial, weathering or soil acidity. Given all these variables, rarely are faunal assemblages comprised predominantly of whole bones. More frequently, the specimens are in a fragmentary state. In fact, of the 7,513 total mammal specimens, only a few were whole bones. The rest were fragmentary either by breakage, butchering, rodent gnawing or natural decay.

Broken non-diagnostic bone is always a problem in faunal analysis. In this analysis, specimens listed as non-diagnostic are merely small spongy fragments which gave no hint as to what skeletal element they once helped comprise (other than some epiphysis). Specimens listed as longbones carry no implication as to length, either absolute or relative to the rest of the skeleton. In the anatomical sense, longbone refers to the particular structure of limb bones and how it is differentiated from the structure of the skull, axial skeleton and girdles. The shaft of a bone is constructed of conpact bone substance (marrow) whereas the epiphyses have a spongy (calcaneous) internal structure (Cornwall 1956).

Cooking processes can be a primary variable affecting the survival rate of archaeologically recovered bone. Chaplin (1971:14), in discussing the structure and biological properties of bone, explains that a bone that has been roasted within the joint may have lost much of its organic matter and may be quite brittle. He holds that the same is partly true for a bone that has been stewed or boiled, and bone strengh will ultimately depend on the type of bone and the length of the cooking time. Chaplin asserts that cooking for just long enough to make the meat tender does not render the bone very brittle, though it will have lost some organic matter, especially fat. But if the boiling is prolonged, it is possible to destroy the bone almost completely.

Chaplin (1971:15) discusses the five main conditions in which bone can be discarded: fresh, putrescent, roasted, lightly boiled, and heavily boiled. As would be expected, the first two are highly organic and the bone retains its physical properties. The roasted bone has lost much of

TABLE 3

CATEGORIZATION OF SKELETAL ELEMENTS BY MEAT VALUE

TCAX

STRATA	HIGH		MEDIUM		LOW	
	B	NB	B	NB	B	NB
Ia			1	15		2
Ib						1
Ic				4		1
Id		1	2	4		
If	2	1	2	4		3
IIa					1	3
IIIa	2		17	8		3
IVa		1	1	1		
VIIIa		1				
FLOOR		1	1	20		1

TCAM

Ia						
#633	4		2	17		
#648	2	16	6	21		2
#921		4	4	30		10
Ic		15	31	49		5
Id	3	19	44	9		1
Ie	11	2	17	17		1
IIa	2	4	4	21		2
IIb	5	28		38		11
IIc		3	8	16		5

B - Butchered
NB - Non-Butchered

its organic matter and as a consequence is brittle. The lightly boiled bone has also lost some organic matter, but it is still greasy and less brittle than the roasted bone. The heavily boiled bone has lost the greater part of the organic constituents and is quite crumbly and porous. It would therefore seem that the highest bone recovery rate would come from bones which had not had prolonged cooking. Generally speaking, better cuts of meat come from areas where muscle is highly marbled with fat and do not require a great deal of cooking time. Less expensive cuts of meat are leaner, with less marbling of fat, and require more cooking time to render tender and easily edible.

When a carcass is cut for meat, the bones of different joints can be cut and sold with the meat or it can be cut and sold as a filet without the bone. This procedure reflects the size of the animal, household size and the price of meat. Generally, families require only a small joint, so butchers cut a carcass with this consumer objective in mind. For example, the overall frame of a sheep is quite small and a major segment of the carcass such as a shoulder or half leg is an adequate meal for most families. If bones are sold as an integral part of a joint such as a pig shoulder, they then suffer the fate of how the meat is cooked. The joint may be roasted, stewed, boiled and then may be given to the family dog.

It is interesting to note that bone in the boarding house context showed evidence of prolonged boiling. Many longbone fragments had lost organic constituents and were quite porous. This characteristic was noted with more frequency in the boarding house context than in the domestic dwelling context. This could be suggestive of "stretching" cuts of meat to feed more people by making stews and soups.

CONCLUDING REMARKS

One obvious result of analysis was that more faunal material was recovered from the boarding house context than the single family domestic context. This could be expected as the boarding house had more people consuming meals and discarding waste. The most interesting differentiation between the two assemblages was the notable lack of pork remains in the boarding house context which may be reflective of ethnic preferences or practices. The cultural patterns of urban America are diverse and complex. Faunal remains are a byproduct of human cognitive patterns of behavior which can reflect that diversity. It is hoped that through continued refinement of analysis enhanced understanding of these patterns can be accomplished.

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TCAX FEATURE 17
DOMESTIC DEPOSIT
INVENTORY

Strata Ia

#716

MAMMAL		
Ovis aries	3	1 distal humerus frag
		1 radius frag
		1 molar
Sus scrofa	2	1 tibia frag
		1 (C) calcaneous
sm	2	1 rib frag
		1 longbone frag
med	4	3 rib frags
		1 vertebrae frag
lg	7	2 rib frags
		5 longbone frags
ND	15	5 (C)
		10
Bos indet. sp.	2	1 rib frag
		1 (C) B rib frag
TOTAL	35	226.1gm
FISH	12	caudal/dorsal
	4	spine/rib
	2	vertebrae
	3	scale
	7	undetermined
TOTAL	28	3.5gm
BIRD	1	tarsometatarsus frag
	1	coracoid process frag
	2	vertebrae
	5	undetermined
TOTAL	9	3.1gm
SHELL	2	clam
	1	oyster
	1	undetermined
TOTAL	4	1.3gm

Strata Ib

#553

MAMMAL	6	non-diag spongy
	1	tooth sp. undeter.
TOTAL	7	8.0gm
RODENT	3	longbone
TOTAL	3	.5gm
BIRD		
Gallus domesticus	1	humerus
TOTAL	1	1.1gm
FISH	2	vertebrae
TOTAL	2	.2gm

Strata Ic

#655

MAMMAL		
med	4	rib frags
	1	longbone frag
ND (C)	2	
ND	21	
undetermined	1	tooth frag
TOTAL	29	28.4gm
FISH	2	vertebrae
	3	spine/rib
	1	scale
	1	undeter.
TOTAL	7	1.1gm

KEY:

(C) - charred	sm - small mammal	ND - non-diagnostic
B - butchered	med - medium mammal	L - left
frag - fragment	lg - large mammal	R - right

Strata Ic cont'd

BIRD	4	longbone frags
TOTAL	4	1.3gm
REPTILE	2	vertebrae
TOTAL	2	.6gm
RODENT	5	longbone frags
TOTAL	5	1.0gm
FLORAL	2	1 CURCURBITACEAE 1 pecan frag
TOTAL	2	

Strata Id

#691

MAMMAL

sm	2	1 B rib frag 1 (C) rib frag
med	3	2 skull frags 1 humeral epiphysis
lg	2	1 rib frag 1 B pelvis frag
ND	7	
TOTAL	14	62.7gm
FISH	5	scales
TOTAL	5	.3gm
BIRD	3	longbone frag
ND	1	
TOTAL	4	.9gm

Strata If

#735

MAMMAL

Bos indet. sp.	2	B pelvis frags

Strata If cont'd

Ovis aries	1	humerus
Sus scrofa	2	1 phalanx 3 1 metatarsal
sm		1 rib frag
med	5	1 rib frag 1 skull frag 1 sacrum frag 1 B humerus frag 1 humerus frag
lg	1	1 B vertebrae
undetermined	2	
ND B	1	
ND (C)	1	
TOTAL	16	220.6gm
FISH	3	spine
	2	caudal/dorsal
TOTAL	5	.5gm
BIRD	4	longbone
TOTAL	4	.4gm

Strata IIa

#527

MAMMAL

Sus scrofa	1	premolar
sm	1	B rib frag
med	1	B undeter
lg	2	1 vertebrae frag (C) molar
ND (C)	30	
ND	12	
TOTAL	47	57.8gm

RODENT

Sigmodin hispidus	1	mandible
	1	scapula frag
TOTAL	2	.9gm
FISH	66	spine/rib
	51	caudal/dorsal
	24	vertebrae
	1	scale

Strata IIa cont'd

	1	otolith (C)
TOTAL	143	19.3gm
BIRD		
Aythya collaris	2	1 coracoid
		1 tibiotarsus
	6	1 skull frag
		1 rib
		2 longbone frags
		1 sacrum frag
		1 vertebrae
undetermined	7	
TOTAL	15	5.3gm
REPTILE		
Toad	2	scapula
	6	vertebrae
	8	skull frags
TOTAL	16	5.8gm
SHELL	3	clam
TOTAL	3	.2gm
EGGSHELL	4	.1gm
FLORA	1	CURCURBITACEAE
	2	pecan frags
TOTAL	3	.2gm
COAL	2	1.2gm
undetermined	14	2.3gm

Strata IIIa

#554

MAMMAL

Canis familiaris	1	proximal end ulna
Bos undet. sp.	9	1 B medial femur
		4 B rib
		1 rib frag
		1 B femur
		1 R patella
		1 distal end humerus

Strata IIIa cont'd

Sus scrofa	2	1 (C) B ulna frag
		1 broken ulna
sm	11	9 (C) rib frags
		2 longbone frags
med	14	1 epiphysis frag
		1 rib frag
		2 longbone frag
		1 vertebrae frag
		1 tarsus
		3 B(C) vertebrae fr
		2 (C) rib
		1 vertebrae frag
		1 B epiphysis
		1 (C) tarsal
ND (C)	4	
ND	15	
ND B	1	
undetermined	18	
TOTAL	75	360.4gm
FISH	602	spine/rib
	336	caudal/dorsal
	23	skull frags
	4	otolith
TOTAL	1211	334.0gm
BIRD		
Gallus domesticus	1	radius
Melragris Gallopavo	1	(C) tarsometatarsu
Corvo	2	L, R, femur
Brachyrhynchos		
ND	5	
ND (C)	8	
undetermined	12	1 vertebrae
		1 tibiotarsus
		3 (C) tibiotarsus
		1 rib
		6 longbone
TOTAL	29	16.4gm
RODENT		
Sigmodon hispidus	22	13 vertebrae
		1 femur
		5 longbone frag
		2 mandible
		1 scapula
TOTAL	22	4.3gm

Strata IIIa cont'd

TURTLE	1	shell frag
TOTAL	1	.3gm
EGGSHELL	5	.1gm
COPROLITE	1	seeds present
FLORAL	1	CURCURBITACEAE
	3	
TOTAL	4	

Strata IVa

#555

MAMMAL		
Felis domesticus	2	skull frags
		L B radius
Ovis aries	2	R radius frag
		1 B rib frag
sm	13	
med	3	1 vertebrae frag
		2 epiphysis frags
lg	1	1 (C) rib
ND	5	
undetermined	19	
TOTAL	45	87.6gm
BIRD		
Anatidae	16	1 skull
		11 vertebrae
		1 coracoid
		1 carpometatarsus
		1 (R) scapula
		1 furculum
Gallus domesticus	4	L & R ulna
		2 sternum
undetermined	14	5 skull frags
		1 phalanx
		2 longbone
		6 frags
ND	8	
TOTAL	42	6.3gm

Strata IVa cont'd

FISH	32	scales
	161	spine/rib
	104	caudal/dorsal
	48	vertebrae
	1	skull
TOTAL	346	58.4gm
SHELL	7	oyster
	1	clam
TOTAL	8	11.4gm
EGGSHELL	93	1.2gm
FLORA	1	pecan
	4	undetermined
TOTAL	5	.3gm

Strata Va

#635

FISH	16	vertebrae
	4	scales
	10	caudal dorsal
	40	spine/rib
TOTAL	70	2.4gm
SHELL	1	oyster
TOTAL	1	1.2gm
RODENT		
Sigmodon hispidus	5	1 skull (C)
		1 lower mandible (
		1 scapula (C)
		1 rib (C)
		1 vertebrae (C)
TOTAL	5	6.2gm
BIRD		
undetermined	8	
TOTAL	8	1.3gm
EGGSHELL	4	.2gm

Strata VIa

#666

MAMMAL		
ND	3	1.2gm
RODENT		
Sigmodon hispidus	3	longbone
TOTAL	3	.6gm
FISH	10	7 spine/rib 3 caudal/dorsal
TOTAL	10	.4gm

Strata VIIIa

#695

MAMMAL		
Bos indet. sp.	1	(B) femoral head
TOTAL	1	34.8gm
BIRD		
Gallus domesticus	1	1 humerus
undetermined	2	1 femur 1 coracoid
ND	11	
TOTAL	14	4.1gm
FLORA	1	walnut
TOTAL	1	.4gm

Strata IXa

#755

BIRD		
undetermined	10	1.4gm
TOTAL	10	1.4gm

Floor

#515

MAMMAL		
Ovis	1	incisor
sm	22	2 rib 18 vertebrae 2 metatarsal
med	3	1 (C) scapula frag 1 longbone 1 B vertebrae
ND	25	
ND (C)	18	
TOTAL	69	42gm
RODENT	5	1 partial mandible 4 longbone frags
TOTAL	5	1.2gm
BIRD		
Centrocercus	1	1 (C) L Tarso meta tarsus
Urophasianus		
undetermined	21	1 furculum 2 pelvis 4 sternum frags 1 tarsometatarsus 1 humerus frag 2 rib 5 longbone frags 3 vertebrae 1 tibiotarsus 1 scapula frag
TOTAL	21	12.7gm
FISH	17	vertebrae
	45	caudal/dorsal
	52	spine/rib
TOTAL	114	23.0gm
SHELL	1	oyster
TOTAL	1	.1gm
FLORAL	1	pecan
	1	undeter.
TOTAL	2	.3gm

TCAM
BOARDING HOUSE DEPOSIT
INVENTORY

Strata Ia

#633

MAMMAL		
Bos inter. sp.	4	4 B(C) pelvis
sm	1	rib
med	13	rib frags
lg	13	3 rib frags
		2 B rib frags
		3 B longbone frags
		5 longbone frags
ND	47	
TOTAL	78	105.5gm
FISH	5	1 scale
		1 vertebrae
		2 spine/rib
		1 caudal/dorsal
TOTAL	5	3.2gm
BIRD		
Gallus domesticus	8	3 L coracoid
		1 R coracoid
		1 sternal rib
		1 tarsometatarsus
		1 ulna
		1 tibiotarsus
undetermined	7	
TOTAL	15	13.2gm
RODENT	5	4 rib
		1 metatarsus
TOTAL	5	.6gm
SHELL	1	
TOTAL	1	.2gm

#648

MAMMAL		
Bos indet. sp.	2	2 B pelvis frags
sm	8	7 rib frags
		1 phalanx
med	20	1 (C) rib
		6 rib frags
		1 B rib frag
		2 longbone frags
		6 vertebrae frags
		1 phalanx
		3 longbone frags
lg	19	10 B rib frags
		8 rib frags
		1 longbone frag
ND (C)	5	
ND	60	
TOTAL	114	377.2gm
FISH	36	2 skull frags
		2 vertebrae
		15 spine/rib
		14 caudal/dorsal
		3 scales
TOTAL	36	8.1gm
BIRD		
Colinus virginicus	1	1 carpometacarpus
Sturnella neglecta	4	1 coracoid frag
		3 tarsometatarsus fr
Gallus domesticus	3	1 tibiotarsus
		1 ulna
		1 humerus frag
undetermined	31	3 sternum frags
		3 scapula frags
		3 pelvis frags
		1 femur
		1 tarsometatarsus
		15 longbone frags
		5 ribs
TOTAL	39	25.2gm

#648

RODENT	2	2 longbone frags
TOTAL	2	.1
EGGSHELL	1	2.1gm

#921

MAMMAL

Felis domesticus	3	3 molar
Bos indeter. sp.	2	1 phalanx 3
		1 scapula frag
sm	6	5 vertebrae
		1 ulna
med	25	1 incisor
		2 molar
		8 vertebrae
		1 B vertebrae
		1 calcaneous frag
		1 scapula frag
		11 rib
lg	18	4 B longbone
		4 rib
		3 B rib
		5 B vertebrae
		1 phalanx
		1 longbone frag
undetermined	14	2 longbone frags
		1 phalanx
		1 humeral head
		10 epiphysis
ND B	6	
ND (C)	180	
ND	368	
TOTAL	632	518.5gm
FISH	121	72 rib/spine
		42 vertebrae
		70 caudal/dorsal
TOTAL	121	26.9

BIRD

Gallus domesticus	11	2 L femur
		1 R femur
		4 carpometacarpus
		2 furculum
		1 humerus
		1 L ulna
Meleagris gallopano	7	2 R coracoid
		2 L coracoid
		3 humerus frag
Corvos brachyrhynchos	3	3 R coracoid
undetermined	206	5 femur
		7 pelvis frags
		2 humerus frags
		8 tibiotarsus frag
		2 coracoid
		2 skull frags
		25 sternum frags
		90 longbone frags
		10 furculum frags
		9 phalanx
		31 rib
		1 mandible frag
		14 vertebrae
ND	99	
TOTAL	326	
SHELL	1	oyster
TOTAL	1	1.5gm
EGGSHELL	85	3.5gm
RODENT	28	1 skull frag
		4 scapula
		7 mandible
		1 femur
		1 tibia
		6 longbone
		1 incisor
		7 molar
TOTAL	28	4.1gm

Strata Ic

#879

MAMMAL

Bos indeter. sp.	43	25 B rib
		4 B pelvis frags
		7 B longbone
		7 B vertebrae
Sus scrofa	2	1 calcaneous
		1 R femur
Canis familiaris	2	2 mandible frags
undetermined	19	13 epiphysis
		2 skull frags
		2 scapula frags
		2 longbone
sm	3	1 scapula
		2 rib
med	72	53 rib frags (6B)
		16 vertebrae frags (1B)
		3 longbone frags (2B)
ND B (C)	7	
ND (C)	39	
ND	1539	
TOTAL	1726	1,460gm

BIRD

Meleagris gallopavo	11	2 coracoid (L&R)
		2 tarsometatarsus frags
		1 carpometacarpus (L)
		2 R scapula
		1 R femur
		1 L humerus
		2 tibiotarsus
Gallus domesticus	54	1 sternum
		8 humerus (4L, 4R)
		2 R femur
		11 tarsometatarsus
		2 ulna frags
		1 R scapula
		7 tibiotarsus
		1 R carpometacarpus
		1 femur frag
		4 L ulna
		5 coracoid
		11 ferculum
undetermined	304	32 sternum frags
		24 pelvis frags
		3 skull frags
		122 longbone
		41 rib
		2 femur frags
		2 L ulna
		31 phalanx
		34 vertebrae
		2 carpometacarpus
		3 coracoid
		8 furculum frags
ND	49	
TOTAL	418	293.7gm
FISH	569	181 vertebrae
		240 caudal/dorsal
		105 spine/rib
		6 scale
		28 mandible
		9 skull
TOTAL	569	122.5gm
RODENT	22	1 skull
		13 mandible frags
		7 incisors
		1 longbone
TOTAL	22	5.6gm
EGGSHELL	43	2.1gm
FLORAL	1	CURCURBITACEAE

Strata Id

#890

MAMMAL

Bos indeter. sp.	22	3 B pelvis frags
		10 B rib
		2 rib
		7 B vertebrae
Felis domesticus	2	2 mandible
Canis familiaris	3	3 molar

Strata Id cont'd

sm	1	1 scapula frag	FISH	274	124 vertebrae
med	51	34 rib frags (7B)			229 caudal/dorsal
		14 vertebrae			6 skull frags
		3 scapula frag			96 spine/rib
lg	8	6 longbone frags			17 mandible frags
		1 B longbone frag			2 otolith
		1 scapula frag			
undetermined	30	4 mandible frags	TOTAL	274	102.6gm
		13 longbone frags			
		2 calcaneous	RODENT	24	7 scapula
		1 phalanx			2 ulna
		10 epiphysis			1 femur
ND (C)	112				1 humerus
ND (B)	15				1 metatarsus
NDB (C)	20				7 mandible frags
ND	2,152				5 incisors
TOTAL	2,416	1,481.4gm	TOTAL	24	6.2gm
BIRD			SHELL	8	oyster
Meleagris gallopavo	10	2 humerous (L&R)	TOTAL	8	9.4gm
		1 L radius			
		3 coracoid	EGGSHELL	412	18.0gm
		1 ferculum			
		2 R tibiotarsus			
		1 R carpometacarpus	Strata Ie		
Gallus domesticus	56	1 L femur			
		5 L humerus	#895		
		3 R humerus			
		5 L ulna	MAMMAL		
		2 R ulna			
		5 tarsometatarsus	Bos indeter. sp.	26	1 B femur
		3 pelvis frags			8 B pelvis frags
		1 scapula frag			2 B vertebrae
		3 sternum frag			15 B rib's
		3 L coracoid	Ovis aires	1	1 L femur
		3 R coracoid	med	12	11 rib
		5 pollex			1 vertebrae
		4 furculum	undetermined	13	1 humerus frag
		3 L carpometacarpus			7 longbone frag
		5 R carpometacarpus			1 humeral head
		5 tibiotarsus frags			2 epiphysis
undetermined	110	65 longbone frags			1 phalanx
		13 pelvis frags			1 scapula frag
		9 rib	ND B	1	
		2 coracoid frags	ND (C)	27	
		3 furculum frags	ND B (C)	7	
		3 skull frags	ND	1,269	
		12 sternum frags			
		3 fermur	TOTAL	1,356	1190.5gm
ND	99				
TOTAL	275	233.1gm			

