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Druggists, Craftsmen, and Merchants of Pearl and Water Streets, New York

The Barclays Bank Site

75 Wall St

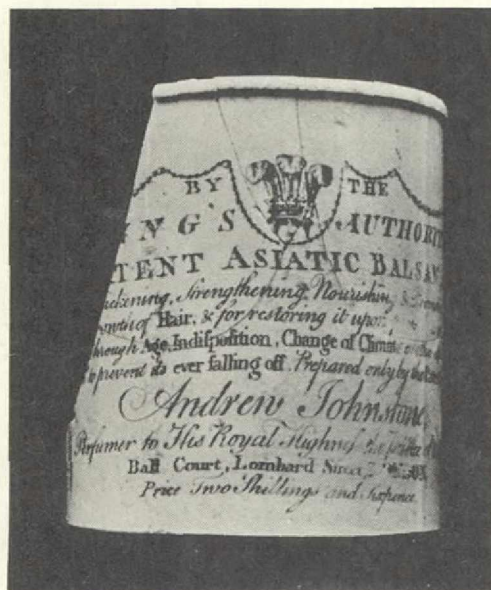
Volume I

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ENVIRONMENTAL REVIEW

LANDMARKS PRESERVATION
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By:
Louis Berger & Associates, Inc.
The Cultural Resource Group

For:
London & Leeds Corporation
and
Barclays Bank PLC

483

Druggists, Craftsmen, and Merchants
of Pearl and Water Streets, New York
The Barclays Bank Site

NOVEMBER 1987
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The Cultural Resource Group
September 1987

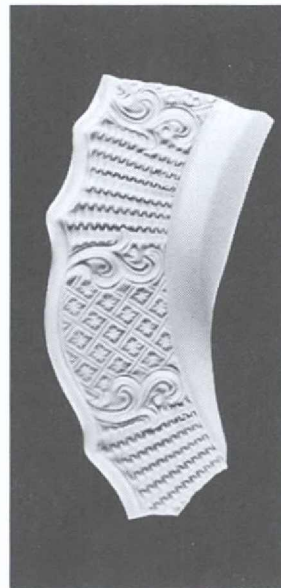
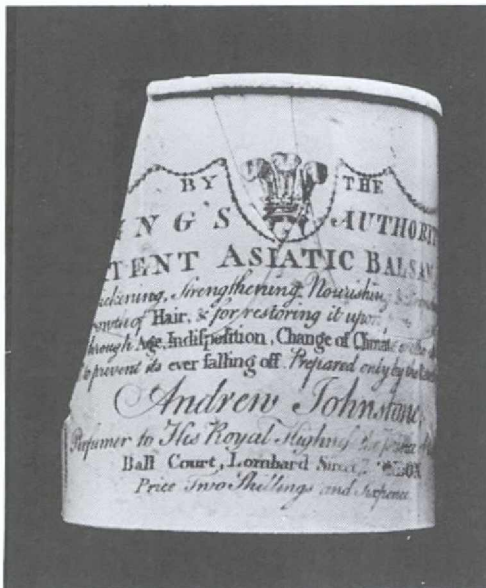
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By:
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and
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CULTURAL RESOURCE INVESTIGATIONS
OF THE BARCLAYS BANK SITE,
75 WALL STREET
BOROUGH OF MANHATTAN
NEW YORK CITY, NEW YORK

PREPARED FOR:

London and Leeds Corporation
and
Barclays Bank PLC

PREPARED BY:

THE Cultural Resource Group
Louis Berger & Associates, Inc.