Strata Ie cont'd			Strata IIa		
BIRD			#903		
Meleagris gallopavo	6	1 L humerus 1 L scapula 1 L carpometacarpus 2 tibiotarsus (L&R) 1 tibiotarsus frag	MAMMAL		
Gallus domesticus	16	1 L humerus 1 L femur 2 tarsometatarsus (L&R) 1 L tiobiotarsus 1 pollex 2 coracoid (L&R) 4 R scapula 2 sternal facets 2 carpometacarpus	Bos indeter. sp.	12	1 B humerus frag 2 B pelvis frags 1 pelvis frag 3 B rib 5 rib 16 rib frags 3 vertebrae frags 1 B longbone
undetermined	65	2 rib 20 pelvis frags 3 furculum frag 3 phalanx 1 carpometatarsus 23 longbone frags 15 vertebrae	med	20	9 longbone frags 1 phalanx 1 molar frag
			undetermined	11	
ND	18		ND (C)	24	
			ND B (C)	5	
TOTAL	104	105.7gm	ND	82	
FISH	83	15 spine/rib 40 vertebrae 2 mandible 25 caudal/dorsal 1 otolith	TOTAL	154	362.4gm
			BIRD		
TOTAL	83	19.7gm	Gallus domesticus	2	1 L humerus 1 ulna frag
RODENT	2	1 mandible 1 scapula	undetermined	14	1 phalanx 4 pelvis frags 9 longbone frags
TOTAL	2	.9gm	ND	5	
SHELL	13	2 clam 9 oyster 1 mussel 1 undetermined	TOTAL	21	
			FISH	11	4 vertebrae 1 mandible frag 4 dorsal/caudal 2 spine/rib
TOTAL	13	15.7gm	TOTAL	11	3.1gm
EGGSHELL	18	.8gm	RODENT		
CHARRED WOOD	1		Sciurus undeter. sp.	2	1 incisor 1 tibia
CHARCOAL	1		TOTAL	2	.2gm
			EGGSHELL	12	.2gm

Strata IIb

#904

MAMMAL

sm	19	1 humerus frag
		10 rib frag
		8 longbone frags
med	27	27 rib frags
lg	5	5 B longbone
undetermined	73	5 B vertebrae
		10(C) vertebrae frag
		26 vertebrae frag
		2 scapula frags
		19 epiphysis frags
		1 phalanx
		10 phalanx frags
ND B	3	
ND (C)	16	
ND	233	
TOTAL	376	402.9gm

BIRD

Gallus domesticus	12	1 R ulna
		1 R scapula
		2 coracoid frag
		1 R femur
		1 sternum facet
		1 L tibiotarsus
		2 R carpometatarsus
		1 L carpometatarsus
		2 humerus frags
undetermined	6	1 pelvis
		3 vertebrae
		2 sternum frag
ND	7	
TOTAL	25	6.3gm
FISH	42	15 vertebrae
		7 spine/rib
		18 caudal/dorsal
		1 mandible frag
		1 skull frag
TOTAL	42	13.3gm
RODENT	2	2 femur
TOTAL	2	.2gm

Strata IIc

#909

MAMMAL

Bos indeter. sp.	25	4 B rib
		3 pelvis frags
		4 B vertebrae
		3 B longbone
		11 vertebrae frags
Ovis aries	7	2 calcaneous (L&R)
		2 astragalus (L&R)
		1 molar
		2 cross mend dista end humerus
med		12 rib
		1 humerus frag
lg		2 B longbone
ND (C)	20	
ND B	4	
ND (C) B	3	
ND	246	
TOTAL	320	564.1gm

BIRD

Meleagris gallopavo	10	1 L humerus
		2 L coracoid
		3 R coracoid
		1 R tibiotarsus
		3 tibiotarsus frag
Gallus domesticus	68	4 R humerus
		4 L humerus
		1 pollex
		9 R coracoid
		4 L coracoid
		1 femur
		4 scapula frags
		3 R ulna
		4 L ulna
		4 ferculum frags
		15 sternal ribs
		3 L carpometacarpu
		2 R carpometacarpu
		7 tarsometatarsus
		3 fibula
undetermined	103	23 vertebrae
		3 humerus frag
		1 coracoid
		8 pelvis frags
		5 radius frags
		3 sternum
		1 femur
		10 phalanx
		49 longbone frags

Strata IIc cont'd

ND	7	
TOTAL	188	194.4gm
FISH	74	10 spine/rib 31 vertebrae 28 caudal/dorsal 1 skull 4 mandible
TOTAL	74	20.5gm
RODENT	6	1 skull frag 2 femur 3 mandible
TOTAL	6	3.1gm
SHELL	2	1 clam frag 1 oyster frag
TOTAL	2	.2gm
EGGSHELL	61	1.9gm
WOOD	3	5.2gm

APPENDIX E:

A DESCRIPTION OF THE TELCO BLOCK COLLECTION: ITS PROCESSING, RECORDING AND STORAGE

by
Susan B. Dublin
and
Jed Levin

The collection from the Telco Block Site excavation (New York State Site #A061-01-0681) will be housed at Drew University, Madison, New Jersey. Duplicates of the site report and field and laboratory records will be on file with the New York City Landmarks Preservation Commission. The collection comprises two basic groups of resources; these are the artifacts from the excavation and the supporting records and documentation. These latter include both graphic and written records, as follows:

1) field photographs
2) artifact photographs
3) site map
4) artifact illustrations
5) field graphics, including profiles and planviews
6) written field records, consisting of provenience sheets, field catalogue book and field notebook
7) written laboratory records, including artifact inventory sheets and laboratory catalogue book
8) computerized site inventory
9) site report

1). Field Photographs

The photographs taken in the field consist of 35 mm color slides and 35 mm black and white negatives and contact sheets. Selected color slides are bound in a loose-leaf notebook. The remainder are stored in film boxes, and each box is labelled with a roll number indicating the order in which it was taken. Negatives and contact prints are stored separately; each group is labelled with the roll number. Bound color slides are arranged by lot number; slide case is labelled. These slides are bound together with the field photo record arranged by roll and frame number. The subject description in this log can be cross-referenced to the description on the slide case.

2). Artifact Photographs

Artifact photographs taken in the laboratory include: 1) 35 mm color slides of groups of artifacts from particular excavation units; 2) 35 mm color slides of artifacts sent out for conservation (see below); and 3) 35 mm black and white negatives, contact sheets, and prints of selected artifacts. Contact sheets and slides of artifacts sent for conservation are filed in a loose-leaf binder, and both sets are arranged by roll number.

Each group of photos is preceded in the binder by an Artifact Photo Record. The record accompanying the contact sheets is filed by excavation unit in alphabetical order (A-Z, AA-AX). The photo/artifact number listed in the log provides a cross-reference to the contact sheets. Each page of conservation photos and the accompanying log is arranged by roll number; individual slides are labelled. The remaining artifact photos are separately stored.

3). Site Map

The original of the site map and one copy are stored with the collection; an additional copy is bound in the site report.

4). Artifact Illustrations

Also stored with the collection are inked line drawings of selected glass artifacts, each labelled with the photo/artifact number (see above) and with the catalogue number (an explanation of the cataloguing system can be found below) and the excavation unit. There are also pencil drawings done on a 1:1 scale of artifacts sent for conservation. Each drawing is labelled with the catalogue number and excavation unit and the stratum from which the artifact came.

5). Field Graphics

Field graphics are filed in loose-leaf binders with the written records from the site. These consist of pencil drawings of profiles and plan views done in the field. The majority of the profiles have been inked for inclusion in the site report. The binders containing the written records are arranged in alphabetical order by excavation unit (A-Z; AA-AX). Records of lot cleanings and geological borings are filed in numerical order by catalogue number in the final book.

6). Written Field Records

Catalogue numbers (in Arabic numerals) were assigned in the field. Each number, which is unique, refers to an excavation unit, stratum, and level, and to the artifacts recovered within that provenience. Catalogue numbers were also assigned to artifacts found while clearing a lot or during the course of a boring. For example, the catalogue number 448 includes artifacts recovered from Stratum X, Level A, of Test Cut AD. Excavation units are designated by the capital letters A-Z and AA-AX, strata by Roman numerals, and arbitrary 4" levels by small letters. The field catalogue provides a key to the catalogue numbers. Each number is followed by a listing of the excavation unit, stratum and level, along with a soil description and the date of exavation.

The catalogue number may be seen as the basic provenience unit. Artifacts from an individual catalogue number were bagged and processed as a unit. The laboratory catalogue book is a record of stages of processing. Each bag of artifacts was logged in by catalogue number upon entering the laboratory and the date of each step in processing was noted.

7). The Artifact and the Laboratory Records

The majority of the artifacts were washed and allowed to dry for at least two days. Metal artifacts were dry-brushed as the use of water would hasten deterioration of the metal. A number of coins from the collection were cleaned by electrolysis.

Prior to tabulation and analysis, finds were separated into four categories:

a) diagnostic artifacts, including domestic and personal use items;
b) faunal material, including shell and bone;
c) floral material; and
d) non-diagnostic artifacts, including construction and architectural material.

This categorization was necessitated by the use of different methods of analysis. Also, artifacts are stored according to category. A detailed description of storage techniques is found below.

A sample of bone from unmixed stratigraphic contexts was sent out for analysis to a faunal specialist. Flotation samples of four quarts each were processed in an apparatus manufactured by Sandy-Cresson Enterprises, Moorestown, NJ. It consisted of a 55 gallon drum hooked up to the local water supply. Water entered the drum through a sprinkler-type head and percolated up through 16 mesh nylon screening, which collected the heavy fraction. The light fraction was floated through a spout into 80 mesh nylon bags manufactured by the Filter Equipment Co., Belmar, NJ. Micro-floral remains from flotation samples from unmixed stratigraphic contexts were analyzed by a specialist in ethnobotany. A number of artifacts (see attached list) were sent out for conservaton. Unfortunately, budgetary considerations precluded treatment

of the entire collection. The selected artifacts are generally of exhibit quality, but required treatment for stablization.

Only those diagnostic artifacts likely to be separated from their context during processing were numbered. An artifact's number refers to the site number (above the line) and the catalogue and accession numbers (below the line). For example, the number 681/390.1 on an artifact indicates that it is from the Telco Block Site (681), and from the catalogue number 390. The accession number (.1) refers to the particular artifact and is noted on the artifact tabulation sheet.

During the tabulation process, artifact types were assigned a hierarchical code and sub-code according to functional categories based on the work of Stanley South (1977). These codes were formulated to facilitate computer handling of the site data. Each code contains an alphabetic and a numeric component. The alphabetic component refers to the broad functional class; eg, A refers to architectural material and K refers to kitchen items. The numeric component corresponds to a general artifact type; A1, for example, is the code for flat glass, and K1 is for glass bottles or jars. The sub-code, which is numeric, further narrows down identification to a particular artifact type. The sub-code 001 under the code A1 specifies sheet window glass, and the sub-code 002 under A1 refers to crown type window glass. A list of translations of these codes appears at the end of this appendix.

The Tabulation of the Diagnostic Artifacts

Ceramics and bottle glass represent the two largest groups of "diagnostic artifacts" recovered during the excavations on the Telco Block.

The bottle glass typology used in this analysis follows the standard sources (e.g., Jones 1971; McKearin and McKearin 1948; McKearin and Wilson 1978; Miller and Sullivan 1981; Munsey 1970; and Toulouse 1969). The sources used in dating specific glass artifacts are presented as they are used in Chapter IV.

The general, the ceramic typology and chronology follows that of Noel Hume (1978) and South (1971). Ceramic types W001 through W078, inclusive, follow Noel Hume's and South's type descriptions and chronology, with minor changes. The type numbers for these wares in our scheme correspond to South's type numbers. Slight adjustments have been made for a few of the date ranges; these changes reflect the fact that New York City remained under English control during most of the Revolutionary War. It is therefore assumed that New York City, unlike most areas of colonial America, continued to receive British imports during the Revolutionary War conflict. South, following Noel Hume, assigns an end date of 1775 to ten ceramic types listed on his chart (1971); these are engine turned unglazed red stoneware (W028); green glazed cream-bodied ware (W033); "scratch blue" white salt-glazed stoneware (W034); refined red stoneware, unglazed sprigged (W037); slip-dipped white salt-glazed stoneware (W048); white salt-glazed stoneware plates (W043); Buckley ware (W047); Burslem "crouch" pale brown stoneware mugs (W052); North Devon

gravel tempered ware (W061); and Westerwald chamber pot (W077). We have presumed that this end date, which is coincident with the beginning of the war, was chosen because the war cut the colonies off from the British source of supply for these goods. In some cases it is possible that the end date of 1775 corresponds, in fact, to the true end date of manufacture for some of these wares; in others, the wares may have continued to be manufactured through the war years. In the face of the lack of documentation behind the rationale in assigning an end date of 1775, we chose a conservative approach to these types, and assigned an arbitrary end date of 1779 to all ten types. This date represents a median date for the war, and reflects the uncertainty as to the true end date of manufacture for these types.

The initial date for debased Rouen faience (W021) is an example of the opposite effect of the war on the ceramic trade. This ware was exported from France into the colonies during and immediately following the Revolution, and helped to fill the vacuum created by the interruption in the British ceramic trade. The importation of this ware from France, the colonists' chief ally against the English, would not have had an impact on the ceramic market in New York City during the War, as it was occupied by the British. An initial date of occurrence of 1783, corresponding to the end of the British occupation, was therefore used for this ware.

More substantial changes from South's work were made in handling the porcelain and tin enamelled wares. Both these wares were handled in a much more simplified way. For the porcelains South's type 26 (overglaze enamelled Chinese export), type 7 (overglaze enamelled China trade porcelain) and type 69 (Chinese porcelain, underglaze blue, late Ming) were not used in our typology, but five descriptive types were added; these were overglazed enamelled hard-paste porcelain (W084), plain white hard-paste porcelain (W090), hard-paste porcelain with a brown glaze on the exterior (W113), hard-paste porcelain with a brown-glazed line around the rim (W114), Imari-style hard-paste porcelain (W118), and coarse porcelain made in the late nineteenthth century (W124). In addition, South's type 31, English porcelain, was redefined to include all soft-paste porcelains (W031). These changes were made primarily for the reason that the distinctions among South's types were not practical because of the large quantities of extremely small sherds in the Telco collection.

Distinctions between "soft-" and hard-" paste porcelains were made on the basis of visual inspection and confirmed by exposure to a short-wave ultraviolet light source (Mineralight UVG-11, Ultra-Violet Products, Inc., San Gabriel, California). On exposure to such a light source, hard-paste porcelain glows a very dark blue, whereas soft-paste types do not (Meta Janowitz, personal comunication). The ultraviolet light also tends to reveal the pattern of any overglaze enamelling that may have separated from the glaze.

For the tin enamelled wares, only four of South's types were used; these were W021 (debased Rouen faience), W049 (decorated delftware), W065 (plain white delftware), and W076 (delft chamber pot). South's eight other types were not used primarily because of the large quantities of extremely small sherds in the collection, so that the vessel forms and decorative motifs used by South in setting up his eight other types of this ware were not recognizable, and hence were irrelevant. In addition, the date used for decorated delftware was advanced from 1600 to 1625, the year of the settlement of New Amsterdam.

Mean ceramic dates were calculated for all provenience units, following South's methodology (1971). These computer generated dates are presented in Appendix F2 along with the standard deviation for each data set. The standard deviations are presented as an aid in interpreting the mean ceramic dates, as so many of the deposits on this site were mixed.

For the purpose of calculating these dates, a number of types designated by South were excluded from consideration. All of the ceramic types with date ranges of more than 140 years were disregarded, because we felt that types with such a wide date range would skew the resulting mean ceramic date. This skewing would be especially pronounced in the numerous cases where the ceramic sample was small.

Date ranges for several additional types were added to South's types for use in generating mean ceramic dates; these types and their date ranges are presented in Table E1.

The features in Lots 42 and 48 contained significant quantities of nineteenth century ceramics. The standard typology developed for application to 18th century materials cannot simply be extended for the nineteenth century (Miller 1980). For the purpose of dating these deposits, a separate typology was developed, which is presented in Table E2. It must be emphasized that this typology in no way represents a final solution to the problems involved in dating nineteenth century ceramic deposits. In particular, the use of the shades and colors of transfer-printed wares as a device for dating ceramic assemblages is of only limited use and must be used with caution. The date ranges offered for the various transfer-printed colors represent peaks of popularity, and are not to be interpreted as manufacture date ranges.

The deposits in the features in Lots 42 and 48 also contained some redeposited fill material from the eighteenth century filling of the block. It was necessary to "screen out" those earlier materials, in order to derive an accurate mean ceramic date. This screening was accomplished by arbitrarily excluding ceramic types with mean ceramics dates prior to 1800.

The Tabulation of Faunal Materials

Faunal material tabulated in the laboratory was primarily shell, grouped by code and sub-code and tabulated by weight, although counts of whole shells and fragments were noted on the tabulation sheets.

The Tabulation of Macro-Floral Materials

Floral material was tabulated by count, but weights are also listed on the sheets. Coding for shell (S) and floral material (V) was based on family (numeric code) and species (sub-code).

The Tabulation of Non-Diagnostic Materials

Non-diagnostic artifacts were tabulated under five functionally-based classification codes (alphabetic component). The majority of these artifacts were weighed, exceptions being fasteners (nails, etc.), wire, flooring, tile, pipe (used for plumbing), plumbing and electric fixtures and organics (leather, cloth, etc.), which were counted. As in the case of floral material and shell, both weights and counts were noted on the tabulation sheets, although only one figure was entered in the computerized inventory.

The Storage of the Collection

Artifacts are stored by category and excavation unit in plastic bags in cartons. Each plastic bag is labelled with the provenience information and the artifact class of its contents. Each carton is labelled with the same information. Diagnostic artifacts which have been cross-mended are stored separately; these bags and cartons are labelled with provenience information and cross-mend numbers.

8). Computerized Site Inventory

Mitchell Mulholland at the University Computing Center, University of Massachusetts, Amherst, Massachusetts handled the data processing, which was done on Control Data Corp. Machines CYBER 170, Model 175 and CYBER 720. The printouts are filed as a set of four appendices to the site report, and another set is stored with the collection. The complete data tape is available through the University Computing Center, University of Massachusetts, Amherst.

Types of provenience units are designated by the following codes: B, backhoe trench; G, unprovenienced general collection; S, shovel test; and T, test cut. The letters and numerals following this code identify the excavation unit. For example, TAG1 can be translated as Test Cut AG1. When a printout is arranged by provenience (as is the case with all but Appendix F3), provenience unit types are in alphabetical order (B, G, S, T). Within these classes, excavation units are ordered alphabetically, AA-AZ, then A-Z. For example, Backhoe Trenck K precedes Test Cut AX, which in turn precedes Test Cut A. Within excavation units, data groupings are arranged by stratum, within stratum, by alphabetic code, then by numeric code and finally by subcode. Thus, code A8 precedes code K1 in the listing, and K1.001 precedes K1.002.

The results of the artifact analysis indicated that a number of strata which had been separately designated during excavation could be combined for the purpose of continued analysis. Appendices F3 and F4 provide an index to these combined strata. Appendix F3 is arranged by catalogue number; each catalogue number which has been combined is listed with the new stratum designation. Appendix F4 is arranged by excavation unit and stratum and provides a cross-reference.

Appendix F2 is a printout of mean ceramic dates arranged by type of provenience unit (backhoe trench, shovel test, test cut) and excavation unit. The first field on a line gives provenience data, the second provides, artifact descriptions, and the third gives dating. For example, a line which reads:

TAF0 .003 5 W022 001 CREAMWARE 1762 1820 1791

can be read as follows: Test Cut AF, Stratum 3, contained five sherds of plain creamware, code W22, sub-code 1, with a beginning date of 1762, an end date of 1820 and a median date of 1791. When a ware is not used in computing the mean ceramic dates, the final field will contain zeros. At the end of the listing for each stratum, there is a line giving totals for the stratum. The first figure lists total sherd count and the second lists the total number of sherds used in computing the mean ceramic date. This line also lists the mean ceramic date for the entire stratum and the standard deviation.

Appendix F1 contains the inventory of artifacts ordered by provenience. A line consists of three fields, the first giving provenience, the second the tabulation count or weight and the third, the artifact description. A line reading:

provenience information	count	weight	code	subcode	transalation
TAD0 .15	7	.00	K004	001	table glass tumbler

can be translated thus: Stratum 15, Test Cut AD, contained seven fragments of tumbler(s). Artifacts which were weighed would have weight recorded on the line, with zeros in the count column. Data from each stratum is grouped by artifact code. At the end of each grouping, there is a listing of the total count or weight of the artifacts belonging to that group. At the end of the listing of a given artifact class (alphabetic component of the code), totals are given for the artifacts in that class.

Table E1: Types of dated ceramic wares added to South's typology

Type #	Type Name	Date Range
W087	flow transfer printed earthenware	1844-1860[1]
W095	Midlands ware	1660-1750[2]
W097	shell-edged creamware	1780-1820[3]
W113	hard-paste porcelain with a browm-glazed exterior	1740-1780[2]
W114	brown rimmed underglaze blue hard-paste porcelain	1700-1840[2]
W116	Bristol brown bottles	1850-1900[4]
W128	American Rockingham glaze	1812-1900[5]
W129	transfer-printed whiteware	1830-1860[1]
W134	yellow ware	1827-1922[6]
W136	flint enamelled ware	1849-1950[7]

1 - Lofstrom et al. 1978.

2 - Meta Janowitz, personal communications 1979-1982

3 - An initial date of 1775 is offered by Sussman (1977:106); we feel, however, that a date of 1780 is a more realistic date for the appearance of this ware in quantity.

4 - Munsey 1970:135; Greer 1981:210-212.

5 - Spargo 1974:216.

6 - Garrow 1982:238.

7 - Bogen 1971:117.

Table E2: The dates used for the decorative motifs on 19th century ceramics

Transfer prints:

Type #	Color	dates of popularity	median date
137	medium blue	1800-1815[10]	1808
138	dark blue	1815-1830[10]	1823
139	light blue	1830-1860[10]	1845
140	pink/carmine, black, purple, sepia, green	1830-1845[10]	1838
141	flowing colors	1844-1860[10]	1852

Edge wares:

Type #	Color and ware	dates of popularity	median date
142	blue shell edge pearlware	1780-1830[10]	1805
143	green shell edge pearlware	1800-1830[10]	1815
144	embossed shell edge pearlware	1800-1830[10]	1815
145	edged whitewares	1830-1860[10]	1845

Other:

Type #	Motif and ware	dates of popularity	median date
146	annular whiteware	1820-1890[10]	1855
147	Turner's body	1785-1825[10]	1805
163	polychrome painted whiteware	1830-1860[10]	1845

Company and pattern dates:

Type #	Company/pattern	dates of popularity	median date
148	Enoch Wood (dk. bl. transfer)	1818-1830[6]	1824
156	Table Rock (Wood; dk. bl. transfer)	1818-1830[3]	1824
157	LaGrange (Wood; dk. bl. transfer)	1824-1830[2]	1827
149	Clews	1818-1834[8]	1826
150	Dr. Syntax (Clews; dk. bl. transfer)	1818-1830[1]	1824
151	Layfette's Landing (Clews; dk. bl. transfer)	1824-1830[2]	1827
152	J. and W. Ridgway	1814-1830[9]	1822
153	Sylvan pattern (Ridgway; lgt. bl. transfer)	1830-1830[4]	1830
154	R. Hall	1822-1841[7]	1832
155	Klosterneuburg, Germany (Hall; dk. bl. transfer)	1822-1830[5]	1826

1 - Beginning date is for Clews; terminal date is for dark blue transfer

2 - Beginning date is for Lafayette's visit to New York; terminal data is for dark blue transfer.

3 - Beginning date is for Wood; terminal date is for dark blue transfer.

4 - Beginning date is for light blue transfer; terminal date is for J. and W. Ridgway.

5 - Beginning date is for R. Hall; terminal date is for dark blue transfer.

6 - Beginning date is for Enoch Wood & Sons (Godden 1964:685); terminal date is for dark blue transfer.

7 - Godden 1964:303.

8 - Godden 1964:151.

9 - Godden 1964:534.

10 - Lofstrom et al. 1976; Laidacker 1954; Little 1969; Godden 1965.

Table E4: Items Undergoing Conservation

Cat. #	Provenience Unit		Item Description
861	Lot 40 T.C.AC	XXXVIIa	4 pieces leather
167	B.H.K. sec 4 level 7		1 piece leather
140	B.H.TR K sec 4		heel & sole/ 1 shoe
684	T.C.AK 2 & 3	Va	1 sole, 1 book binding
801	AN 5A		rubber shoe w/cloth upper
943	T.C.AT^2	IVa	4 pieces leather
954	AT^2	VIIIa	sole & heel
112	B.H.TR K, sec 3 level 3		1 shoe, ID pieces
390	W	XIIa	7 pieces
569	Lot 26-cleaning		fabric & rope
380B	T.C.R^2	XIe	3 felt hats
822	T.C.AC	XXXIVa	5 pieces (heel sections)
859	T.C.AC Lot 40	XXXVIa	5 heel sections, 1 sole, 2 pieces
554	B.T.K sec 1	IIIa	1 shoe (many pieces)
897	T.C.AD	XXXVIIIa	8 pieces, one shoe
160	B.T.M sec 1 level 4		14 pieces
801	T.C.AN	Va	fabric & rope
390	T.C.W	XIIa	fabric
165	B.T.K sec 4 level 5		wood button
912	T.C. AT	IIa	wood handle
527	Lot 38 B.T.K sec 1 fea 17	IIa	wood brush segment
953	A.T.^{2}	Vc	3 pieces brush-wood
555	Fea 17	IVa	wood brush, one piece
251	G	VIIIa	2 wood belaying pins

DRY FINDS

Cat. #	Provenience Unit		Item Description
411A	Fea 8R2	XIIa	wood handle w/iron waist (cracked)
825	T.C.AN	Vd	dry wooden fine - slight checking
349	Lot 38 TCL		7 wooden finds
950	AT2	IVb	wooden handle w/small iron waist
723	AN	IIa	dry leather (4 pieces)
681	Lot 41 TCAK3	IIIf	one shoe
618	Lot 26		4 pieces leather
375	TRC2 fea 8	XId	1 leather piece
910	TCAT	Ia	1 leather piece
792	AN1	IVa	2 shoes
452	R2	XIIIb, 2 of 2	1 shoe
654.1	TCAC	XVIb	glass bottle, top & neck
11	Lot 38	Cleaning	fancy metal faucet handles
349	TCL	VIIIa	very degraded candlestick fragment w/candle frag
390	TWC	XII	metal gravy bowl (pewter?) heavy iron corrosion on surface (needs much cleaning)
225	Lot 41		spoon hand w/insignia copper alloy-active corrosion handle brushed & initially reduced electrolytically

Cat. #	Provenience Unit		Item Description
441	TCAF	Va	spoon bowl, tail, & partial handle copper alloy-silver plate? very active copper corrosion
753	TCAC	XXIXa	bone handle (1 piece), one bad split
580	AK3 open		bone tool (surface flaking off)
390	TCW	XIIb	small knife handle-1/2 bone w/ copper rivets
921	TCAM	Ia	bone handle - 1/2 min. copper staining on inside
756.1	BTK sec 1 fea 17	Xa	bosun's pipe (bone), well polished, one spot surface disturbance
349	L	VIIIa	small bone jack-knife
723	AN	IVa	bone handle-no metal-split surface flaking
396	R2	VIIa	one small ceramic die (cleaning & surface consolidant?)
792	TCAN 1	IVa	iron concreted buckle w/part of dry leather scrap
909	TCAM	IIc	1/2 bone handle - heavy iron concretion
379	TCW	XIa	mother of pearl jack-knife heavy iron concretion intact metal?-heavy item
256	TCW 1	VIIIa & bag	iron horseshoe-concreted
563	F3	XIIIa	horse shoe-concreted
683	TCAF	XVa	buckle-copper alloy-concretions on surface
771	TCAH	XXXIV	copper alloy cuff links w/ glass insets (blue-green corrosion & white-tan spots)

Cat. #	Provenience Unit		Item Description
953	TCAT 2	Vc	utensil handle, copper alloy, concreted
939	TCAV 1	IIIa	oval item - copper alloy - iron concretion in center (buckle?)
810	TCAN 1	Vb	copper alloy-button-concretion & corrosion
909	TCAN	IIc	copper alloy thimble-two pieces-moderately good shape
390	TCW	XIIa	lead round piece-spots of active corrosion
921	TCAN	Ia	round metal object w/ hole in center (decorative?), corrosion
526	TCAG 1	Va	pewter button
170	BTN sec 1 level 3		buckle-metal unknown, iron concretion in center
895	AM	Ie	spoon handle-corroded, 2 oval items, one possible button corroded (all are copper alloys)
32	TCF 1	IVa	one button - copper alloy
46	TCA	IXc	(pewter?) buckle
165	BTK sec 4, level 5		buckle - good shape
73	BTK sec 1		metal key - good shape
956	TCAT 2	IXa	eagle insignia-metal brushed & reduced electrolytically, needs wax
940	TCAT^2	IIIa	copper alloy button-brushed & reduced electrolytically but active corrosion spots, needs wax-copper alloy draw pull - brushed & reduced electrolytically some active corrosion-needs wax

COINS

Cat. #	Provenience Unit		Item Description
56	TCA	Xa	copper alloy, brushed & initially reduced electrolytically - needs wax
456	Test Cut A1	Ib	corroded
574	TCAH	IIIa	copper alloy, brushed & reduced electrolytically, active corrosion-needs wax
949	AT 2	Vb	silver-brushed & reduced electrolytically, needs wax; engraved faces
49	BT	I sec 1, lvl 3	copper alloy, brushed & reduced electrolytically, needs wax
779			copper alloy-worn engraving, brushed & reduced electrolytically, active corrosion
867	T.C. AC	XXXVIIa	copper alloy-worn engraving, brushed & reduced electrolytically, needs wax
950	AT^2	IVb	silver-w/ worn engraving, brushed & reduced electrolytically-needs wax
845	Lot 40, T.C.AD	XXId	copper alloy, brushed & reduced electrolytically - needs wax
542	T.C. AM sec 1	IIa	copper alloy, brushed & reduced electrolytically, corrosion needs wax
651	T.C.AH	Ic	copper alloy, brushed & reduced electrolytically, active corrosion in grooves
836.58	T.C. AD	XXIc	copper alloy, brushed & reduced electrolytically, some corrosion, needs wax
699	Lot 40 T.C.AC	XIIc	copper alloy, brushed & reduced electrolytically

Cat. #	Provenience Unit		Item Description
302	T.C.Y	VIIa	copper alloy, brushed & reduced electrolytically, one face engraved, some corrosion, needs wax
390	T.C.W	XIIa	silver-engraved faces-brushed & reduced electrolytically, needs wax
353	Lot 25 B.T.J		Cu alloy - brushed & reduced electrolytically, needs wax
645a	AK^2	IIIc	Cu alloy - engraved- good shape, brushed & reduced electrolytically, need wax
615a	AK^2	IIIc	Cu alloy - engraved - good shape, brushed & reduced electrolytically, need wax
655	B.T. K sec 1, fea 17	Ic	Cu alloy - engraved, brushed & reduced electrololytically, spots of corrosion, needs wax
285	Lot 48 T.C. AM		Cu alloy-engraved-brushed & reduced electrolytically, needs wax
904	T.C. AM	IIc	Cu alloy-iron on surface-active Cu corrosion-brushed & reduced electrolytically, needs wax

Table E3: The Translation of the Codes and Sub-Codes used in the Printouts

Group A - ARCHITECTURAL MATERIALS

Code	Sub-Code	Artifact-Description
A001		FLAT GLASS
	001	Window: Sheet Glass
	002	Window: Crown Glass
	003	Crown Glass Edge
	004	Window: Safety
	005	Window: Plate
	006	Auto Safety
	007	Translucent (Frosted & Raised Design)
	008	Ridged Glass
	998	Unidentified
	999	Other
A002		FASTENERS
	001	Nail: Hand Wrought
	002	Nail: Square Cut
	003	Nail: Wire
	004	Tack
	005	Unidentified Nail, Tack, or Screw
	006	Spike
	007	Nut/Bolt
	008	Screw: Wood
	009	Screw: Sheet Metal
	010	Hook
	011	Washer
	998	Unidentified
	999	Other
A003		CONSTRUCTION HARDWARE & MISCELLANEOUS METAL*
	001	Hinges (Exclude Furniture Hinges)
	002	Turned Lead: "Cames"
	003	Machine/Fixture Part
	998	Unidentified Metal
	999	Other

Code	Sub-Code	Artifact-Description
A004		LOCKS & LOCK PARTS
	001	Door Lock
	002	Padlock
	003	Key
	999	Other
A005		BRICK*
	001	Red Clay
	002	Yellow Clay
	003	Buff Clay
	004	Firebrick
	005	Cinder Block
	006	Unidentified Vitrified
	999	Other
A006		PANTILE*
	001	Red Clay: Unglazed
	002	Red Clay: Glazed
	999	Other
A007		MORTAR/PLASTER/CEMENT*
	001	Mortar
	002	Plaster
	003	Mortar/Plaster
	004	Painted Plaster
	005	Cement/Concrete
	999	Other
A008		HEATING PRODUCTS/BY-PRODUCTS*
	001	Coal
	002	Charcoal
	003	Charred Wood
	004	Cinder
	005	Slag
	006	Coal/Cinder
	999	Other

Code	Sub-Code	Artifact-Description
A009		WOOD*
	001	Dressed
	002	Unshaped Fragment
	999	Other
A010		WIRE [EXCLUDE ELECTRIC WIRE]
	001	Plain Wire Strands
	002	Wire Mesh
	003	Barbed Wire
	999	Other
A011		TILE & FLOOR COVERINGS [EXCLUDE DELFT]
	001	Ceramic Tile
	002	Vinly/Asphalt Tile
	003	Linoleum
	004	Vinyl/Linoleum
	999	Other
A012		TAR & OTHER PETROLEUM*
	001	Tar
	002	Macadam
	003	Asphalt Roofing Tile
	004	Tar Paper
	999	Other
A013		BUILDING STONE*
	001	Cut Stone
	002	Cut & Polished Stone
	003	Thin Slate [Roofing Slate]
	999	Other
A014		SEWER & DRAINAGE PIPE
	001	Ceramic
	002	Wood
	003	Iron [Iron Pipe 4" Diam.]
	999	Other
A015		PLUMBING FIXTURE
	001	Enamelled Metal
	002	Porcelain
	003	Pipe
	999	Other

GROUP C - CLOTHING

Code	Sub-Code	Artifact-Description
C001		BUTTONS
	001	Bone
	002	Shell
	003	Metal
	004	Plastic
	005	Glass
	006	Wood
C002	000	THIMBLES-METAL
C003	000	BUCKLES-METAL
C004	000	SCISSORS
C005		BEADS
	001	Glass
	002	Plastic
	003	Metal
	004	Glass Trade Beads
	005	Other
C006		STRAIGHT PINS
	001	Wrapped Head
	002	One Piece Construction
	003	Straight Pin - Unidentified/Other
C007		SHOES
	001	Leather Shoes or Parts
	002	Other
C008		HATS
	001	Leather
	002	Other
C009		CLOTHING FASTENERS
	001	Iron
	002	Yellow Metal
	003	Unidentified
C010	000	BALE SEALS

GROUP D - 20th CENTURY DEBRIS

Code	Sub-Code	Artifact-Description
		20th CENTURY DEBRIS
D001	000	STYROFOAM
D002	000	PLASTIC
D003	000	METAL CAN OR OTHER CONTAINER
D004	000	OTHER
D005		INSULATION
	001	Asbestos
	002	Unidentified/Other

GROUP E - ELECTRICAL MATERIALS

Code	Sub-Code	Artifact-Description
E001		ELECTRIC WIRE & RELATED ITEMS
	001	BX Type Cable
	002	Lamp Cord
	003	Conduit
	004	Insulated Copper Wire
	005	Insulated Non-copper Wire
	999	Other
E002	000	JUNCTION BOXES & FIXTURES
E003		OTHER ELECTRICAL ITEMS
	001	Carbon Rod
	999	Other

GROUP F - FURNITURE

Code	Sub-Code	Artifact-Description
F001	000	HINGES
F002		PULLS
	001	Iron
	002	Brass
	003	Other
	004	Unidentified Metal
	005	Ceramic
F003	000	LOCK COVER PLATE
F004		FINIALS
	001	Cast Metal
F005	000	CANING
F006	000	OTHER FURNITURE ITEMS
F007		DOOR KNOBS [EXCLUDE FURNITURE PULLS]
	001	Ceramic [Exclude Coarse Agate]
	002	Glass
	003	Metal

GROUP G - LITHICS

Code	Sub-Code	Artifact-Description
G001		LITHICS
	001	Flakes & Debitage
	002	Core
	003	Projectile Point

GROUP K - KITCHEN MATERIALS

Code	Sub-Code	Artifact-Description
K001		GLASS BOTTLES/JARS
	001	Body Fragments
	002	Finish Fragments
	003	Base Fragments
	004	Reconstruction Vessel
	005	Unbroken Vessel
	006	20th Century Bottle Fragments
	009	Cross Mend
K002		ORNAMENTAL GLASS
	001	Pressed Glass
K003		GLASS BOTTLE/JAR CLOSURES
	001	Metal
	002	Plastic or Rubber
	003	Cork
	004	Ceramic
	005	Glass
	006	Other
K004		TABLE GLASS
	001	Tumbler & Other Cylindrical Forms
	002	Stemmed Glass
	003	Decanter
	004	Other & Unidentified Table Glass
	005	Mugs
	009	Cross Mend
K005		CUTLERY
	001	Table Knife
	002	Fork
	003	Spoon
	004	Handle Only
	005	Other
K006	000	KITCHEN WARE
K007		OTHER HOUSEHOLD GLASS
	001	Vase
	002	Unidentified
	003	Cosmetic
	009	Cross Mend

GROUP L - LIGHTING

Code	Sub-Code	Artifact-Description
L001	000	CANDLES/TALLOW
L002	000	LAMP BASE [Non-ELECTRIC]
L003	000	CANDLE HOLDER
L004		LAMP GLASS
	001	Body Fragments
	002	Base Fragments
	003	Rim Fragments
	004	Whole or Reconstructable
	009	Lamp Glass - Cross Mend
L005		LIGHT BULBS
	001	Glass Fragments
	002	Bulb Base
	003	Whole Bulb
	004	Filament Rod
L006		OTHER LIGHTING ITEMS
	001	Glass
	002	Metal
	003	Other
L007		LIGHT SHADE
	001	Ceramic
	002	Glass

GROUP M - MISCELLANEOUS (counted)

Code	Sub-Code	Artifact-Description
M001		MISCELLANEOUS ARTIFACTS
	001	Metal
	002	Plastic/Rubber
	003	Wood
	004	Ceramic
	005	Stone
	006	Glass
	007	Leather
	008	Other

GROUP N - MISCELLANEOUS (weighed)

Code	Sub-Code	Artifact-Description
N001		MISCELLANEOUS ARTIFACTS
	001	Unidentified Metal
	002	Non-Construction Lithic
	003	Flint Nodules - unworked
	004	Agglomeration of Unidentified Artifacts
	998	Unidentified
	999	Other

GROUP 0 - ORGANIC

Code	Sub-Code	Artifact-Description
0001		ORGANIC
	001	Cloth Fragments
	002	Rope Pieces
	003	Paper Fragments
	004	Unidentified Leather
	005	Felt Fragments
	998	Unidentified
	999	Other

GROUP P - "PERSONAL" MATERIALS

Code	Sub-Code	Artifact-Description
P001		COINS
	001	Datable
	002	Undatable
P002		JEWELRY
	001	Ring
	002	Cuff Link
	003	Sleeve Buttons
	009	Unidentified
P003	000	WAMPUM
P004		CLAY PIPE BOWL FRAGMENTS
	003	Bore Absent or Unmeasurable
	004	4/64" Bore Diam.
	005	5/64" Bore Diam.
	006	6/64" Bore Diam.
	007	7/64" Bore Diam.
	008	8/64" Bore Diam.
	009	9/64" Bore Diam.
P005		CLAY PIPE STEM FRAGMENTS
	003	Unmeasurable Bore
	004	4/64" Bore Diam.
	005	5/64" Bore Diam.
	006	6/64" Bore Diam.
	007	7/64" Bore Diam.
	008	8/64" Bore Diam.
	009	9/64" Bore Diam.
P006		OTHER CERAMIC PIPES [REED PIPES, ETC.]
	001	Red Earthenware
	002	White Earthenware
	003	Stoneware
	004	Porcelain

Code	Sub-Code	Artifact-Description
P007		NON-CERAMIC PIPE
	001	Whole
	002	Bowl
	003	Stem
P008		WRITING UTENSILS
	001	Slate Pencil
	002	Graphic Pencil
	003	Chalk
	004	Pen Nibs
	005	Ink Wells/Ink Stands
P009		GROOMING
	001	Hair Brush
	002	Comb
	003	Toothbrush
	004	Wig Curlers
P010		EYE GLASSES
	001	Lens
	002	Frame
	003	Frame & Lens
P011		POCKET KNIFE
	001	Blade
	002	Whole
P012		MIRROR GLASS
	001	Fragments
	002	Reconstructable/Whole
P013		FANS
	001	Rib
P014		OTHER PERSONAL
	001	Watch Glass

GROUP S - SHELL

Code	Sub-Code	Artifact-Description
S001		PELECYPODA*
	001	Oyster Shell
	002	Clam: Hard Shell
	003	Scallop Shell
	004	Mussel Shell
	005	Clam: Soft Shell
	006	Clam: Unidentified
	007	Clam: Surf
	008	Cockle Shell
	009	Ark Shell
	998	Unidentified
S002		GASTROPODA*
	001	Snail/Whelk
	002	Oyster Drill
	003	Limpet Shell
	004	Jingle Shell
	005	Slipper Shell
	006	Conch Shell
	007	Worm Shell
	998	Unidentified
S003		CORAL*
	001	Coral
S004		CRUSTACEA*
	001	Lobster Shell
	002	Crab Shell
	998	Unidentified
	999	Other
S005	000	UNIDENTIFIED SHELL*