SEPTEMBER 1987

ABSTRACT

The Cultural Resource Group of Louis Berger & Associates, Inc. (LBA) conducted an archaeological and historical investigation of the proposed Barclays Bank Office Tower Site, at 75 Wall Street, New York, New York, for the London and Leeds Corporation and the Barclays Bank PLC. Phase I research indicated that the project area was made up of several water lot grants, filled between 1694 and 1702. Occupation of the block appears to have begun around 1702. The earliest commercial activities within the site were associated with the waterfront. During the mid-eighteenth and early nineteenth century, the block consisted of mixed residential and commercial properties. An unusual characteristic of the block, particularly along Pearl Street, was the clustering of several chemist/druggist shops. Other types of business within the project area at this time included artisan shops and stores owned by small-scale merchants. By the late 1820s, commercial activities dominated the block.

Subsequent Phase II work exposed extensive yard deposits, middens, privies, wells, cisterns, and house and outbuilding foundations. The date ranges of the deposits and features were from the mid-eighteenth to the late nineteenth century. The sources of these materials seemed to be from both domestic and commercial activities, including those associated with the chemist/druggist shops.

Given the presence of significant archaeological deposits, an archaeological data recovery program was developed. As a first step in the project research design, data from the site were used to develop a description of the consumer behavior of the chemists/druggists who occupied the block, and of the items sold and used in their shops. This study of the chemists/druggists produced some of the base line data used in addressing the project's six research hypotheses.

The hypotheses examined the use of space within lots occupied by small-scale merchants, the factors involved in changes in the use of these spaces, and the nature of consumer behavior among economically comparable households on the block, and within the city. This latter research issue also addressed how external economic changes within the city and region would be reflected in the consumer behavior of these households. Comparisons were also attempted between households of differing economic levels. The final research topic involved comparisons of contemporaneous landfill sites with the Barclays Bank Site, and comparing this group of sites with later landfill sites. This last hypothesis was an attempt to synthesize available data on landmaking activities within the lower, eastern portion of Manhattan.

ACKNOWLEDGEMENTS

Many individuals contributed to the successful completion of the Barclays Bank Site Archaeological Project. Terry H. Klein served as Principal Investigator, with Bertram S.A. Herbert as Co-Principal Investigator during field and laboratory work. Dr. Amy Friedlander directed and reported on all historical research for the project. She was assisted by Martha Bowers, Jane Carolan, Linda Flynn and Lucinda Foss. Jay Cohen was Field Director, with Michael Finn, Edward Morin and Philip Perazio as crew chiefs.

Field personnel, who braved cold and unpleasant conditions to recover thousands of artifacts, included:

Field Archaeologists

Richard Affleck	Grace Henning	Timothy Sara
Dean Badarou	Timothy Hoffman	Ronald Selin
Judith Baragli	Aubrey Jackson	Warren Sholes
Catherine Braik	Marc Kodack	Patrick Shalaub
Charles Braik	Phillip La Porta, Jr.	Kevin Shaunnessy
Fred Blumberg	Jed Levin	Andrew Shick
Ray Bulmer	Derrick Marucci	Spencer Stowell
Elizabeth Burt	Thomas McCabe	Melanie Stanford
Stephen Butler	Blanche Menadier	Edward Stein
Alfred Cammisa	Melissa Muendel	Wesley Stinson
Deborah Campbell	Adam Newman	Elizabeth Stowell
Mary Jane Cooper	Kevin Olsen	Ruth Trocolli
Marian Craig	Carol Partigan	James Truncer
Rodney Demott	John Parmalee	Ivan Whittenberg
Susan Gade	Jesse Ponz	Matthew Westbrook
Mary Gambino	Stephanie Rippel	Gary Wright
Jack Goudsward	Eugene Reyes	
Marcus Grant	Nicole Roudmaniere	

Robert E. Copley, Jr. was Logistics Co-ordinator for the field effort. The backhoe was operated by Harry Amond and Silverio Mazella.

Subsequent laboratory analyses was conducted under the supervision of Debra Hoffman, Laboratory Director and her successor, Dr. Emil Veakis. Marian Craig was the Project Laboratory Supervisor for this investigation, and handled the day to day complexities of this large project.