GROUP V - VEGETAL AND FLORAL MATERIALS

Code	Sub-Code	Artifact-Description
V001		CUCURBIITACEAE
	001	Squash/Cucumber/Pumpkin/Watermelon
	002	Cantaloupe
	999	Unidentified/Other
V002		FAGACEAE
	001	Oak Acorn
	002	Chestnut Shell
	003	Cork Wood
	004	Beech Nut
	999	Unidentified/Other
V003		MYRICACEAE
	001	Walnut Shell
	002	Black Walnut/Butternut Shell
	003	Hickory Nut
	004	Pecan Shell
	999	Unidentified/Other
V004		LEGUMINOSAE
	001	Peanut Shell
	002	Pea
	999	Unidentified/Other
V005		OLEACEAE
	001	Olive Pit
V006		PALMACEAE
	001	Coconut Shell
	002	Date Pit
V007		ROSACEAE
	001	Apricot/Plum Pit
	002	Pear Seed
	003	Peach/Nectarine Pit
	004	Cherry/Beach Plum Pit
	005	Apple Seed
	006	Almond Shell
	999	Unidentified/Other

Code	Sub-Code	Artifact-Description
V008		RUBIACEAE
	001	Coffee Bean
	999	Unidentified/Other
V009		RUTACEAE
	001	Orange/Tangerine/Grapefruit/Tangelo Seed
	002	Lemon/Lime
V010		VITACEAE
	001	Grape Seed
	002	Raisin
V011		OTHER FLORAL
	001	Leaves
	002	Bark
	003	Twigs
	004	Straw
	999	Unidentified/Other
V012		PINACEAE
	001	Pine Cone
	002	Pine Needle
	003	Pine Bark
V013		BETULACEAE
	001	Birch Bark
	002	Hazel Nut
V014		ULMACEAE
	001	Shackberry
V015		AQUATIC PLANT
	001	Seaweed
	999	Unidentified/Other
V016		LECYTHIDACEAE
	001	Brazil Nut

GROUP W - CERAMIC WARES

Code	Sub-Code	Artifact-Description
W001		BROWN STONEWARE BOTTLES
W002		WHITEWARE
W003		IRONSTONE & GRANITE CHINA
W004		UNDERGLAZE POLYCHROME STENCILED PEARLWARE
W005		CANTON & NANKING PATTERN HARD-PASTE PORCELAIN
W006		MOCHA [ON CREAMWARE, PEARLWARE & WHITEWARE]
W008		"FINGER-PAINTED" WARES [POLYCHROME SLIP ON CREAMWARE OR PEARLWARE]
W009		EMBOSSED MOTTLE ON PEARLWARE
W010		"WILLOW" TRANSFER ON PEARLWARE
W011		TRANSFER PRINTED PEARLWARE
W012		UNDERGLAZE POLYCHROME PEARLWARE
W013		"ANNULAR" PEARLWARE
W014		"ANNULAR" CREAMWARE
W016		MOLDED WHITE SALT-GLAZED STONEWARE
W017		UNDERGLAZE BLUE PAINTED PEARLWARE
W018		OVERGLAZE ENAMELLED PAINTED CREAMWARE
W019		BLUE OR GREEN EDGED PEARLWARE
W020		UNDECORATED PEARLWARE
W021		DEBASED ROUEN FAIENCE
W022		CREAMWARE
W023		TRANSFER PRINTED CREAMWARE
W024		DEBASED "SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE

GROUP W - CERAMIC WARES

Code	Sub-Code	Artifact-Description
W001		BROWN STONEWARE BOTTLES
W002		WHITEWARE
W003		IRONSTONE & GRANITE CHINA
W004		UNDERGLAZE POLYCHROME STENCILED PEARLWARE
W005		CANTON & NANKING PATTERN HARD-PASTE PORCELAIN
W006		MOCHA [ON CREAMWARE, PEARLWARE & WHITEWARE]
W008		"FINGER-PAINTED" WARES [POLYCHROME SLIP ON CREAMWARE OR PEARLWARE]
W009		EMBOSSED MOTTLE ON PEARLWARE
W010		"WILLOW" TRANSFER ON PEARLWARE
W011		TRANSFER PRINTED PEARLWARE
W012		UNDERGLAZE POLYCHROME PEARLWARE
W013		"ANNULAR" PEARLWARE
W014		"ANNULAR" CREAMWARE
W016		MOLDED WHITE SALT-GLAZED STONEWARE
W017		UNDERGLAZE BLUE PAINTED PEARLWARE
W018		OVERGLAZE ENAMELLED PAINTED CREAMWARE
W019		BLUE OR GREEN EDGED PEARLWARE
W020		UNDECORATED PEARLWARE
W021		DEBASED ROUEN FAIENCE
W022		CREAMWARE
W023		TRANSFER PRINTED CREAMWARE
W024		DEBASED "SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE

Code	Sub-Code	Artifact-Description
W027		"BLACK BASALT" STONEWARE
W028		ENGNINE-TURNED UNGLAZED RED STONEWARE
W029		"JACKFIELD" WARE
W030		TRANSFER PRINTED WHITE SALT-GLAZED STONEWARE
W031		SOFT PASTE PORCELAIN
W033		GREEN GLAZED CREAM-BODIED WARE
W034		"SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE
W035		COARSE AGATE WARE [EXCLUDING DOOR KNOBS]
W036		WHIELDON WARE, "CLOUDED" WARE, TORTOISE SHELL, MOTTLED GLAZED CREAM-COLORED WARE
W037		REFINED RED STONEWARE, UNGLAZED SPRIGGED
W038		IBERIAN STORAGE JARS
W039		UNDERGLAZE BLUE PAINTED HARD PASTE PORCELAIN
W040		WHITE SALT-GLAZED STONEWARE [EXCLUDING PLATES AND MOLDED]
W041		"LITTLER"S BULE" [ON WHITE SALT-GLAZED STONE-WARE, PORCELAIN, AND CREAMWARE]
W042		REFINED AGATEWARE
W043		WHITE SALT-GLAZED STONEWARE PLATES
W044		WESTERWALD, STAMPED BLUE FLORAL DEVICES, GEOMETRIC DESIGNS
W046		NOTTINGHAM STONEWARE
W047		BUCKLEY WARE
W048		SLIP-DIPPPED WHITE SALT-GLAZED STONEWARE
W049		DECORATED DELFTWARE

Code	Subcode	Artifact Description
W050		RALPH SHAW, BROWN, SLIPPED STONEWARE
W051		"ASTBURY" WARE, WHITE SPRIGGED & TRAILED
W052		BURSLEM "CROUCH" PALE BROWN STONEWARE MUGS
W053		BROWN SALT-GLAZED MUGS
W054		BRITISH BROWN STONEWARE
W055		"SCRATCH BROWN OR TRAILED" WHITE SALT-GLAZED STONEWARE
W056		LEAD GLAZED SLIOWARE [COMBED YELLOW]
W058		SPRIG MODLING, COMBED LINES, BLUE & MANAGANESE DECORATED RHENISH STONEWARE
W059		EMBELLISHED HOHR GRAY RHENISH STONEWARE
W061		NORTH DEVON GRAVEL TEMPERED WARE
W063		NORTH DEVON SGRAFFITO SLIPWARE
W065		PLAIN WHITE DELFTWARE
W066		DETERIORATED BELLARMINE FACE BOTTLES
W067		WROTHAM SLIPWARE
W068		"METROPOLITAN" SLIPWARE
W060		RED MARBELIZED SLIPWARE [NORTH ITALIAN]
W073		WANFRIED SLIPWARE
W074		BELLARMINE, BROWN SALT-GLAZED STONEWARE, WELL-MOLDED HUMAN FACE
W075		RHENISH BROWN-GLAZED SPRIGGED MOLD-DECORATED, COLOGNE TYPE STONEWARE
W076		DELFT CHAMBER POTS
W077		WESTERWALD CHAMBER POTS

Code	Subcode	Artifact Description
W078		LUSTER DECORATED EARTHENWARE
W080		BURNT-UNIDENTIFIED
W081		CLEAR LEAD GLAZED RED EARTHENWARE
W082		BLUE/GRAY STONEWARE
W083		SPALL-UNIDENTIFIED
W084		OVER GLAZE ENAMELLED HARD PASTE PORCELAIN
W086		BLACK/DARK BROWN LEAD GLAZED RED EARTHENWARE
W087		FLOW TRANSFER PRINTED EARTHENWARE
W089		DRAB BODIED STONEWARE/EARTHENWARE
W090		PLAIN WHITE-HARD PASTE PORCELAIN
W091		CLEAR LEAD GLAZED RED STONEWARE
W092		OTHER RED BODIED SLIPWARE
W093		DELFTWARE SPALL
W094		ENGINE-TURNED CLEAR RED EARTHENWARE
W095		MIDLANDS WARE
W096		BROWN LEAD GLAZED RED EARTHENWARE
W097		SHELL-EDGED CREAMWARE
W098		BLACK LEAD GLAZED BUFF BODIED EARTHENWARE
W099		BLUE/GRAY UNGLAZED STONEWARE
W100		OTHER BUFF BODIED EARTHENWARE
W101		OTHER UNGLAZED STONEWARE
W102		RED EARTHENWARE SPALL
W103		DAMAGED-UNIDENTIFIED
W106		OPAQUE GLAZED RED STONEWARE

Code	Subcode	Artifact Description
W107		TIGER WARE (BROWN GLAZED)
W108		MOTTLED BROWN GLAZED BUFF BODIED
W109		BURNT DELFTWARE
W110		OTHER RED EARTHENWARE
W111		JASPER WARE
W112		APPLE GREEN GLAZE BUFF EARTHENWARE
W113		HARD-PASTE PORCELAIN WITH A BROWN GLAZED EXTERIOR
W114		BROWN-RIMMED UNDERGLAZE BLUE HARD-PASTE PORCELAIN
W115		DELFT TILE
W116		BRISTOL BROWN BOTTLES
W117		OTHER EARTHENWARE
W118		IMARI-STYLE HARD-PASTE PORCELAIN
W120		GREEN/YELLOW GLAZED WHITE EARTHENWARE
W121		OTHER STONEWARE
W122		CLEAR (YELLOW) GLAZED EARTHENWARE
W123		GREEN GLAZED RED EARTHENWARE
W124		COARSE, LATE-19th CENTURY PORCELAIN
W125		OTHER CERAMIC BOTTLES
W126		OTHER BROWN STONEWARE
W128		AMERICAN ROCKINGHAM
W129		TRANSFER PRINTED WHITEWARE
W134		YELLOW WARE
W135		MAJOLICA

Code	Subcode	Artifact Description
W136		FLINT ENAMELLED WARE

ITEM SIZE

001	Sherds/Minor Mends
002	Part of Vessel (c. 25%)
003	Most of Vessel (c. 75%)
004	Whole Vessel (c. 90%)
005	Unbroken

GROUP X - ACTIVITIES

Code	Subcode	Artifact Description
X001		TOOLS
	001	Shovels
	002	Whetstones
	008	Other
	009	Undentified
X002		TOYS
	001	Marbles
	002	Ceramic Dolls
	003	Other
X003		FISHING TACKLE
	001	Sinker/Weight
X004		SMELTING
		Ceramic Crucible
X005		PRINTING
	001	Type Slugs
	002	Photo Etching
	003	Composing Stick
X006		POTTING ACTIVITIES
	001	Kiln Furniture
	002	Wasters
X007	000	MISCELLANEOUS ACTIVITIES
X008	000	MARITIME/NAUTICAL ACTIVITIES
Z001	000	ARMS
		Gunflint/Shot/Shells

*indicates artifacts weighed

APPENDIX G

HISTORICAL DOCUMENTATION OF GREEN COFFEE COMPLEX NEW YORK, NEW YORK

HISTORICAL DOCUMENTATION OF GREEN COFFEE COMPLEX

Prepared by: Soil Systems, Inc.
Marietta Cultural Resources Branch
525 Webb Industrial Drive
Marietta, Georgia 30062

Amy Friedlander
Principal Investigator

Wendy Harris
Historian

Christopher Gray
Office for Metropolitan History
Architectural Historian

Laura Rosen
Photographer

1. NAME:

Historic	(none)
Common	Green Coffee Complex

2. LOCATION

Address	145 John Street New York, New York
	155 John Street (Green Coffee Building) New York, New York
	186 Front Street (Square Rigger Bar) New York, New York
Congressional District	17th Congressional District
State Code	36
County Code	061

3. CLASSIFICATION

Category	Structure
Ownership	Private
Public Acquisition	—
Status	Partially occupied
Accessible	Yes - Restricted
Present Use	Commercial

4. OWNER OF PROPERTY

New York Telephone Company

5. LOCATION OF LEGAL DESCRIPTION

Hall of Records, 31 Chambers Street, New York, New York

6. REPRESENTATION IN EXISTING SURVEYS

Harris, Wendy
1980 Historic Background Study of Block 74. New York City.

Landmarks Preservation Commission
1968 Inventory of Structures in the Brooklyn Bridge, S.E. Urban Renewal Area. New York City.

United States, Department of Interior
1978 National Register of Historic Places Inventory - Nomination Form: South Street Seaport Extension, New York County.

7. DESCRIPTION

7a. Historical Description

General Statement

The Green Coffee Building at 145-9 John Street is composed of four distinct structures, three of which were altered substantially in 1919, and connected to the fourth to form a single structure (Alt. 555/19). The most recently constructed of the four (1897), a ten story building occupying former lots 29 and 30 (182 and 184 Front Street), is referred to in the records as 21 Burling Slip and then later as 151-155 John Street. The three older buildings at 15, 17 and 19 Burling Slip are referred to as 145-7 Burling Slip after their incorporation into a single structure in 1919. All four buildings are described separately below. A discussion of the 1919 alterations and subsequent use will then follow. Significant people associated with these buildings are described here although their importance will be assessed elsewhere in the report.

15 Burling Slip, Formerly Lot 33

The building at 15 Burling Slip (John Street) became a corner structure in the early 1960s when Water Street was widened and the Telco Block buildings on its east side were demolished. Originally the side of this building adjoined the rears of neighboring structures 181 and 185 Water Street on the west and the side of 17 Burling Slip on its east.

The construction date is at present unknown. Tax records between 1795 and 1808 are unavailable and the records spanning the years 1808 to 1896 do not note any improvements made on this lot nor are there any significant jumps in the lot's assessed value. An 1801 conveyance (L59D433) and a shift in Burling Slip addresses between 1800 and 1802 (NYD) suggests the possibility of circa 1801 construction but the exact date remains uncertain.

City directories indicate considerable turnover in the building's occupants. The earliest entries (1800-1810) refer to a boarding house run by J. K. Delaplane. Such facilities were a common feature of New York City life and Burling Slip's proximity to the port's countinghouses, wholesalers and the South Street wharves would account for the boarding house's location here (Lockwood 1976:25). Other boarding houses in what is now the South Street Seaport Historic District included William Sharpe's at 271 Water Street which was in existence between 1836 and 1863. In 1850 this small three story building housed 39 people including single people and entire families. Jane Rosted's Boarding House at 132 Beekman Place housed over 40 people, many of whom were Irish and Scottish immigrants (see Rosebrock 1977). Elsewhere on the Telco Block, T. P. Orton and also Leonard and Rose operated a Boarding House at 22 Fulton from about 1829 to 1835. A fisherman, "segarmaker," and a grocer are listed among its occupants (Tax Records, NYD).

Delaplane's Boarding House seems to have closed after 1811 and until 1819 the building housed the offices of a series of merchants and attorneys. A shipchandler and shipmaster also appear briefly in the directory listings. The

building served as a private residence between the years 1819 and 1940. Among its occupants were Silas Carle (from 1819 to 1840), owner of a pharmacy at 199 Water Street (also on the Telco Block); James Rhodes (1825-26), who owned a tavern at 19 Fulton Street; and Henry Storms (from 1829-39), a saddler with a shop next door at 181 Water Street.

Residential structures, other than boarding houses were fast disappearing from the Seaport area by the 1830s (Lockwood 1976:25) and in 1840 a cooper, Henry Robinson, opened his shop in what had been a private residence at 15 Burling Slip. All three Burling Slip addresses housed coopers at different times during the nineteenth century (15 Burling Slip, 1840-1858; 17 Burling Slip, 1817-1837; and 19 Burling Slip, 1809-1816, 1826-1852) (NYD). Although there was always a need for barrels in the busy port, the demand must have increased greatly after the 1825 completion of the Erie Canal. Among those backcountry exports requiring barrels for shipping were potash, flax seed, salted meat, and flour. Between 1825 and 1856 eastbound cargo headed for New York on the Erie Canal rose from an annual total of 185,000 tons to 4,116,082 tons (Sibion 1939:78,88-91). Preparing barrels for domestic and international shipping kept the Burling Slip coopers busy and Henry Robinson remained at 15 Burling Slip until 1859 (NYD).

Little documentary evidence, aside from ownership, is available for this structure between 1860 and the turn of the century. Erskine Hewitt, a merchant, and a Frank Skiany and Company, tea wholesalers, are listed here during the first decade of the twentieth century (NYD). Erskine Hewitt, listed here briefly, was the son of Abram Hewitt of Cooper and Hewitt, located next door at 17 Burling Slip.

Later use and alterations of 15 Burling Slip will be discussed in a separate section.

17 Burling Slip

The structure at 17 Burling Slip was built in 1843/4 (Tax Records) by Peter Cooper and for the remainder of the nineteenth century the structure housed the offices of three remarkable American financial, political and philanthropic leaders. The firm of Cooper and Hewitt, here until 1906 (L102p446) was involved in both financial and manufacturing aspects of a wide range of industries including glue, iron, railroads, and coal mining.

Described by his biographer as "an inventor, industrialist and idealist" (Nevins 1935:2). Peter Cooper counted among his achivements the construction of America's first locomotive in 1830 (the Tom Thumb), the installation (with Cyrus Field) of the Atlantic Cable in 1858, and the founding of the Democratic Cooper Union, located at Astor Place. The latter, founded in 1859 as a "workingman's institute," provided free courses, lectures and reading rooms to the city's working class. Cooper Union was designed by Peter and Edward Cooper, incorporated a number of novel features (especially revolutionary was its ventilation system) and is at present a landmark building (see Nevins 1935:169-191). Peter's son and business associate Edward Cooper became an anti-Tammany mayor in 1878. Abram S. Hewitt, the other member of the firm and Peter Cooper's son-in-law, ultimately overshadowed the Coopers in the iron business, served five terms in Congress (1874-1886) and was a Democratic

Party leader. As a reform mayor (he was elected in 1887) he fought Jay Gould's Metropolitan Rapid Transit Company's attempts to obtain additional franchises. His proposal for a publicly owned rapid transit system was defeated during his own administration, but when the subway system was finally initiated under the Rapid Transit Act of 1894 the plans presented were clearly those developed earlier by Hewitt. He has been called "the father of modern transit" (Nevins 1939:498).

Another occupant of 17 Burling Place was D. F. Tiemann and Company who shared office space with Cooper and Hewitt from 1846 to 1851. Listed as color and paint manufacturers in the city directories, the firm's head, D. F. Tiemann, served as mayor of New York City from 1858 to 1860 (New York Historical Society files).

A short history of the firm, Cooper and Hewitt, and its founders follows below. Most of this data was obtained from Allan Nevins' biography Abram S. Hewitt, With Some Account of Peter Cooper published in 1935.

Peter Cooper was born in 1791 at Little Dock Street, Lower Manhattan (now South Street between Whitehall and Old Slip). He passed most of his childhood in Peekskill, New York and at seventeen was apprenticed to John Woodward, a New York City coachbuilder. He is described as a young man of great mechanical abilities and after leaving his apprenticeship he started a small machinery business. Like his future neighbor Stephen Allen (see description of 186 Front Street) he prospered during the War of 1812 because of the absence of British textiles. When the American textile boom ended with the 1815 peace, Cooper looked for alternatives. By 1827 he was the owner of a glue and isinglass factory located near Lexington Avenue and 33rd Street. Glue at the time was used mainly in furniture making, bookbinding, the leather trade and, as today, for household work. Isinglass or gelatine was used for "clarifying wines and spirits, making jelly, ice-cream and candy, giving lustre to textiles and manufacturing ink, courtplaster and household cement" (Nevins 1935:60). Cooper took out patents to improve the manufacturing processes for both.

In 1828, mindful of the approaching completion of the Baltimore and Ohio Railroad, Cooper invested in some Baltimore real estate. When construction delays threatened to render his property worthless Cooper actually set up his own iron mill on the site and proceeded to sell iron rails to the struggling railroad. Structural problems in the early imported English locomotives induced Cooper to build his own. In 1830, the Tom Thumb, the country's first home-built locomotive, made its trial run and Peter Cooper became a national figure. Realizing the important role iron manufacturing was about to assume (because of the railroads) Cooper returned to New York and built a foundry near the site of his glue factory. Manufacturing rails, bars and wire, his factory was among the first in America to use anthracite coal (see Nevins 1935:45-74).

The need for both cheaper raw materials and lower transportation rates lead Cooper to transfer the site of his rolling mill to Trenton, New Jersey. His son Edward and Edward's friend Abram Hewitt were sent to New Jersey to manage the new operations. Hewitt was the son of John Hewitt, an English cabinet maker who, in 1805, started a shop at 191 Water Street, also on the Telco

Block. Initially, the elder Hewitt prospered, hiring journeymen and taking on apprentices. His work apparently was exceptional, and at the 1932 opening of the Museum of the City of New York, his tables were exhibited as examples of the period's finest cabinet work. Unlike Stephen Allen and Peter Cooper, John Hewitt, along with most of the port's merchants and tradesmen, suffered great losses during the War of 1812. He was finally wiped out in 1816 when a fire destroyed his Water Street shop, and he moved elsewhere. His son, however, returned to the block and became one of the city's more prosperous businessmen (Nevins 1935:3-16).

In 1847, the Trenton Iron Company was formally incorporated and at the same time the partnership of Cooper and Hewitt was formed with Edward Cooper and Abram Hewitt acting as agents. They were to manage sales and purchases and also furnish advances of credit and cash (Nevins 1935:93). It was during this time (1843-1844) that Peter Cooper bought a vacant lot at 17 Burling Slip and built a four-story building which housed both his office and the offices of Cooper and Hewitt (L441 p37, and tax records). An undated photograph of the period shows a brick four-story building with the characteristic Greek revival facade. The granite lintel bears the name of Peter Cooper and over the doorway the inscription "Cooper, Hewitt and Co." appears (Nevins 1935:plate 38). Hewitt married Peter Cooper's daughter Amelia in 1855, and the partners thus became in-laws.

The railroad boom of the 1840s and 1850s guaranteed the success of the Trenton Iron Company. Cooper and Hewitt were also closely allied with Illinois Central and traded iron rails for railroad bonds which were then traded in Europe. Hewitt served on the Illinois Central's Board and acquired valuable real estate along the right-of-way. Plans to extend the line through Iowa failed with the Panic of 1857.

In the midst of all this, Peter Cooper had become president of the New York, Newfoundland, and London Telegraph Company. From 1856 to 1866, a small group of capitalists sought repeatedly to establish dependable telegraphic linkage with Europe. When the cable finally succeeded in 1866, Cooper used his profits to reimburse himself for the construction of Cooper Union (Nevins 1935:152-168).

During the Civil War, the need for high quality gun metal transformed the iron industry. The American government sent Abram Hewitt to England in search of the poorly understood manufacturing techniques used for the tougher more durable English gun metal. His success in this mission lead to the Trenton Iron Company's securing of contracts previously held by English firms. Union troops were ultimately supported with what came to be called "Trenton-Springfield rifles" (Nevins 1935:214). Contracts secured by Cooper and Hewitt included those for iron deck beams, iron rails and spikes, telegraph wire, and iron used in armour, gun sockets, and gun carriages.

After the war, steel, which was stronger and more durable than iron, emerged as the preferred material, and in its manufacture, America lagged far behind Europe. However, Cooper and Hewitt's introduction of the "open hearth" method in the late 1860s represents a significant American advance. Cooper and Hewitt remained for many years the principal manufacturers of wrought-iron beams and girders (Nevins 1935:249). They also supplied rails for the Erie

Railroad, Illinois Central, Long Island Railroad, the Atlantic and Great Western, the Michigan Central and New York City's street railways. Other enterprises in which Cooper and Hewitt were participants included Peter Cooper's original glue factory, additional ironworks in Pennsylvania, Michigan, and Tennessee, the Morris and Essex Railroad, the continued directorship of the Illinois central Railroad and the Phoenix Park Coal Company (Nevins 1935:249-254).

By the 1860s, the railroads were using only the all-steel rails. Cooper and Hewitt failed to move west closer to the iron sources. High freight rates drove up the price of western ore and high tariff rates made the European ores prohibitively expensive. Without new machinery or appropriate raw materials there was no way the Trenton Mill could manufacture steel. By 1872, they no longer manufactured rails although the wrought iron beam and girder business did well until the Panic of 1873. Although the Trenton mills continued manufacturing railroad products (car and locomotive axles) none of the Cooper and Hewitt-owned mills were major metal suppliers after 1880. Properties controlled by the firm during the last two decades of the nineteenth century included the Trenton Iron Company (manufacture of merchant rods and steel and iron wire) and the New Jersey Steel and Iron Company (manufacturer of beams and bridges). They also owned a series of furnaces which supplied forge iron and steel iron to various steel mills. Much of the firm's time was devoted to the management of patent affairs, having filed so many over the years.

The 17 Burling Slip offices remained the firm's administrative center, housing various officers and engineers. Peter Cooper devoted most of his time to Cooper Union after its 1859 founding. However, his biographer notes that until his death in 1883, he spent at least an hour daily at his Burling Slip office (Nevins 1935:441-442).

Edward Cooper and Abram Hewitt turned to politics and philanthropy and their achievements are described above. The Burling Slip offices remained the Cooper family property until 1906 when Sarah Hewitt, Abram's daughter and Peter Cooper's executrix, sold the building to Willard Baylis (L102, p446). The glueworks business, Trenton Ironworks and the management of the last Cooper and Hewitt venture, coal mines, continued to be based at 17 Burling Slip until Hewitt's death in 1903.

Subsequent use of this building and later structural alterations are described in a separate section.

19 Burling Slip

This structure dates to 1817 when Stephen Allen, owner of the sailloft at 186 Front Street, bought the lot and replaced an older structure here with a new four-story building (tax records, L119, p513). Initially, the structure housed a wholesale grocer, as did many of the other Front and Fulton Street buildings, but after 1825 and continuing for the next 25 years a series of Coopers occupied the building. As noted above, Burling Slip seems to have formed somewhat of a Cooper's enclave during the first half of the nineteenth century (NYD).

In 1840, Samuel Coon, a junk dealer, joined the Coopers, Thompson and McConnel at 19 Burling Slip. The Coopers were replaced by Nelson Coon (probably the junk dealer's son) in 1845 and Kieren Egan, another junk dealer, arrived in 1848, Samuel Coon having moved out in 1844. Kieren Egan remained here throughout the remainder of the century and was listed alternately as a dealer in junk, bagging paper, and cotton (NYD). Late nineteenth century building records describe the building as a cotton warehouse (Comp. 6930/1897). Nineteenth century paper mills often established city offices and warehouses to both purchase rags and sell paper and this would explain the above sequence (Hurlbut's Papermaker Gentleman Vol. 2, No. 2, 1934). By 1915, 19 Burling Slip housed a paint shop and factory (Alt. 965/15). Subsequent structural alterations are described in a separate section.

21 Burling Slip/151-155 John Street/184 Front Street

Two smaller early nineteenth century buildings (tax records) were replaced in 1897 with a ten-story office building, designed by architect George P. Chappell for owner William J. Matheson (N.B. 705/97). Building department records describe it as an office and warehouse building and its tenants during the first decades of the twentieth century included the Cassela Color Company (1915) and the National Aniline and Chemical Company (1918) (Alt. 1081/15 and Alt. 555/19). In 1919, 21 Burling Slip was connected to its neighbors 15, 17, and 19 Burling Slips (Alt. 555/19) and these alterations are described below.

145-9 and 151-155 John Street, 1919 to Present

Building department records describe the process whereby four Telco Block buildings were altered in 1919 to form one internally connected structure. The buildings included 21, 19, 17, and 15 Burling Slips which were owned and managed by William J. Matheson and leased to the National Aniline and Chemical Company (Matheson is listed as president).

The three older structures were to be incorporated into a single structure. Plans submitted and apparently accepted describe the following alterations. The "front of roof" was to be raised to the same height as the rear. The interior walls were to be removed and iron columns and girders substituted. The Greek Revival exteriors visible in Nevins 1935:plate 38 were removed and an "entirely new" front constructed (the plans for the first story note that "brick piers substituted for granite piers").

Since 21 Burling Slip was to be connected to the resultant single structure, the plans also called for lowering and raising of floors in order that they be level with the floors of 21 Burling Slip. Openings of the walls in each story were then cut, thus completing the connection (Alt. 555/19). In 1941, 185 Klater Street (no longer standing) was connected to this complex of buildings (B.N. 4674/41). A Certificate of Occupancy from this year indicates that the buildings still housed manufacturing facilities, offices, and warehouses (C.O. No. 27902). At present, a ground floor restaurant (fronting Water Street) and offices occupy this space.

186 Front Street, Lot 28

186 Front Street, currently a single story structure housing the Square Rigger Bar, was built as a 4½-story sail loft in 1807-1808 (Landmarks Preservation Commission 1968). Stephen Allen, the building's original owner, began his career as a sailmaker's apprentice and eventually became a successful merchant and the mayor of New York City (1821). He also served terms in the State Assembly (1826) and State Senate (1828). His lifelong interest in public health, evident in his actions as mayor during the 1822 yellow fever epidemic, culminated in his appointment as State Commissioner of the Croton Water Works. Available evidence suggests that his contemporaries regarded him as one of the men most responsible for bringing fresh water to New York City. The following is a brief account of Allen's life and has been drawn from his memoirs and an anonymously written, undated biography both of which are on file at the New York Historical Society.

Born in 1767, the child of German immigrants, Allen was raised in Lower Manhattan by his widowed mother. His childhood was dominated by the events of the Revolutionary War. A Whig sympathizer, he was apprenticed to a Tory sailmaker and suffered accordingly during the British occupation. He witnessed the American re-entry into the city and was present when Washington addressed the crowds from his headquarters at Broad and Wall Streets. Hard times followed the British departure and Allen was often out of work, but in 1788 he and a partner went into the sailmaking business for themselves.

Allen's memoirs describe his steady ascent towards prosperity. The European War of the 1790s put an end to America's post-war depression. The demand for neutral American carriers made the sailduck business increasingly profitable. In 1802, inspired by the example of his old friend and fellow sailmaker, Augustus Wright, Allen purchased a home at 211 Water Street (in the present Museum Block) and converted the bottom floor into a sailduck store. He continued to make sails at a loft listed in the 1803 directory at "Jackson's Wharf". In 1807, Allen bought a vacant lot, now Lot 28 (186 Front Street), for $6600 (L77, p239). The 4½-story building which he completed by 1808 was assessed at $5000 (tax records, Landmarks Preservation Commission Report). Allen and his partner Joseph Lathrop continued to sell sailduck out of the storefront of Allen's Water Street home but the 1808 city directory confirms that the new building at 186 Front Street (actually listed as 180 Front Street before 1819) had become the site of Allen's sailmaking activities. In 1810, Allen, having dissolved his partnership with Lathrop due to the latter's ill health, entered into a partnership with the newly elected State Senator Augustus Wright. From this year on the city directories list both a sailduck store (probably on the ground floor) and a sail loft at this address.

The 1807 Trade Embargo and the War of 1812 brought hard times to the Port and Allen's partner actually withdrew from the firm in 1814 fearing total loss. Allen, however, ultimately prospered. The treasury notes he had received as payment for the sailduck he had sold to the U.S. Navy became tremendously valuable and he emerged from the war with substantial profits.

In 1812, Stephen Allen was elected to the Common Council and from this point on public rather than mercantile affairs came increasingly to absorb his energies. He was appointed Mayor in 1821. Allen resigned in 1824 and his memoirs suggest that prison reform, public health, and tax reform were among the issues to which he was most devoted. The so-called benevolent societies to which he belonged included: the Mechanics Society, the Tammany Society, the Mechanic and Scientific Institute, the Public School Society, the High School Society, and the New York Tract Society. He was also among the directors of the New York Hospital and Lunatic Asylum, the House of Refuge for Juvenile Offenders, the New York Eye Infirmary, the Institution for the Instruction of the Deaf and Dumb, and the American Prison Discipline Society. Allen also served as Director of the Mechanics Bank of the City of New York, the Fulton Insurance Company, and the Fireman's Insurance Company.

With less and less time to devote to business, Allen retired in 1825. He went on to become a State Assemblyman (in 1826) and State Senator (1828) where he served as a judge on the Court of Errors. Since 1823, Allen had actively sought means to bring fresh water to New York City. Correspondence included in his memoirs indicate that in 1821, as the city's mayor, he had favored the Croton River as the most practical source. In 1833, he was appointed Chairman of the Water Commissioners and thus oversaw the development of the Croton Aquaduct Project. Two years before the project's completion newly elected Governor Seward removed Allen and the other commissioners and replaced them with Whig appointees. Allen's contribution to the construction of the city's first municipally funded water supply has been documented in a 1979 Historic American Engineering Record report (see also King 1843; Memoirs of Stephen Allen 1927:157-169; and Life of Stephen Allen n.d.:39-45).

A portrait of Stephen Allen painted in 1846 when he was 79 years old belongs to the New York Historical Society. The sturdy looking Allen holds a scroll in his left hand bearing the inscription "Water Com./Report/1846." A bubbling fountain and City Hall appear in the background, reminders of his political career and the successful completion of the Croton Aquaduct. The ex-sailmaker died in 1852 at the age of 85. He was killed in the explosion of the steamship Henry Clay during an Albany-New York excursion on the Hudson River.

The structure at 186 Front Street remained in the hands of Allen's descendents until 1894 (11491p.41; L25p.34). The structure housed Allen's sailduck store and sailloft from 1808 until 1831 (Allen's son and son-in-law ran the business following his 1825 retirement). A sailduck store operated by Thomas Ireland continued at this address until 1836. This business was apparently replaced in 1838 by P. Balen and Company, wholesalers of "Foreign Fruits, Nuts, Preserves, Cigars and etc." The latter continued at 186 Front until 1858 and was joined by A. B. Dunlap, Demill and Co., commission merchants from 1844 to 1858 (NYD). Commission merchants or factors were "commercial jacks-of-all-trade," who sold goods consigned to them by others. They thus differed from those who bore the title "merchant" next to their names in that the latter actually acquired title to the good they bought and sold. Commission merchants differed also from the brokers who never handled goods but linked up the buyer with the seller. The majority were general commission merchants, however, A. B. Dunlap, Demill and Co. listed "fruit" with their names in several directory entries suggesting speciallization (NYD, Albion 1939:275).

One Hundred Eighty-six Front Street was acquired by William J. Matheson in 1905 (L92p16) who also owned 145-9 John Street. The surrounding area had become increasingly industrial by the opening decades of the twentieth century and the Department of Building records indicate that the structure housed offices, warehouse and manufacturing facilities for the Cassella Color Company in 1915 and for the National Analine and Chemical Company in 1915.

7b. Architectural Description

145 John Street
(aka 145-149 John Street, aka 15-19 Burling Slip)
Block 74, Lots 31, 32, 33

General Statement

The building at 145 John Street is a 1919 alteration (architects: Ross & McNeil, Alt 555 of 1919) of an earlier set of three commercial buildings. The design is typical of the commercial alteration work of the period: large show windows, marginal decoration, straightforward fenestration. The architectural character has been maintained, and the actual materials of 145 John Street are in good to excellent condition.

Exterior - General Form

This squarish plot contains the remains of three separate nineteenth century buildings which were joined and refaced in 1919 and are now four stories high. The existing lot presents the principal facade on John Street, facing south, and a secondary facade on Water Street, facing west. The secondary facade, primarily the altered remains of party or lot line walls, is exposed only because Water Street has been widened, with the concomitant demolition of the former 143 John Street buildings.

Exterior - South Elevation

No pre-1919 fabric exists in the principal, south, facade.

The brickwork is a uniform light ash grey, the water table is all new (i.e. 1919) granite, and the windows, trim and related work all unquestionably date from 1919 or later. The principal facade is divided into three nearly identical bays. The lower floor in each bay has been painted black and white, and awnings and signage for the present tenant, The Yankee Clipper Restaurant, have been added. The typical lower floor bay consists of three uniform window-sized openings separated by brick piers. The extreme left-hand window-sized opening extends down to the level of the water table and is used as a doorway with an iron gate and four granite steps to the sidewalk. Excluding the doorway, each window-sized opening has been blocked up with masonry. Inspection of the finish work indicates very strongly that this lower floor configuration, one doorway at left and eight window openings along the rest of the facade, is original. This configuration is at variance with the initial plans for the alteration filed in 1919 at the Department of Buildings.

The piers separating the door and windows carry a long, plain stone frieze on which rests a projecting cornice of stone. The brick work for the upper stories begins above this. Above the first story, the bays are in fact all identical. Each floor (2nd, 3rd, and 4th) carries a single window opening with a tripartite set of double-hung, one-over-one wooden windows, set in wooden frames. Each window opening is set off on the bottom by a plain limestone sill, and on the sides and top by a single course of headers laid horizontally on the sides of the window and vertically on the top.

Although all the window openings of the 2nd, 3rd, and 4th floors line up vertically and horizontally with one another, no stringcourses, spandrel panels or detailing connects them. Above the 4th floor windows, the brick work is carried up to a pointed gable, with no decoration save for a small cornice, light in color, which appears, because of fracturing, to be made of terra cotta. The cornice projects out beyond the building line along the sloping line of the gable. Although the sloping sections of the gable cornice are separated between the three bays, they all rest on stubby flat sections of similiar material at each end, acting as small piers. The piers of the neighboring bays both rest on a small connecting cornice (identical in profile to the gable cornice) which spans the brick piers which mark each bay. Because of the continuation of the terra cotta work along the rooflines of all three bays, the roofline detailing has some of the characteristics of a Gothic label moulding, although the actual profile is more Classical in form.

Exterior - West Elevation

The Water Street facade, primarily the remains of a lot line or party wall, has been entirely grouted over. Some windows are extant on a rear, recessed section, and a former opening (perhaps a pass-through used during construction of row-type structures) is visible on this side, although of course bricked in. The first story has been covered with stucco, apparently by the restaurant tenant, which has a stoop and entrance in the center. An old, perhaps original, outline of a sloping roof is visible above the 4th floor level. A stairway bulkhead to the roof extends above the roofline on this side. All the brick work on this elevation is uneven, but it is generally common red brick with many damaged or partial bricks apparent.

Exterior - North Elevation

The north elevation, originally the back of the building(s), has been built out to varying depths. The window configuration on the eastern and central building sections is an arrangement of three windows across (per section), with apparently twentieth century two-over-two double-hung windows with stone sills and lintels. There are some tie rod plates on these elevations. The north elevation of the westernmost building section is partially built out, with windows on the shallower portion. All the window frames on the north and west elevations seem to be of the same material and styling.

Exterior - East Elevation

The east elevation, such as it is, is mostly blocked off by adjoining structures. The part that is exposed is plain, with one vertical line of windows. It also carries what appears to be a metal chimney stack from the boiler. In the northeastern corner of the building, at the roof, are the jagged remains of a former party or lot line wall, apparently a surviving section from the building subsequently replaced by 155 John Street.

Interior - Basement

The basement of 145 John Street shows the original three-building configuration, since the original foundation walls running along the lot lines appear to be intact. These are fieldstone patched with brick and penetrated in the middle by passageways connecting all three spaces. There is about six feet, floor-to-ceiling, in the basement, and some brick flooring. A passageway has also been cut through to the 155 John Street building.

Interior - First Floor

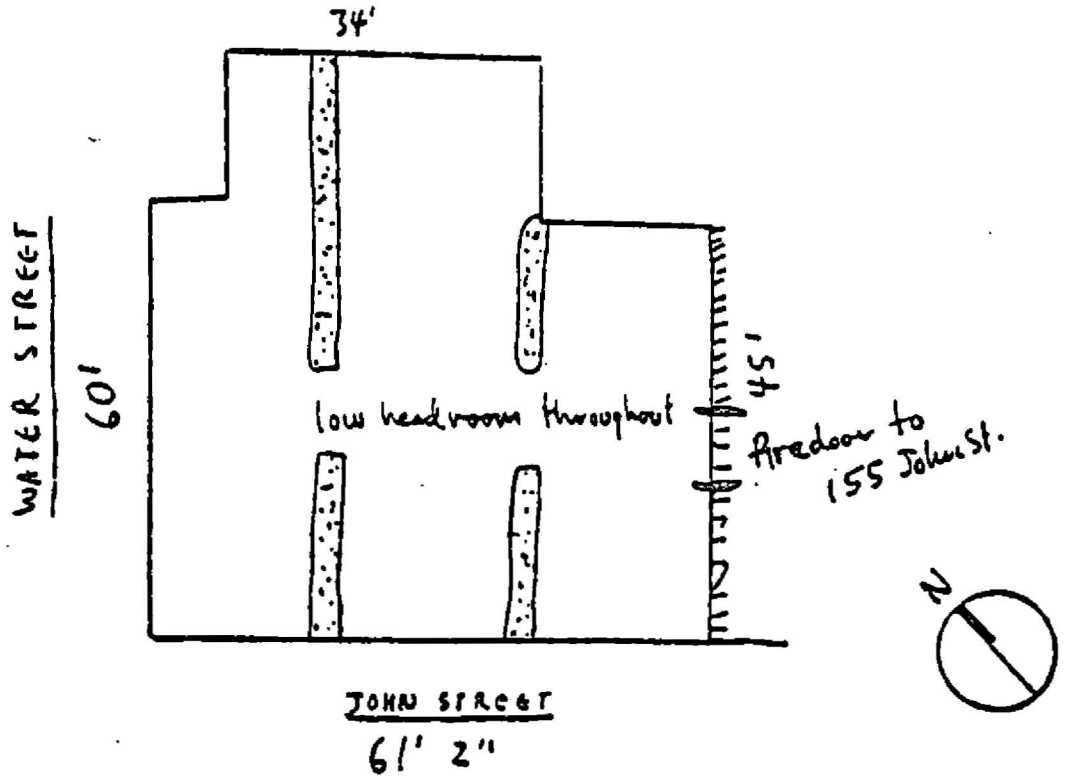
The first floor is occupied entirely by a restaurant entered through doors and a vestibule along the west facade. There is a bar along the south wall, with seating in the middle of the room. The original party or lot line walls have been replaced with steel columns, which are aligned along the old wall lines. All the fittings, furnishings, etc., are of relatively recent vintage.