Several personnel who participated in the field efforts, were also involved in the laboratory analyses. These included Jay Cohen, in addition to Richard Affleck, David Babson, Fred Blumberg, Deborah Campbell, Kevin Hatland, Jed Levin, Thomas Parlapiano, Kevin Shaunnessy, Andrew Shick, and Melanie Stanford. Other laboratory personnel included:

Laboratory Analysis

Linda Bergailo	Suzanne Rimmmler Kahn
Bradford Botwick	Andrew Ketterer
John V. Bukoski	Benjamin Resnick
Matthew Gajewski	Cynthia Robin
Mallory Gordon	William Rosenberg
Shamsoddin Hassani	Byron Simmons
Ian Kent Humphreys	David Weck
Meta Janowitz	Ingrid Wuebber

The prehistoric lithics were analyzed and reported on by Dr. John V. Dumont. Conservation of artifacts was undertaken by Marian Craig, Susan Finn, and Debra Hoffman. Faunal analyses were conducted by Tom Amorosi, Daniel Russell and Haskel Greenfield; and floral analyses by Cheryl Holt.

Principal authors of the report were Terry H. Klein, Amy Friedlander, and Jay Cohen, in addition to Marian Craig, Mallory Gordon, Meta Janowitz, Suzanne Rimmmler Kahn, Edward Morin, and William Rosenberg. Mr. Klein also served as report editor. Report production was overseen by Lee Nicoletti, Word Processing Supervisor, with the help of Michael W. Timpanaro, Assistant Production Manager. Word Processing operators were Mary Powers, Jacqueline Farmer, Kimio Manley, Joanie Jernigan and Nila Glover; data processing was performed by Rieola Wilson. Sara E. Dumont provided editorial assistance, and helped in the development of most of the tables within the report.

Graphics Artists for the report included Bonnie Bogumil, Gene Cass, Nellie Macys Fokken, Valeer Mahon, Meekaa'eel Muhammad, Melissa Perera, Daniel Pieloch and April Stefel. Photographers for the project were Anthony Masso and Rob Tucher.

Special thanks go to Diana DiZeraga Wall, of New York University, for her assistance in interpreting many aspects of the site.

This project could not have proceeded without the support of several organizations and agencies. Special acknowledgements go to Mr. Barry Hincliffe of London and Leeds Corporation; Mr. Ken Atkinson, Executive Vice President, Barclays Bank PLC; Michael J. Mennella, Vice President, Tishman Construction Corporation; Mark Levine, who was with Rosenman, Colin, Freund, Lewis and Cohen during this project; Edwin Friedman, past Director of Planning and Field Services, New York City Landmarks Preservation Commission, and Dr. Sherene Baugher, Urban Archaeologist for the Commission.

John A. Hotopp, Ph.D.
Director and
Principal Archaeologist

BARCLAYS BANK
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I. INTRODUCTION

The Cultural Resource Group of Louis Berger & Associates, Inc. (LBA) conducted an archaeological and historical investigation of the proposed Barclays Bank Office Tower Site, at 75 Wall Street, New York, New York, for the London and Leeds Corporation and the Barclays Bank PLC. This work was performed pursuant to stipulations outlined in the Conditional Negative Declaration, CEQR Q83-140M, issued by the New York City Landmarks Preservation Commission (NYCLPC). The site consisted of those portions of Block 31 bounded on the west by Pearl Street, the north by Wall Street, the east by Water Street, and on the south by the south lot line of Lot 11 (Figures I.1 and I.2).

Initial work on the site involved an assessment of cultural resource potential and significance (Phase I). The parameters of this phase were to determine:

1. Whether the project area was located on historic landfill;
2. When the earliest occupation took place;
3. What was the nature of this and all subsequent historic occupations; and
4. What cycles of construction and demolition had taken place and what impacts these cycles may have had on pre-existing, subsurface cultural resources.

Phase I research, conducted in the fall of 1983, indicated that the project area was located within landfill associated with a series of water lot grants dating to 1694 and 1695. Occupation of the block appears to have begun around 1702. Water lot grantees developed their properties as commercial ventures, renting them during the early eighteenth century for both residential and commercial purposes. The earliest commercial activities were associated with the waterfront. During the mid-eighteenth and early nineteenth-century, the block consisted of mixed residential and commercial properties. An unusual characteristic of the block, particularly along Pearl Street, was the clustering of several chemist/druggist shops. Other types of business within the project area at this time included artisan shops and stores owned by small-scale merchants. As the water lots to the east of Water Street were filled in, the block took on brokerage and warehousing functions. By the late 1820s, these commercial activities dominated the block.

Primary documents indicated that many of the lots had a high potential for subsurface archaeological materials and features associated with this historical development. Buildings that once occupied these lots either lacked basements or had basements too shallow to have destroyed all subsurface features and deposits.

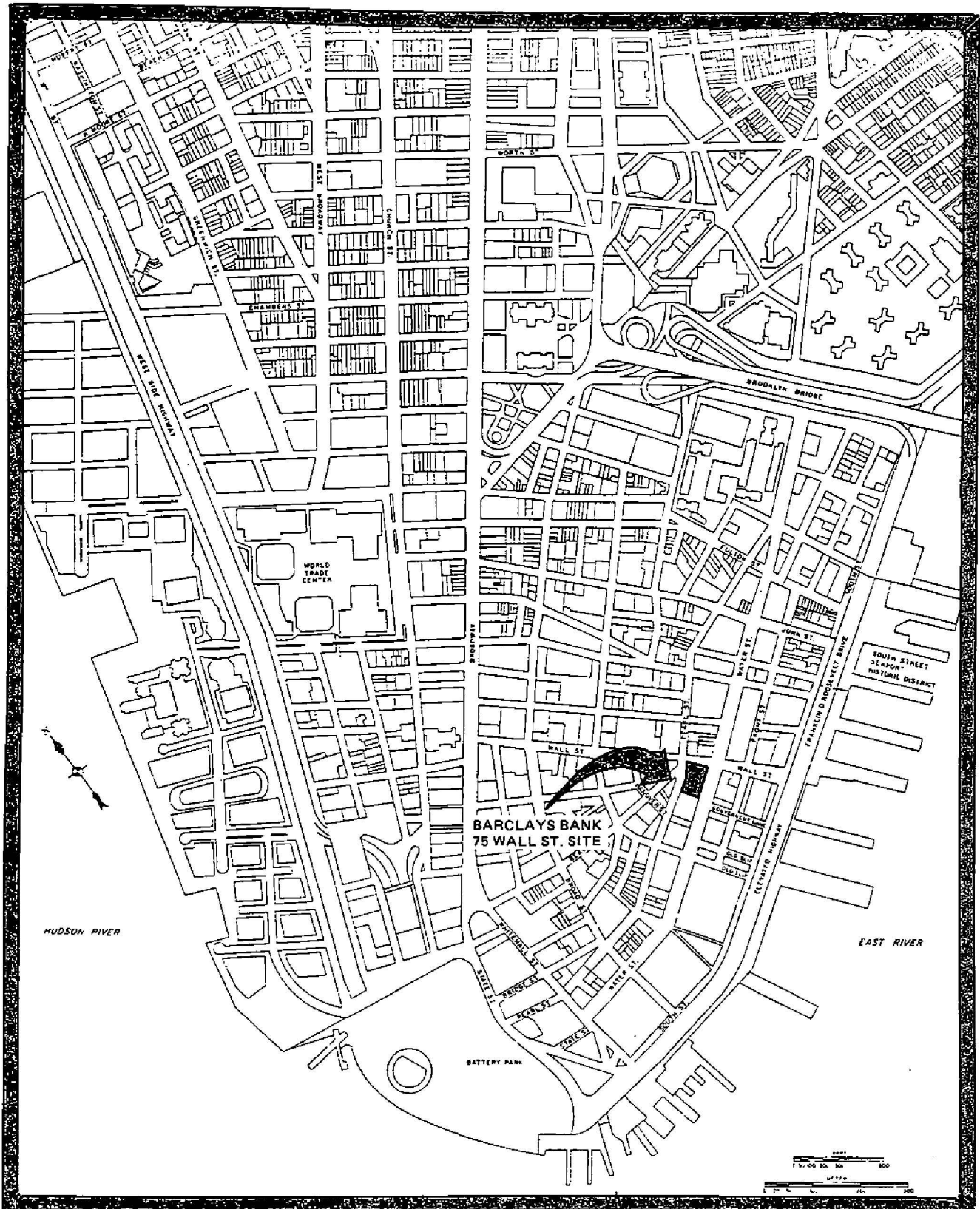
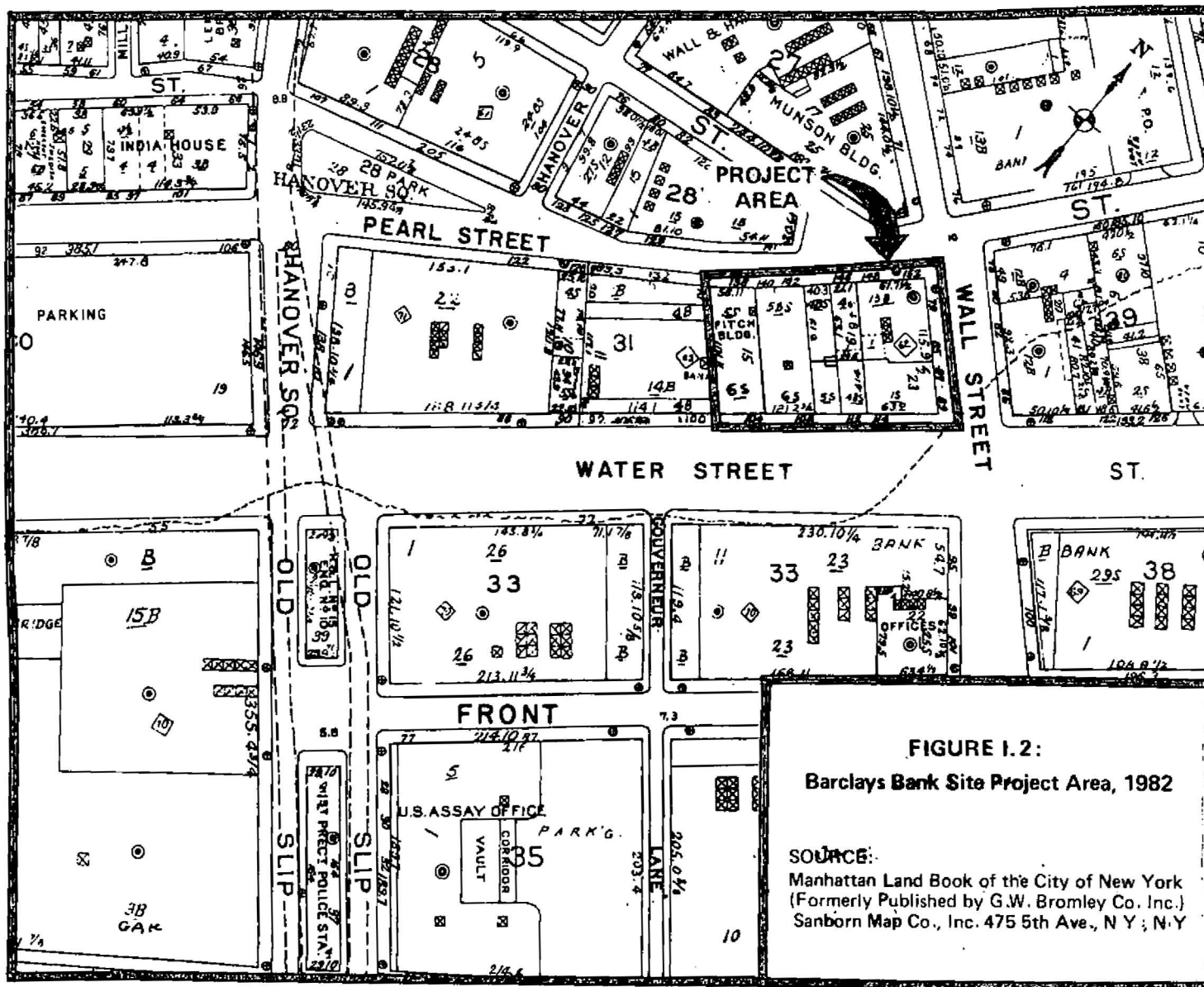