Interior - Second, Third, Fourth Floors

The upper floors were all built as office space, but all the finishings are now of relatively recent vintage (linoleum, hung ceilings, office partitioning, modern fixtures). A wooden firestair runs along the west wall, but is almost certainly of 1919 vintage or later, despite its materials. Columns replacing the old party or lot line walls appear in the same locations as in the restaurant on the first floor, and firedoors have been created to the 155 John Street building; no partitioning is shown on the attached plan, but exists in various configurations.

Site

The 145 John Street building now faces a large, open group of parking lots, and adjoins the very wide Water Street. Across Water Street rises a large group of post-1950 office towers. Although the South Street Seaport docks are down at the end of John Street, 145 John itself, because of its particular prospect, does not really share in the ambiance of the South Street Seaport district.



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June 23, 1981
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HISTORICAL DOCUMENTATION
OF GREEN COFFEE COMPLEX
NEW YORK, NEW YORK
PROJECT NUMBER 10067

FIG. 1
145 JOHN STREET
BASEMENT

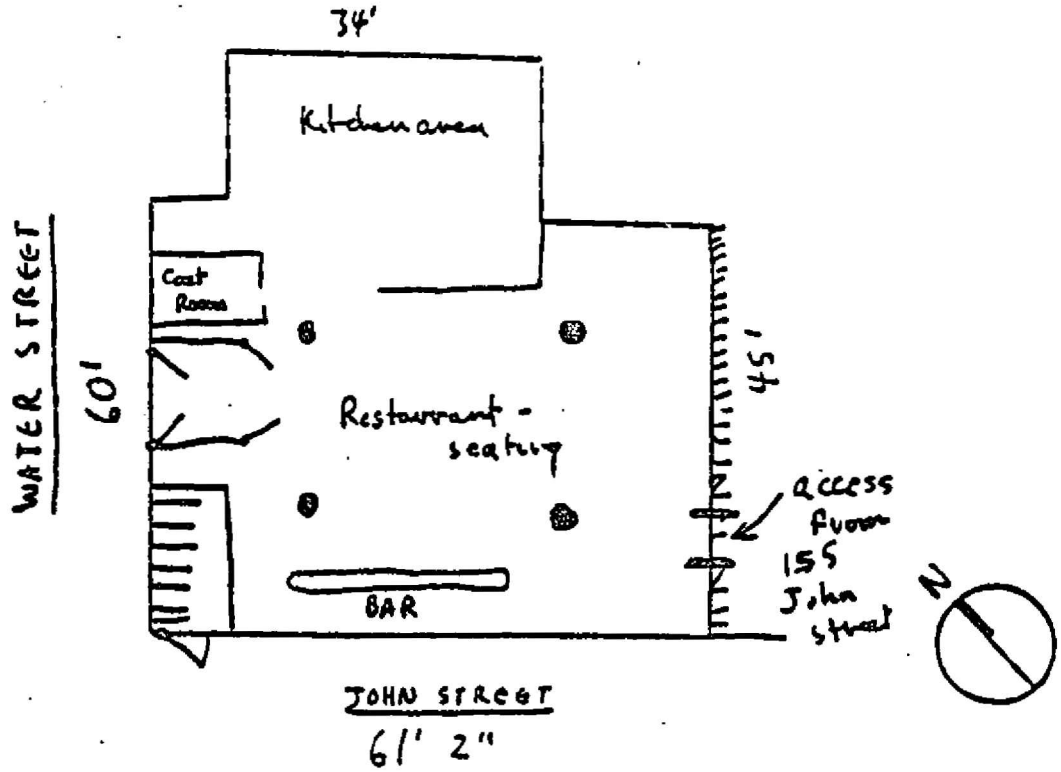

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FIG. 2
145 JOHN STREET
1ST FLOOR

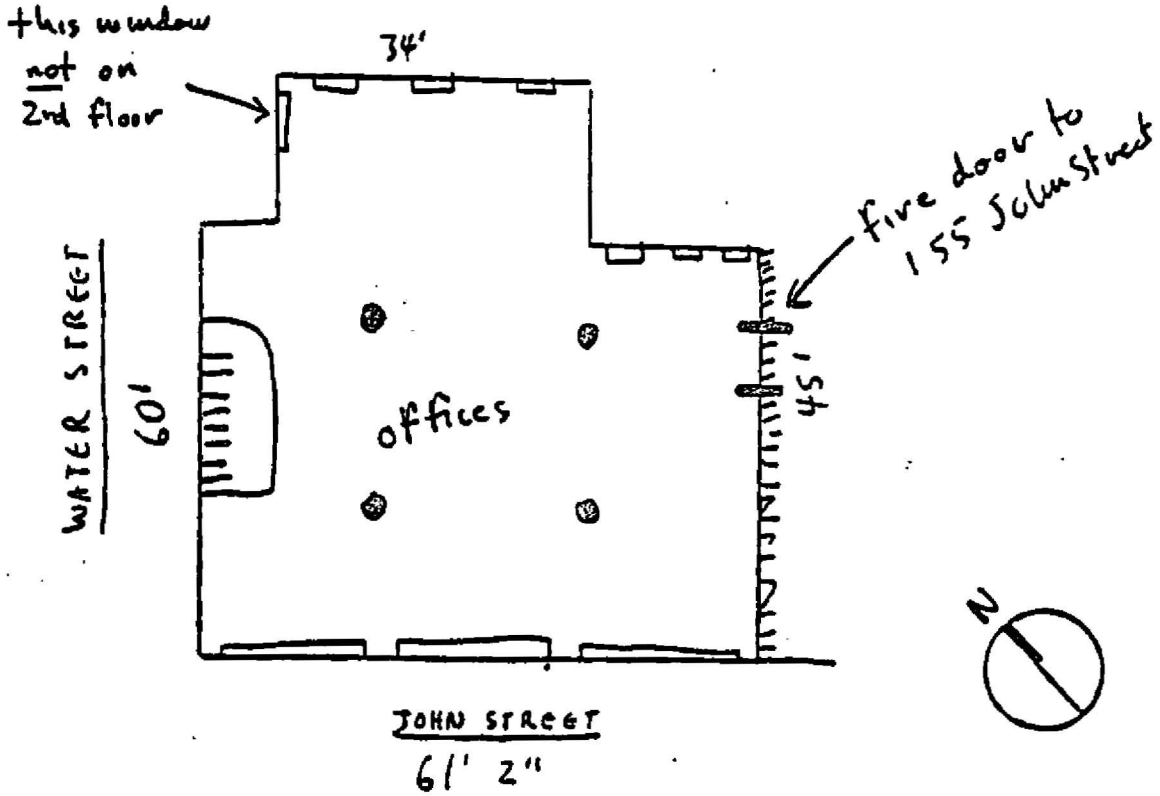

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FIG. 3
145 JOHN STREET
2ND, 3RD, & 4TH FLOORS

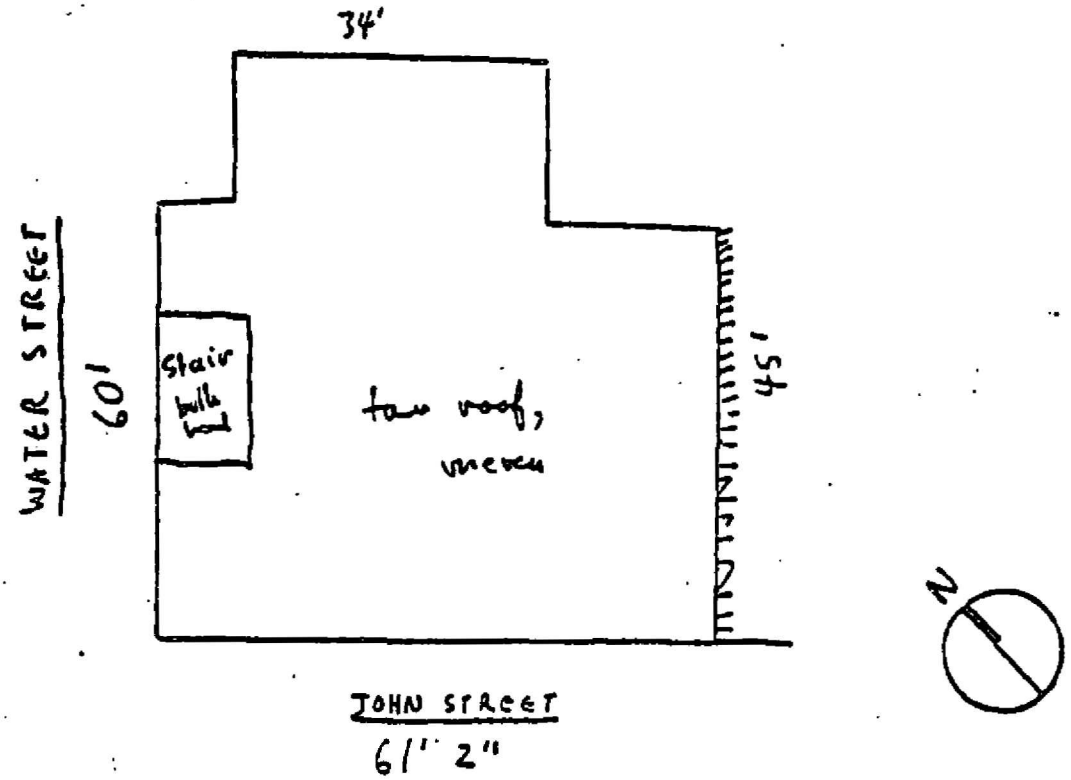

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FIG. 4
145 JOHN STREET
ROOF

155 John Street
Block 74, Lots 29,30

General Statement

This is a ten story steel frame building with brick exterior walls built in 1897-98 (NB 705 of 1897, George P. Chappell, architect) as "offices and warehouse". The principal elevations are executed in a mild Romanesque-Renaissance style. The condition of the actual fabric is excellent, and, except for the apparent loss of a cornice, the building has not been substantially altered in the exterior since it was built.

Exterior - South Elevation

This elevation is executed in a tan-grey brick, with detailing in light stone and a water table of granite. Overall, the design is a bit indistinct, combining elements of the Romanesque (arched windows, emphasis on brick patterning) with elements of the Renaissance (rustication or banding in the brick work, a few Classical details). This elevation is the principal one, with a Classical enframement surrounding the central doorway. The entire facade is five bays wide. The outer two bays contain single one-over-one windows from the first to the seventh floor. The central three bays contain larger window arrangements: joined, twin one-over-one windows at the first and second floors, and twin one-over-one windows separated by brick piers at the third through tenth floors. The first floor windows are topped by a stone moulding running the width of the facade (but interrupted by the doorway). The second floor windows are capped by segmental arches of brick work laid perpendicular to the soffit of the arch. The third, fourth, fifth, sixth, eighth, and ninth floor windows of the central three bays carry simple stone lintels. The seventh floor windows of the central three bays are set into half-round arches in the wall. The tenth floor windows carry a small moulding above.

The principal decorative scheme of the building is the use of ornament to imitate structural designs. The outside two bays are set in a field of banded (first and second floors) and rusticated (third-seventh floors) brick, and the inside three bays, flanked by this field, are themselves separated by two large pilasters terminated at the seventh story and capped by stylized Corinthian capitals. A small plain frieze caps the seventh story and the eighth through tenth stories are divided into five equal bays containing paired windows, except the eastern bay, which contains single windows. These five bays are separated and flanked by six pilasters carrying Corinthian capitals. The parapet wall is very plain, and extant flashing at its base suggests that the building originally had a modest cornice.

Exterior - East Elevation

The east elevation, on Front Street, is carried out on the same general scheme as the south elevation, with the following exceptions:

a. the east elevation is only two bays wide; these bays are otherwise similar to the central three bays of the south elevation

b. there is no capital terminating the colossal pilaster at the seventh story

c. the pilasters at the eighth through tenth floors are not single, as on the south elevation, but double

Note: at the corner where the east and south elevations meet, there are letters with the legends "Burling Slip" and "Front Street" in metal letters affixed to the moulding at the top of the first story.

Exterior - North Elevation

The roofline of the adjacent building originally came to the fifth floor level, and the outline of a sloping roofline running to Front Street is still visible at that level. At that level and above there are generally six windows per floor. Two lines are shaftway windows (for the elevators), one line has been blocked up, and three lines are normal windows. The westernmost line of windows extends below the fifth floor, since that line is recessed from the adjacent lot line. The parapet wall on this elevation is interrupted by three structures - a chimney stack and two elevator bulkheads.

Exterior - West Elevation

This elevation is obscured below the fifth story level. Above that level there are three equally spaced windows per floor.

Interior - Basement

The basement carries various mechanical service systems for the building, with very plain finishes and utilitarian fittings, all of relatively recent vintage. There are some recent partition walls in various locations.

Interior - First Floor

The lobby has been altered from its historic layout, although the black and white marble floor and some wainscotting remains. The rooms off the first floor all have modern finishes. The stairway from the first floor to the roof seems to be in original condition (except for the enclosing firewalls) with iron railings and slate (?) treads, all in a very plain design. Both elevators have been modernized in various particulars. There is some trim at the ceiling level, a dentilated cornice, but this has been altered.

Interior - Second through Tenth Floors

These floors all carry modern finishes (linoleum, hung ceilings, etc.) but areas of opportunity indicate that the original finishes on the typical floor were very plain plaster, perhaps with terrazzo flooring. Bathroom areas on these floors are all modernized, and are disposed in various layouts around a plumbing core in the northwest corner of the building. There is now generally an east-west corridor on these floors, with variously partitioned offices running off it to the south.

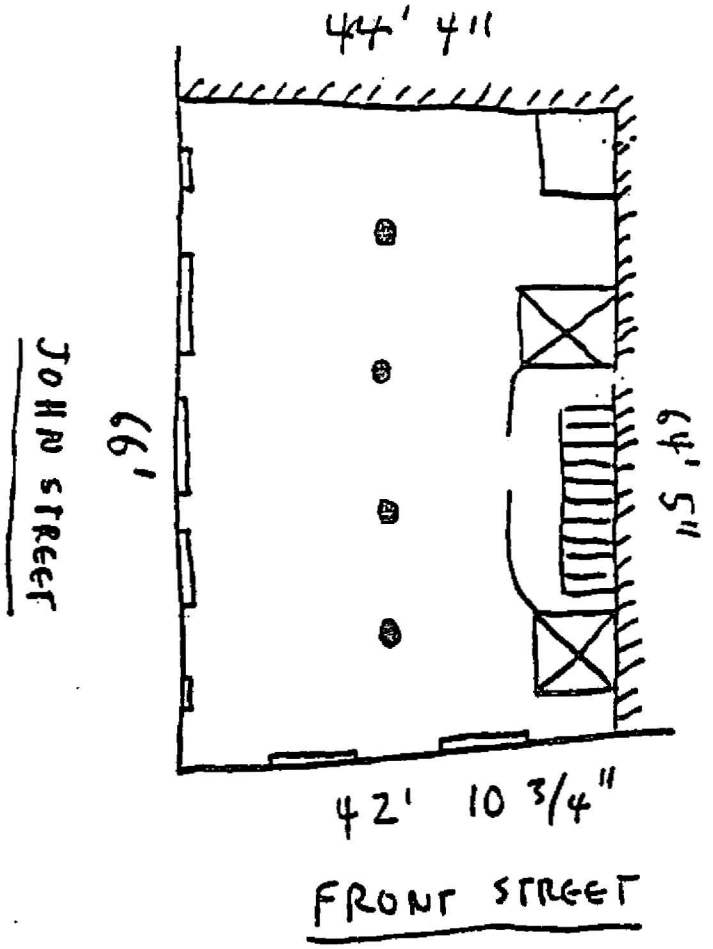

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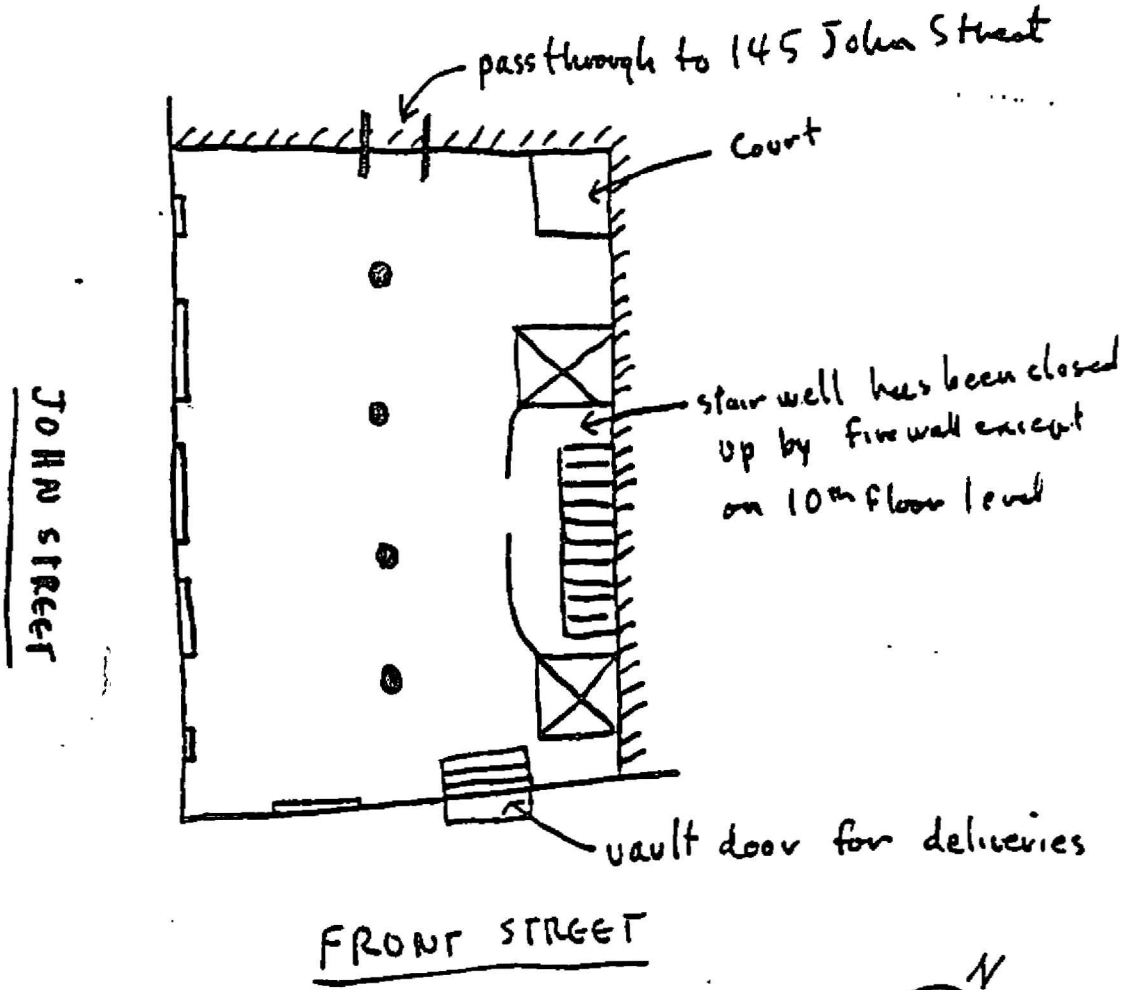
FIG. 5
155 JOHN STREET
SITE PLAN



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Note: no windows in basement