FIGURE I.1:
Barclays Bank, 75 Wall Street Project Area



It should be noted that the entire project area had been leveled prior to this historical and archaeological study.

An archaeological testing program was recommended to determine the extent of this cultural resource potential, prior to construction of the Barclays Bank Office Tower. Phase II, conducted between January 3 and February 6 1984, exposed extensive yard deposits, middens, privies, wells, cisterns, and house and outbuilding foundations. The majority of these deposits and features were restricted to the rear yard areas which concentrated within the center of the block. Deposits along the street faces were destroyed by late nineteenth and twentieth-century construction. The date ranges of the deposits were from the mid-eighteenth to the late nineteenth-century. It appeared that the majority of the materials were mid-eighteenth century; however, subsequent Phase III work demonstrated a 1780s to 1820s date range for most of the materials within the block. The sources of these materials seemed to be from both domestic and commercial activities, including those associated with the chemist/druggist shops..

The testing program confirmed that significant cultural resources were extant within the block. Investigation of these remains would provide data on the day-to-day domestic and commercial activities of the colonial and post-colonial chemist/druggist. There have been few studies on the daily workings of this special group of merchants, particularly from a material perspective. The Barclays Bank Site also contained artifact assemblages that could be used to study the linkage between changing urban economic and social structure, and household and commercial consumer behavior. Study of this linkage is a current research concern in urban archaeology (cf. Louis Berger & Associates, Inc. 1985).

Given the presence of significant archaeological deposits, a data recovery program was developed, based on research issues raised during Phase I and refined in Phase II. As a first step in the Phase III project research design, data from the site was used to develop a description of the consumer behavior of the chemists/druggists who occupied the block, and of the items sold and used in their shops. This study of the chemists/druggists produced some of the base line data used in addressing the project's research hypotheses, which were as follows:

Hypothesis #1

Among all the lots occupied by small-scale merchants, such as the chemists/druggists, the internal configuration and use of space within the lots will be similar.

Hypothesis #2

The internal configuration and use of space within the lots will change as a result of change in the lot function, change in the household type occupying the lot, and/or the introduction of city services.

Hypothesis #3

Controlling for household structure and wealth, the consumer behavior of the block's skilled craftsmen, chemists/druggists, and other small-scale merchants will be similar. Further, the consumer behavior of these households will be similar to that of contemporaneous and economically comparable households in New York City, or any other coastal city in the Northeast region.

Hypothesis #4

As the economic base in New York City changes, or if fluctuations occur in economic activity, there will be changes and fluctuations in the consumer behavior of the block's small-scale merchants, such as the chemists/druggists, and skilled craftsmen. These same consumer changes and fluctuations would be observed among economically comparable households in the city and among those in other coastal cities, where these economic changes and fluctuations also occurred.

Hypothesis #5

Households contemporaneous with the block's small-scale merchants and skilled craftsmen, but of different economic standing, will exhibit different consumer behavior patterns. Also, as the economic base of New York City, or any coastal city in the Northeast region, changes or fluctuates, the consumer behavior of these households of different economic standing will also change and fluctuate, but in a different pattern than the block's skilled craftsmen and small scale merchants.

Hypothesis #6

The process of landmaking within the block will be the same as contemporaneous landfill sites, but different from later landfill properties.

Thus, the primary research objectives of this project are to describe the consumer behavior of the merchants and skilled craftsmen who occupied the block, to study how these individuals used space within their respective lots, and to describe the activities within a late eighteenth- and early nineteenth-century druggist shop. Another important research goal is to identify the landmaking activities that created the block, and compare these activities to those of other blocks in the city.

As a result of both field and artifactual analyses during Phase III, these research objectives had to be modified. The project area contained only one definite domestic deposit, a deep artifact-bearing privy/well that could be associated with several possible households, all of which appear to have been in the upper economic "strata" of early nineteenth-century New York. In terms of the use of space within lots, it was not possible to link construction and use of buildings and features to specific occupants, although general patterns and trends in the use of space could be identified.

It was possible to describe the activities of late eighteenth-century and early nineteenth-century druggists, especially in terms of the items sold in the shops. In addition, the block was found to contain deposits associated with a late eighteenth-century gold/silver/jewelry shop. Study of these deposits revealed the types of metallurgical activities that occurred within this type of shop, and provided clues to the daily interaction between shop owners and clients, e.g., serving of tea to customers. Finally, the processes of landmaking within the block are identified through an examination of soil types and artifact content. As part of the testing of Hypothesis #6, soil types and artifact content are compared with both contemporaneous and later landfill sites in the city.

The following chapters detail the research approach, documentary and field efforts, analytical procedures, and results of the Phase III investigation of the Barclays Bank Site. Chapter II of this volume presents an overview of research in urban archaeology and history, with emphasis on recent archaeological projects in New York City. The potential for data obtained from this project to contribute to the allied scholarly disciplines is also examined, thereby providing a broad discussion of this project's research significance. Chapter III includes a detailed discussion of this project's research design, outlining the major research concerns, hypotheses, data requirements, and methods used to address the hypotheses. The historical data collected for this study are presented in Chapter IV. Chapters V and VI summarize the methods and results of the archaeological field investigations. Chapter VII identifies and describes those deposits and features within the site that can be used to address the project's research design. This is accomplished by applying various dating, functional, pattern, and cost analyses to these deposits and to the materials contained within and associated with the features. Chapter VIII includes an interpretive summary of the historic research, field investigations and artifactual analyses as they relate to the project's research objectives. Also, the research hypotheses are tested and the results are discussed. It should be noted that it was not possible to test all of the hypotheses. The reasons why this occurred and its ramifications on future archaeological work in New York City and other urban areas is explored.

II. RESEARCH CONTEXT

A. INTRODUCTION

In the forward to Dickens's volume on urban archaeology (1982), Salwen observes that urban archaeologists have not succeeded in developing a suitable framework for the study of urban processes. Further, ecological and evolutionary models used by prehistorians do not meet the needs of urban archaeological research. As a result, urban archaeologists are attracted to the research efforts of urban anthropologists, sociologists and historians (Salwen 1982: xvi). Of these disciplines, history, particularly the "new history," is clearly becoming the most relevant to current urban archaeological studies (Beaudry 1984, Deagan and Scardaville 1985). For example, in an anthology of recent work on colonial America (Greene and Pole 1984), historians are investigating many of the issues which urban archaeologists are attempting to examine using their material data base. These issues include urban economic growth, settlement patterning, wealth and social structure. Similar topics are found in historical research on late eighteenth- and nineteenth-century cities (Pred 1966, Lemon 1967, 1972, Wolf 1976, Lindstrom 1978, Ryan 1981, Conzen 1983).

Though historians are studying issues of interest to urban archaeologists, there is no single theoretical or methodological framework within this historical research that urban archaeologists can use or adopt; there are several. This is most apparent in the articles in Green and Pole's volume (1984) on colonial economic growth. Prior to selecting one or more frameworks, it is suggested that urban archaeologists carefully examine what theories historians are using, what questions are being asked, how they are being asked and what conclusions have been reached. Then, urban archaeologists must critically examine what issues are most germane to the use of the urban archaeological data base. As Beaudry points out:

Only by grounding ourselves in the historiography can we separate out the aspects of our research questions that are amenable to archaeological investigation. We can eliminate what is already known (usually by historians, but not by archaeologists), isolate what needs to be known, and proceed accordingly. We can also understand more clearly exactly what artifacts can and cannot tell us about behavior in the past (Beaudry 1984:29).