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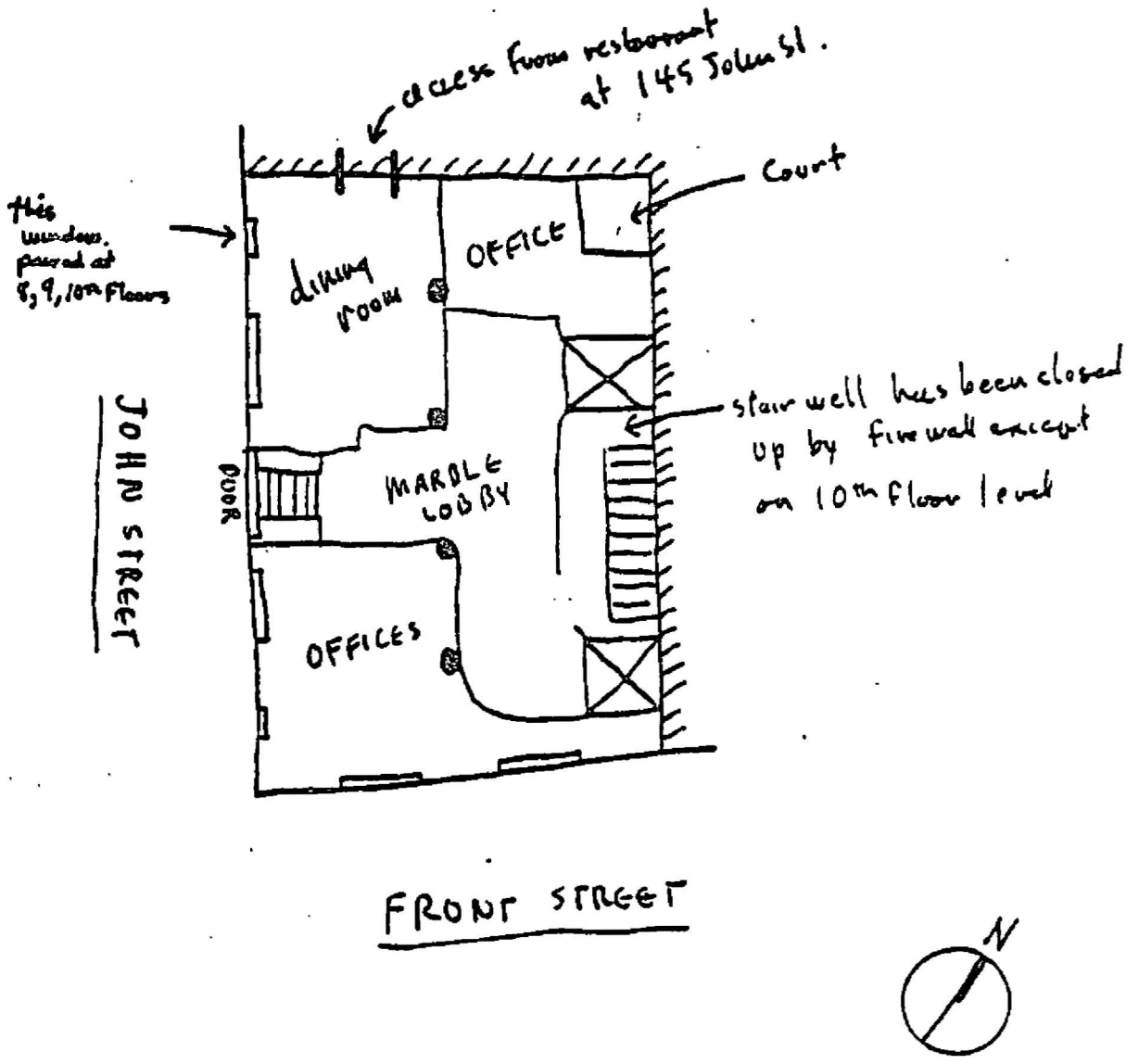
FIG. 6
155 JOHN STREET
BASEMENT



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Note: some marble wainscotting in lobby

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FIG. 7
155 JOHN STREET
1ST FLOOR

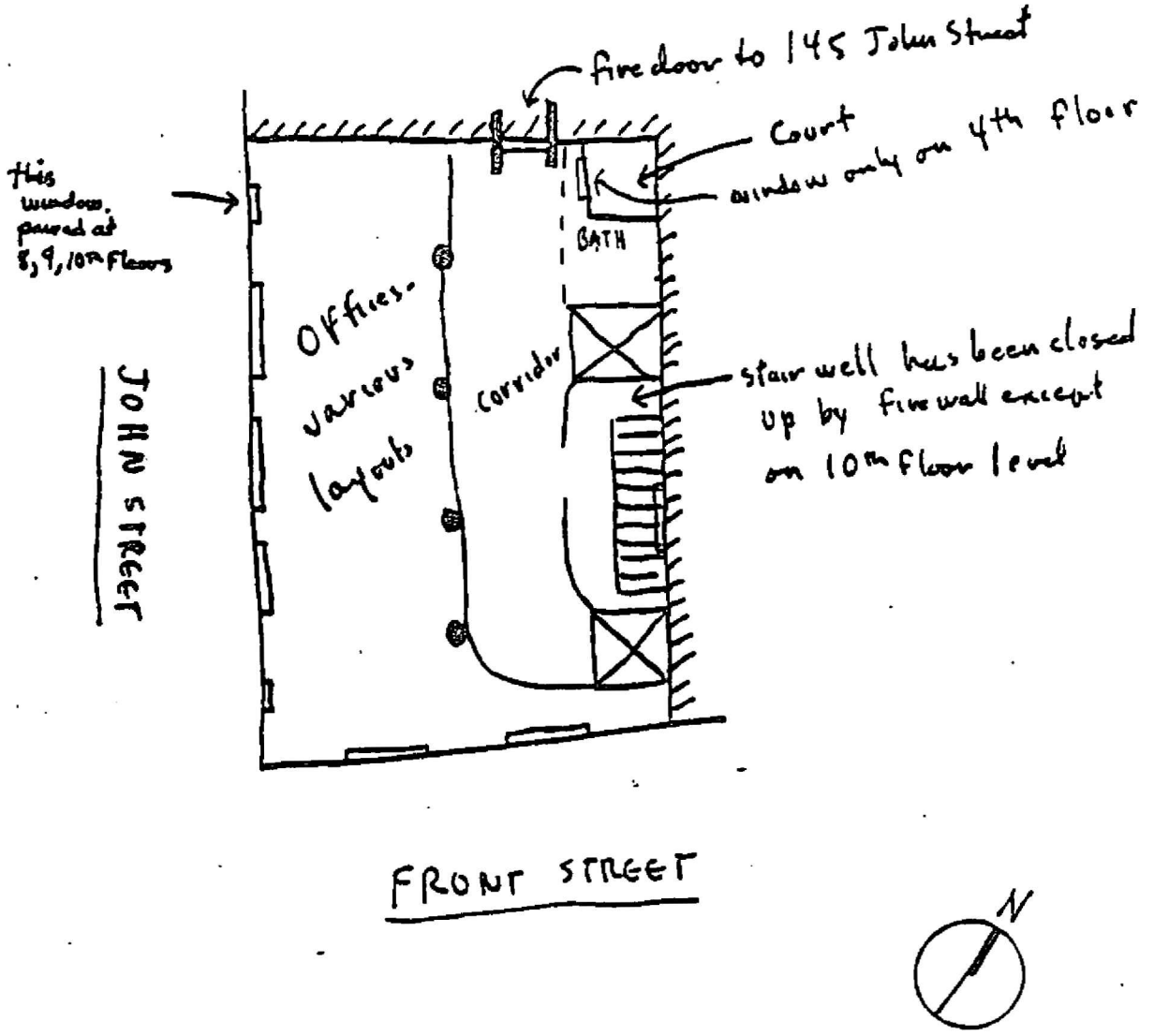

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FIG. 8

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155 JOHN STREET
2ND, 3RD, & 4TH FLOORS

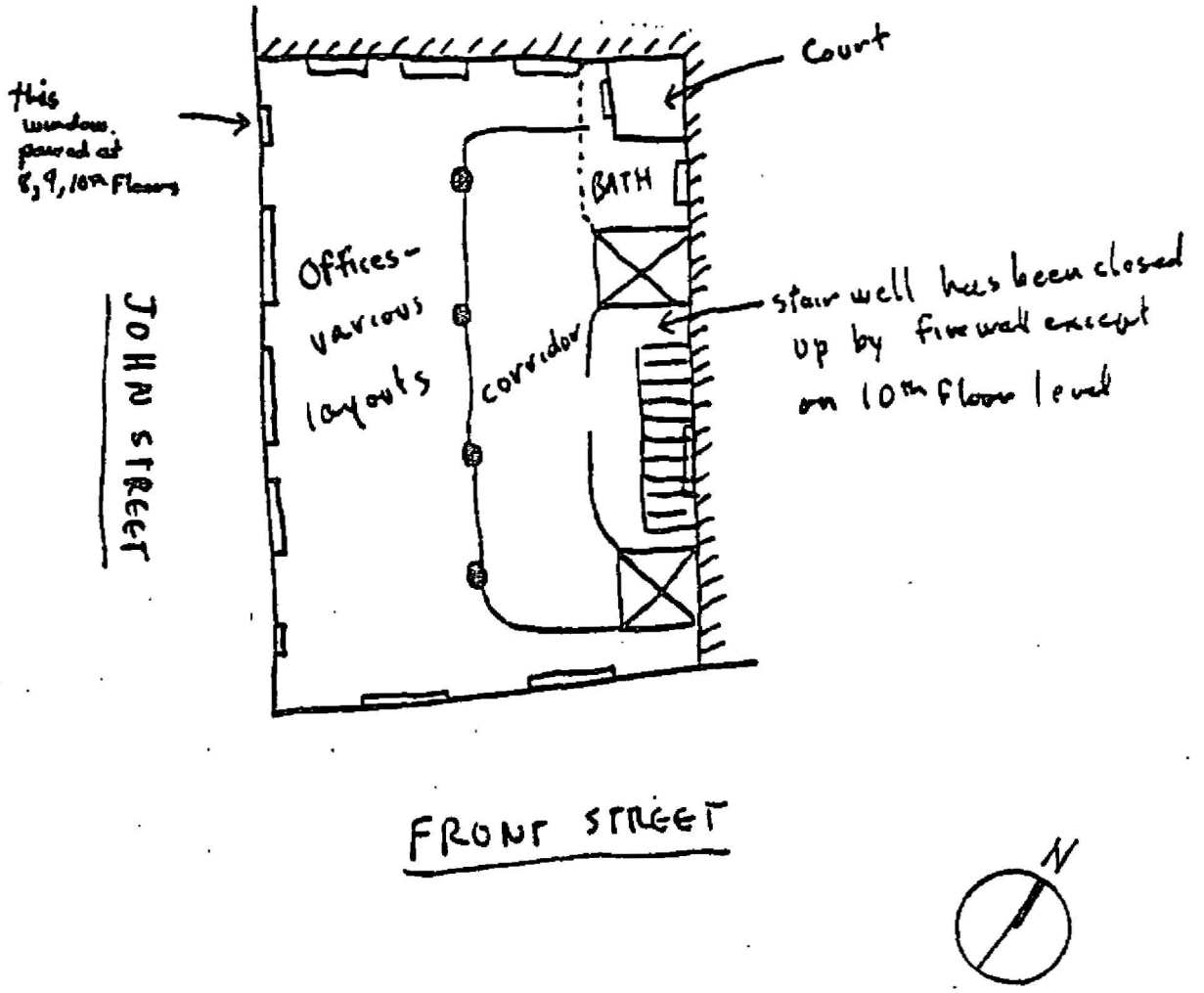

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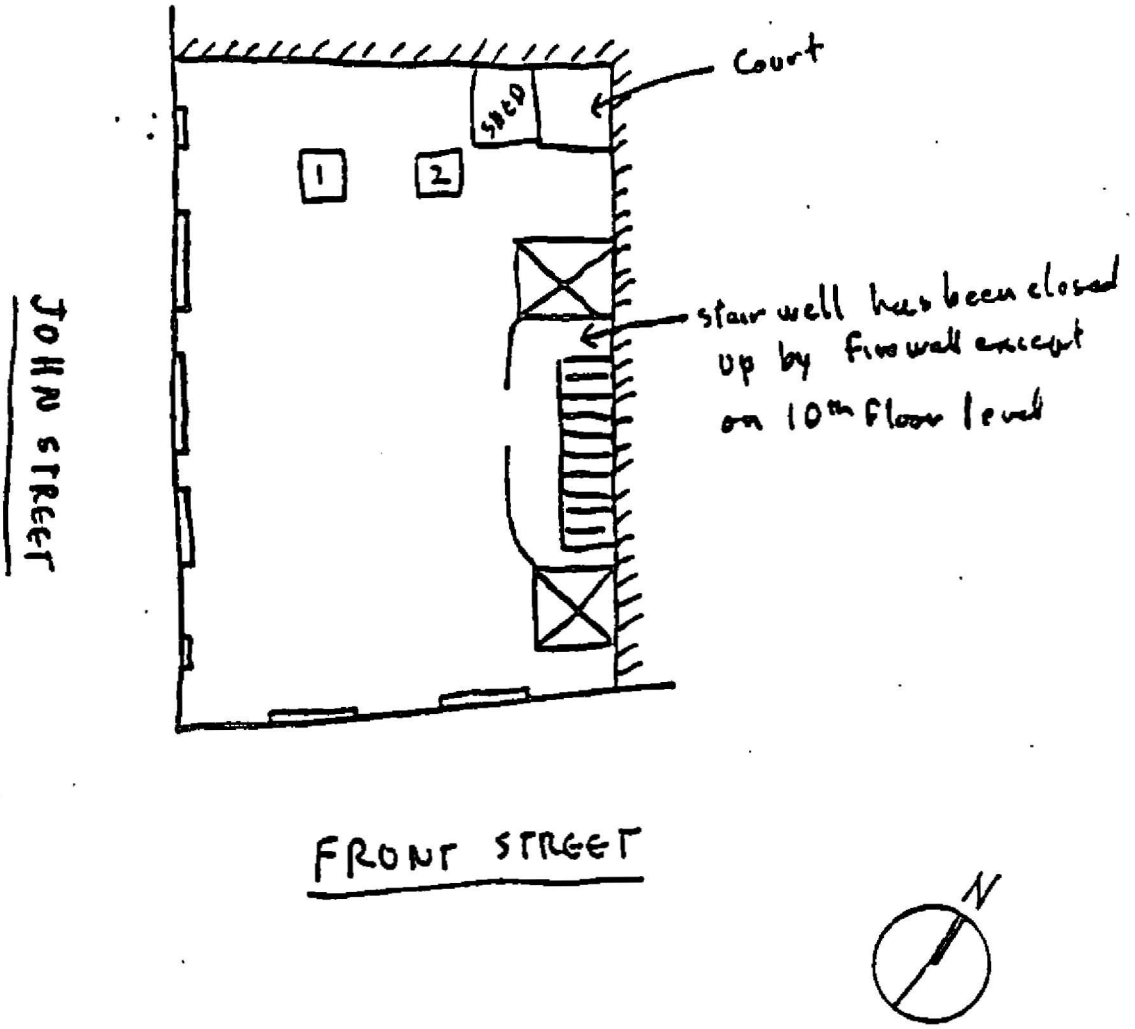
FIG. 9
155 JOHN STREET
5TH, 6TH, 7TH, 8TH,
9TH, & 10TH FLOORS



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Note: no windows on roof

1 + 2 are skylights

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FIG. 10
155 JOHN STREET
ROOF

Site

The 155 John Street building occupies the northwest corner of Front and John Streets. Although there is high-rise development one or two blocks away, especially across Water Street, the South Street Seaport ambiance is one of four and five story buildings, with which the 155 John Street building is at variance. Its relative age, though, mitigates somewhat its great bulk, but it is ultimately more akin to the office towers of the 1960s across Water Street than it is to the typical South Street Seaport buildings. Such kinship is also strengthened by the severity of design and coloring of the building, which lacks the ubiguitous red brick of the mid-nineteenth century buildings. The building does get full sun, since there are parking lots across the street, and it is relatively prominent from the foot of John Street, which is twice as wide from Front to South Streets as it is from Water to Front Streets.

186 Front Street
Block 74, Lot 28

General Statement

The building at 186 Front Street is the one story remnant of an early nineteenth century five story commercial building which almost completely covers the lot. The facade has been radically altered and "modrnized", but a few early or mid-nineteenth century elements are present in the facade. The walls besides the facade are laid in common brick. From the point of view of historic architectural character, the building is in very poor condition, although the remaining fabric could probably be described as being in poor or even fair condition.

Exterior - East Elevation

This property presents the main elevation on its east side, on Front Street. The facade is divided into three irregular bays. The left-hand bay contains a multi-paned show window above a slanted steel vault stairway door. The center and right-hand bays contain two doorway-type openings; the center one is closed up, but the right-hand one is the active doorway for the present building. The center and right-hand bay rest on a granite water table, which may be original or at least mid-nineteenth century; this granite, which also serves as the threshold for the doorway, rests on a modern (c. 1960?) brick stoop with two steps and iron railings.

Four piers separate the three openings and carry simple stone capitals which are generally similar to other mid-nineteenth century storefront detailing in the Seaport area. The capitals in turn support a stone entablature with a cornice which curves out from the building line. Above that, a brick parapet wall rises another two feet or so.

The entire facade has been heavily stuccoed and painted, but the outlines of the piers and the accessible detailing and finishes suggest that a storefront from the mid-nineteenth century (or earlier) may survive here, at least in terms of the water table, piers, and entablature.

Exterior - South Elevation

Not accessible.

Exterior - West Elevation

Not accessible.

Exterior - North Elevation

This elevation is a typical party or lot line wall elevation. Although heavily grouted, the brick appears to be common red brick, without any real uniform patterning (although there are several courses of headers in evidence). The rear section of this wall actually seems to rest on the adjacent property (188 Front Street), and carries the remains of an arch of doorway size.

Interior - Basement

The basement is accessible through a vault-stairway from Front Street. There have been some recent cinder block partitions, but the entire basement is otherwise unobstructed, although only built perhaps 65 feet deep, the balance being unexcavated. The walls are fieldstone foundation walls set on modern brick footings; the floors are brick; the ceiling consists of exposed wooden joists which may not be original. There are no fittings, trim or other items except for miscellaneous mechanical equipment for the restaurant upstairs.

Interior - First Floor

The first floor is accessible through a doorway on the north side of the facade, which is screened off by a vestibule. The entire front three-quarters of the building is occupied by a restaurant with a bar along the south wall and an exposed brick wall along the north side of the room. Except for the latter, there are no finishings in the restaurant which date from before c. 1950. A rear frame extension has been built on the back; although frame structures were illegal in this area in the twentieth century, the relatively good condition of the wood siding (all machine milled) suggests that this structure is not very old, but was installed illegally some time in the mid-twentieth century. Areas marked by numbers on the accompanying plan are: (1) frame extension; (2) and (4) bathrooms; (3) kitchen; (5) restaurant area. The two windows marked on the rear facade have been blocked up, but have deteriorated brownstone sills.

Site

The building is located on a relatively narrow street, but gets morning sunlight since its site is cattycorner to a large open square area (formerly Burling Slip). Because of the street configuration, with mid-nineteenth century commercial buildings across the street, the building still catches some of the atmosphere of the Seaport district, even though it is one of only three buildings left on its block.

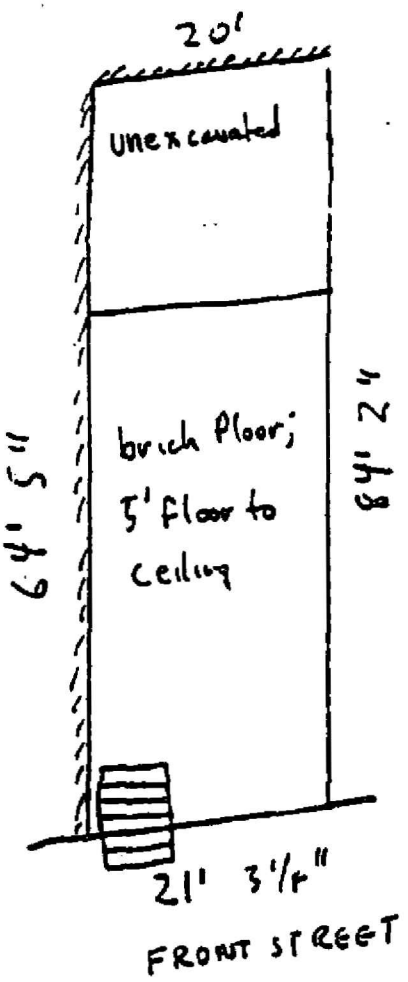



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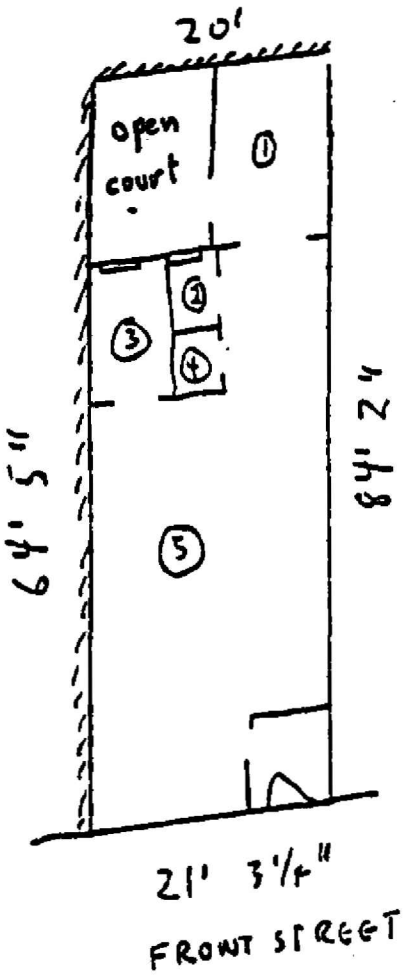
FIG. 11
186 FRONT STREET
BASEMENT



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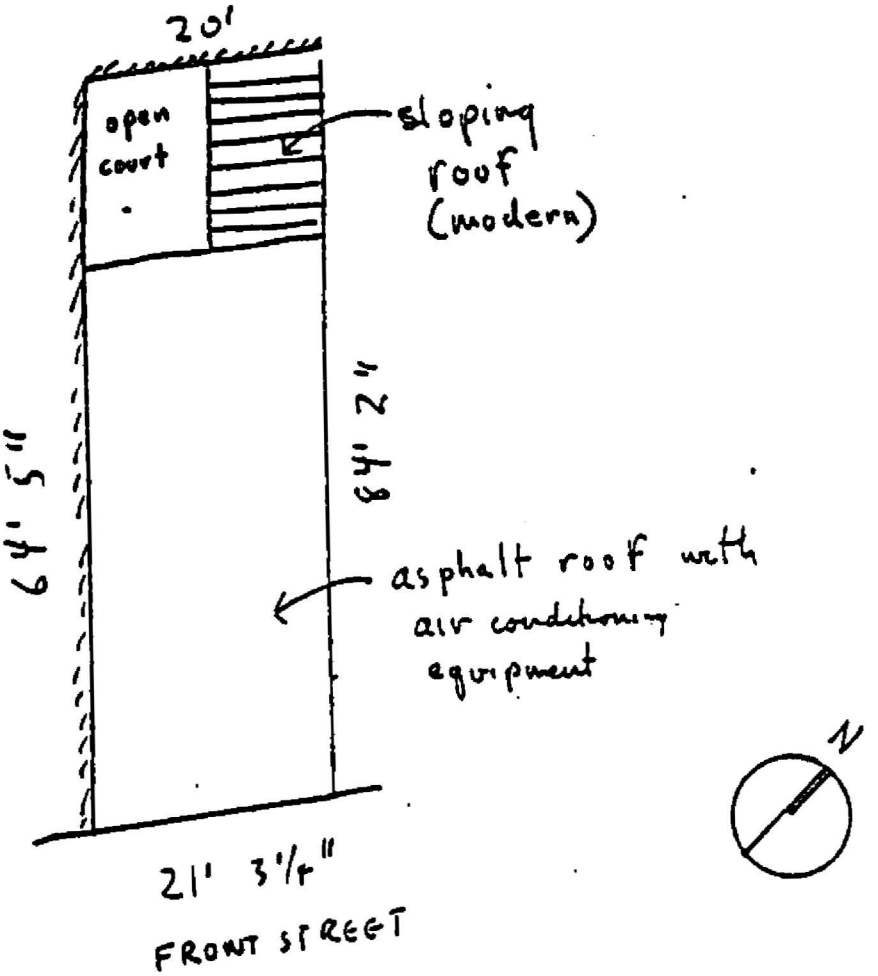
OF GREEN COFFEE COMPLEX
NEW YORK, NEW YORK
PROJECT NUMBER 10067

FIG. 12
186 FRONT STREET
1ST FLOOR



Drawn by Christopher S. Gray
June 23, 1981
No Scale Available

FIG. 13
186 FRONT STREET
ROOF

HISTORICAL DOCUMENTATION
OF GREEN COFFEE COMPLEX
NEW YORK, NEW YORK
PROJECT NUMBER 10067

7c. Chain of Title

Lot 33, 15 Burling Slip

1801 Deed, recorded February 2, 1801 in liber 59, page 433. John and Rebecca Goodeve, John and Mary Peters, Ezekiel and Sarah Robins to Daniel Deas.

1822 Deed, recorded December 24, 1822 in liber 164, page 39. Heirs of James Deas to Jane Ann Thompson (granddaughter of James Deas).

1866 Deed, recorded April 30, 1866 in liber 974, page 391. Jane Ann Fowler (formerly Thompson) to Edward Tapp.

1905 Deed, recorded July 29, 1950 in liber 96, page 136. Edward Tapp, Jr. to Willard N. Baylis.

1912 Deed, recorded August 1, 1905 in liber 141, page 217. Willard and Kate Baylis to William J. Matheson.

After this date, Lots 29 through 33 are conveyed as a single parcel. This chain is described below.

Lot 32, 17 Burling Slip

1843 Deed, recorded 1843 in liber 441, page 37. Executors of William Callender to Peter Cooper.

1906 Deed, recorded December 21, 1906 in liber 103, page 299. Executors and Trustees of Peter Cooper and Sarah Hewitt (trustee of Peter Cooper) to Willard Baylis.

1923 Deed, recorded December 14, 1923 in liber 3393, page 21. Willard and Kate Baylis to William J. Matheson.

After this date, Lots 29 through 33 are conveyed as a single parcel. This chain is described below.

Lot 31, 19 Burling Slip

1817 Deed, recorded June 20, 1817 in liber 119, page 513. Heirs of Charles Stewart to Stephen Allen.

1879 Deed, recorded March 17, 1879 in liber 1491, page 41. Margaret Foote (descendent and heir of Stephen Allen) to Sarah Belden (descendent and heir of Stephen Allen), half interest. Lot 28 also conveyed.

1894 Deed, recorded July 2, 1894 in liber 25, page 34. Sarah Belden to James Jarvie. Lot 28 also conveyed.

1905 Deed, recorded March 1, 1905 in liber 92, page 16. James Jarvie to William J. Matheson. Lot 28 also conveyed.

After this date, Lots 29 through 33 are conveyed as a single parcel. This chain is described below.

Lots 29 and 30
182-184 Front Street
21 Burling Slip
151 John Street

1897 Deed, recorded January 6, 1897 in liber 39, page 253. Albert and Casimir Tag, trustees and executors of Charles Tag to William Matheson and Company.

1923 Deed, recorded December 14, 1923 in liber 3380, page 294. William J. Matheson and Company Limited to William J. Matheson.

After this date, Lots 29 through 33 are conveyed as a single parcel. This chain is described below.

Lots Formerly 29-33 (now 29 and 31)
145-9 and 151 John Street

After 1923, all lots, except Lot 28, conveyed as a single parcel.

1923 Deed, recorded December 28, 1923 in liber 3380, page 361. William and Harriet Matheson to Joseph Cullman.

1930 Deed, recorded January 16, 1930 in liber 3747, page 262. Joseph and Zillah Cullman to estate of Bradish Johnson.

1930 Deed, recorded May 16, 1930 in liber 3762, page 153. Estate of Bradish Johnson to Tenth Avenue and Thirty-ninth Street Corporation.

1930 Deed, recorded May 22, 1930 in liber 3761, page 218. Tenth Avenue and Thirty-ninth Street Corporation to J. S. and D. L. Reardon Realty.

1933 Deed, recorded May 18, 1933. J. S. and D. L. Reardon Realty Company to Estate of Bradish Johnson.

1946 Deed, recorded November 4, 1946 in liber 4473, page 312. Estate of Bradish Johnson to Eugene Jauregli.

1946 Deed, recorded November 4, 1946 in liber 4473, page 295. Eugene Jauregli to Nassau Estates.

1969 Deed, recorded January 23, 1969 in liber 129, page 263. Nassau Estates to Seaport Holdings, Inc.

1969 Deed, recorded July 11, 1969 in liber 145, page 1921 (reel). Seaport Holdings, Inc. to Torpwood Corporation.

Lot 28
186 Front Street

1807 Deed, recorded August 17, 1807 in liber 77, page 239. James Patton to Stephen Allen.

1879 Deed, recorded March 17, 1879 in liber 1491, page 41. Margaret Foote (descendent and heir of Stephen Allen) to Sarah Belden (descendent and heir of Stephen Allen), half interest. Lot 31 also conveyed.

1894 Deed, recorded July 2, 1894 in liber 25, page 34. Sarah Belden to James Jarvis. Lot 31 also conveyed.

1905 Deed, recorded March 1, 1905 in liber 92, page 16. James Jarvis to William J. Matheson. Lot 31 also conveyed.

1933 Deed, recorded April 16, 1933 in liber 3330, page 478. William Matheson to Joseph Robinson.

1941 Deed, recorded June 20, 1941 in liber 4112, page 81. Executors of Joseph Robinson to Joseph Robinson, Jr. and Gertrude Bianchi (tenants in common).

1944 Deed, recorded December 21, 9144 in liber 4326, page 267. Joseph Robinson, Jr. and Gertrude Bianchi to 186 Front Street Corporation.

1963 Deed, recorded June 21, 1963 in liber 5237, page 87. 186 Front Street Corporation to John Street Development Corporation.

1967 Deed, recorded May 29, 1967 in liber 185, page 15. John Street Development Corporation to John Street Coffee Corporation.

1968 Deed, recorded October 25, 1968 in liber 121, page 562 (reel). John Street Coffee Corporation to South Front Holding Corporation.

8. SIGNIFICANCE

8a. Historical Significance

The Telco Block lies within what was once the heart of New York City's Maritime District. Robert Albion (1939), the port's foremost historian, has described nineteenth century South Street as "the most maritime of thoroughfares." An 1852 survey of Lower Manhattan indicates the relationship between the Telco Block and the surrounding area: "South Street is occupied by the principal shipping houses and the offices of most of the foreign packet lines. The dry goods, jobbing, and importing business, formerly confined to Pearl Street, has extended to William, Broad, Pine, Cedar, Liberty, etc. "On Water and Front Streets, and in the vicinity, are the wholesale grocers, commission merchants, and mechanics connected with the shipping business" (quoted in Albion 1939:266). The deeds, directories, and tax records examined for the Telco Block support this characterization of Front and Water Streets. The occupancy history of the Telco Block reflects the port's history, illustrated in the careers of three former occupants, Stephen Allen (186 Front Street), Abram Hewitt, and Peter Cooper (17 Burling Slip). The career of Stephen Allen, sailmaker-merchant-politician, parallels the so-called "Age of Sail" and the port's ascendancy. Abram Hewitt and Peter Cooper are closely associated with the iron and railroads industries, which represent factors linked to the East River port's decline and the seaport area's gradual transformation into an industrial area. An understanding of the economic rise and decline of this section of Lower Manhattan is essential to an understanding of the rise and decline of both the port of New York City as well as certain economic factors affecting the nation. A short history of the port follows.

Throughout most of the Colonial Period, Boston maintained its position as the leading port while New York occupied fourth place (in terms of total tonnage arriving and clearing). New York was the principal Tory port during the Revolution and experienced an unprecedented period of activity during the evacuation of the British Army and 30,000 loyalists at the end of the war. The disruption of the triangular trade, the departure of so many Tory merchants, and other post-war circumstances combined to produce an economic depression, which persisted until the British-French conflicts of the 1790's. The French demand for neutral carriers and the reopening of the West Indies created an instant shipping boom. New York City's exports rose from $2,500,000 in 1792 to $13,300,000 in 1797 and in this year the city assumed first place among the nation's ports (Albion 1939:1-7).

The port's new found prosperity came to an abrupt halt in 1807 when Jefferson's Embargo Act effectively barred American ships from foreign trade. The War of 1812 and the British Blockade were additional setbacks. However, when a peace agreement was finally reached in 1815, followed by the British decision to "dump" their manufactures here rather than Boston, the Port of New York entered a growth period ultimately placing it far ahead of its rivals. Favorable auction legislation in 1817 (controlling the manner in which goods were distributed thus attracting buyers from all over the country), the initiation of scheduled ocean liner service in 1818, the 1825 opening of the

Erie Canal, and New York's successful participation in the South's cotton trade (the "Cotton Triangle") are all factors which assured the city's continued role as the preferred receiving port for European exports (Albion 1939:1-17). The 1960 New York Metropolitan Regional Study refers to this "dramatic centralization of port activity." The study states that in 1790 the Port of New York handled 5.7 percent of the value of the nation's foreign trade, by 1830 it handled 37 percent and by 1870 - 57 percent (Chinitz 1960:9).

The physical development of the city retained its east side focus throughout the eighteenth century and the first half of the nineteenth century. Unfavorable winds and winter ice drove most of the water traffic away from the Hudson River to the piers and slips of the East River. Pearl Street, running parallel to the original pre-landfill shoreline and which had served as the city's principal "Merchant's Mart" during the seventeenth century, continued to house the countinghouses within which the port's business was transacted. However, by 1826 an English visitor observed that activity on Pearl Street was "only a drop in the bucket compared to that on the wharves and slips, the warehouses, docks, shipyards and auction stores on South, Front, and Water Streets." (Lockwood 1976:20).

The great increase in port activity resulting from the 1815 peace agreement and the other factors mentioned above transformed Lower Manhattan. Construction activity as well as mass conversions of residences to countinghouses, warehouses, and boarding houses occurred throughout the area. The structure at 19 Burlington Slip (now incorporated into 155 John Street) dates to this era with a construction date of 1817.

A typical countinghouse of the period was most likely a narrow brick building, no more than 30 feet wide, often located in a former private residence altered only by the addition of an extra story or a room in the rear. The first floor housed the office with its staff of copyists and clerks with the merchant's office in the rear. Above on the second and third story was the warehouse space (Lockwood 1976:18).

As mid-century approached, New York City, because of the Erie Canal and the "Auction System" had become the central market for the domestic distribution of imported goods. The trade spawned an army of specialized middlemen, many of whom appear in the city directories under the general classification "merchant."

The 1852 survey quoted above described Front and Water Streets as housing the district's "wholesale grocers, commission merchants and mechanics connected with the shipping business." The actual occupations of the individuals listed at 15 Burling Slip, 19 Burling Slip, and 186 Front Street during the first half of the nineteenth century include cooper, grocer or wholesale fruit dealer, sailduck supplier/sailmaker, attorney shipchandler and shipmaster. The structure at 19 Burling Slip also served as a boarding house and a private residence. Directory listings within the rest of the block (along Front Street, Fulton Street, and Water Street) indicate that much of the space within the block during the first half of the nineteenth century was used by wholesale grocers and fruit dealers. Water Street during this period also

housed a series of fur and crockery dealers. When 17 Burling Slip was constructed in 1843/4 it housed the offices of glue and iron manufacturers and they were joined in 1846 by paint manufacturers. The coopers in 19 Burling Slip were replaced in the 1850s by a paper manufacturer's warehouse. Similar shifts were most likely occurring in the rest of the block and throughout the district. New York's pre-Civil War ascendency was followed by a period of decline and the seaport area was reflecting this change.

Although foreign commerce as a whole continued to rise, America's share of the carrying trade declined (Klein 1976:81). The leading shipbuilder by the 1870s was England, possesser of more advanced steam engine technology. In 1882, 46,000,000 bushels of grain were exported through New York City's port and not a single carrier was American (Klein 1976:80). The days of New York City's single port dominance had also come to an end with the development of the new western and northern trade routes (Chinitz 1960:20).

Whereas the area along the East River was historically linked to foreign trade, the area adjoining the Hudson came to be dominated by domestic shipping. Here skiffs and flatboats docked between voyages to the American south, upstate New York, and the midwest (Lockwood 1976:5). The steady decrease in foreign carrying trade changed the character of the South Street Seaport area during the last decades of the nineteenth century. After about 1870 the west side piers and their adjoining railroad facilities became the focal point of the city's maritime activity and all subsequent long range port development plans (Port of Authority 1951:11).

Another change occurring within New York City, and evident in the land use history of the Telco Block, is the rise of industry. Between the 1831 Federal Census of Manufactures and the 1869 Federal Census of Manufactures, the New York City area emerged as a manufacturing center. The New York region possessed both a large immigrant labor force and also facilities for processing imported raw materials. Its highly developed transportation network could carry locally produced goods as easily as the imports and exports it was already handling (Chinitz 1960:16).

During the 1840s and 50s, Cooper and Hewitt, glue and iron manufacturers, and Kieron Egan, owner of a paper and scrap warehouse, were the neighbors of the wholesale grocers, fruiters, and fur merchants. By the 1890s these wholesalers had vanished although Egan, along with Cooper and Hewitt, remained. From this time through the 1920s, the block seems to have been primarily industrial. The Building Department's records and photographs from this period (Collection, South Street Seaport Library), indicate that the Block housed a paint factory, a printing plant, cigar factories, and warehouses for chemicals, cork, cotton, and tobacco. Services for local workers included a drugstore, a saloon, a barbershop, and a luncheonette. An increased demand for office and industrial space within the former maritime district is evident in both the 1897 construction of the 10 story structure at 21 Burling Slip and in the 1919 incorporation of the three older buildings (15, 17, and 19 Burling Slip) into a single building, 145-9 John Street. The leasee, National Aniline and Chemical Inc., occupied both buildings (connected by interior hallways in 1919), and also 186 Front Street. Just as the merchants and

speculators of the 1820s and 30s had converted Lower Manhattan's older residences into countinghouses and boarding houses, the manufacturers and businessmen converted the former countinghouses and wholesale shops to serve their own purposes.

The buildings on this block were important because their structural histories and the lives of the people who built and inhabited them are closely associated with all phases of the development of New York City's port. Three individuals, Stephen Allen, Abram Hewitt, and Peter Cooper, are especially noteworthy and their historical significance extends beyond the boundaries of the Seaport District. Their achievements have been noted elsewhere in this report.

8b. Architectural Significance

145 John Street

The 145 John Street building is characteristic of the design of low commercial buildings after the World War; wide, loft-type windows, concentrations and minimization of decoration, simple, straightforward facade design, and the reuse of an older building are all features of this building type (cf. 303 Fourth Avenue 1921).

James Ross (1864-1944) and Charles R. McNeil (dates unknown) formed a partnership in 1899 which lasted until the late 1930s. However longlived their practice may have been, they were by no means prominent, and their one other identified building is the Noyes Memorial Building, Litchfield, Connecticut (1901).

Although 145 John Street is low in scale, its broad, protomodernist facade, with large units of design and large windows, is out of character with the South Street district and must be classed as an intrusion; certainly it makes no more than a very marginal contribution.

155 John Street

Architecturally, this building is rather (out-of-date) in the context of New York commercial architecture. By 1897 (the date of design of 155 John Street), the Romanesque-Renaissance combination used here was a bit tired and had been superseded by a more high-style, decorative approach to the commercial building (cf. 52 Broadway, designed 1896). In any event, the facade design lacks the crispness necessary for a work in such low relief, and appears bland and loose.

George Pool Chappell (d. 1933) began his practice in 1883 in New York, and entered a partnership with Charles Bosworth in 1899. Although he is known to have designed some buildings in Brooklyn in the 1880s and early 1890s (37-43 Montgomery Place, St. Bartholomew's Episcopal Church, Tompkins Avenue Congregational Church), none of his known commissions involves a commercial building, and he is on balance one of the more obscure members of turn of the century New York architectural practice.

The building dates from a later period than that for which the South Street Seaport District is significant (i.e. 1800-1875). Likewise, it is completely out of scale with the South Street area buildings. Despite the relative age of 155 John Street itself, it is two or three generations removed from the typical South Street building and must be considered an intrusion in terms of the historcity of the district.

186 Front Street

Before its partial demolition to one story (performed under Alt 1569 of 1974), 186 Front Street was presumably a typical South Street commercial building. However, the present one story height now prevents the building from contributing to the overall feel of the South Street area, at least on its present site. However, the possible existence of an intact mid-nineteenth century storefront is of general interest (although not rare in the area). If portions of this facade exist and are salvageable, they might be able to better contribute to the character of the district if they were removed from the site and reincorporated on an existing whole building with a more modern or more deteriorated storefront. Certainly in the present siting, without the upper floors which once accompanied this facade, whatever value the historic portions of the 186 Front Street facade may have is seriously compromised as the structure presently stands.

8c. Conclusions

National Register guidelines compel consideration of whether a building retains "sufficient integrity to convey the feeling of the historical period when it achieved significance" as one means of determining eligibility (Federal Register, Vol. 42, No. 183, p. 47668). The preceding architectural discussion indicates that the physical evidence of these structures dates primarily from the late nineteenth and early twentieth centuries. Although it is evident that important individuals have been associated with this site and that the history of the site is characteristic of historic development in the South Street Seaport Historic District, the historic land use patterns, so clearly delineated in the preceding sections, are not well-illustrated by the surviving structures.

The alterations in 1919 that took place at 15-19 Burling Slip, the present 145-149 John Street, have wrought a major transformation in the structures, and the associations that the present building evokes are with its twentieth century history rather than with its historic uses prior to 1919. The building at 155 John Street was constructed after the period for which the south Street Seaport District is noted, and the elimination of three of the four stories of 186 Water Street, the only one of the structures that visibly dates from the nineteenth century, has seriously impaired its historic integrity. Although continued conversion of these structures to more viable, economic uses after the demise of the port's vitality in the late nineteenth century is consistent with past trends, the twentieth century function of these structures is not the import of the significance for which the South Street Seaport has been recognized. A parking lot and abandoned garden separate the structures physically from the remaining blocks of the Historic District with which, the architectural component of this report states, it

has little visibly in common. Photographs submitted as part of this document clearly illustrate this visual discontinuity.

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145 John Street (15-19 Burling Slip)
Block 74, Lots 31, 32, 33
Irregular rectangular lot:

Front (John Street):	61' 2"
Depth (Water Street):	60'
Depth (east side):	45' (approximate)
Rear (north side):	34'

155 John Street (Green Coffee Building)
Block 74, Lots 29, 30
Irregular rectangular lot:

Front (John Street):	66'
Depth (Front Street):	42' 10 3/4"
Depth (west side):	44' 4"
Rear (north side):	64' 5"

186 Front Street (Square Rigger Bar)
Block 74, Lot 28
Irregular rectangular lot:

Front (Front Street):	21' 3 3/4"
Depth (south side):	64' 5"
Depth (north side):	84' 2"
Rear (west side):	20' (approximate)

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