The best methods for "grounding ourselves in the historiography" is to have an urban historian(s) actively involved in all aspects of an urban archaeological project. The historian provides information on current issues involved in urban research as a whole,

noting the different theories and methods that are being used by historians. On a more specific level, the historian develops the descriptive historical context of the city and individual property or properties under study, and identifies data gaps in historical knowledge of the city and properties. It is at this point that both the archaeologist and historian develop the research questions appropriate to the area being investigated. The archaeologist examines current research topics in archaeology, to determine if they are applicable to the historical frameworks and specific historical contexts that have been identified and developed by the historian. Of course, through this exchange between historian and archaeologist, new research concerns will be developed, but with a grounding in historiography.

What can be avoided by this scholarly exchange is conducting archaeological research to answer questions that can be more efficiently addressed through documentary studies. For example, there is no need to examine archaeologically, changes in gross land use categories within a block (e.g., residential to commercial), if an extensive record of land use is extant in tax lists, business directories, and cartographic data. What also can be avoided is coming to conclusions based on archaeological research that, when examined in a historical context, are clearly false and misguided. A study by Miller and Hurry (1983), provides an excellent example of how this can happen.

This overall approach to historical/archaeological research is used in the Barclays Bank project, and is reflected in this and subsequent chapters of the report. First, recent themes in urban history, including current research on New York City, are examined. This is followed by a review of current urban archaeological work, focusing on projects in lower Manhattan. The research context chapter ends with a discussion that integrates the reviews of the two disciplines with the project's Phase I and II findings, suggesting specific research questions to guide the Barclays Bank data retrieval efforts.

B. RECENT STUDIES IN URBAN HISTORY

The historiography of American cities has conventionally been divided into three schools: city as biography, city as site, and city as process. Various urban biographies, among which I.N.P. Stokes's Iconography of Manhattan Island (6 vols.; 1967) is perhaps the most detailed and spectacular example, have assembled extraordinary data bases on individual cities but have been criticized for their failure to provide an analytical framework. Practitioners of "city as site" historical research have typically addressed a process, such as migration, using the city as a laboratory or setting; critics of this approach maintain that it fails to grapple with urbanism as a distinct phenomenon. "City as process" historians claim to do precisely that; the city, for them, is both the dependent and independent variable--both the cause and the effect.

Processual urban historiography has advanced hand-in-hand with use of quantitative methodologies and models borrowed from urban sociologists. Great attention has been paid to the spatial attributes of the city and other measures (e.g., housing) of the emerging urban environment, particularly as they were affected by industrialization and mass transportation systems. Most of these studies deal with the period after 1850, and reliance on causal models and data amenable to quantification has resulted in an implicit economic determinism (Zunz 1981, 1982).

Conzen (1983:69) has proposed a broader framework in which analyses of individual cities are understood in relation to each other and to regional and national development. This has led to a "three-fold agenda for urban history" (Conzen 1983:69). The first step is consideration of "the shared experience," by which she means the causes for urbanization and development of city systems. The second step is an "examination of the ways individual cities respond to this process and how they compare with one another," by which she means the comparative study of transformation in different cities with attention to the urban landscape, social structures and institutions, and expressions of corporate life. Finally, she calls attention to "more general social, political, and other processes and events that, where they take place in urban settings, are affected in presumably predictable ways by their urban character." Ultimately, this becomes a discussion of "the impact of things urban upon national developments, upon national history" (Conzen 1983:70).

Conzen (1983:69) understands urbanization in terms of demographic concentration and range of services provided. Her view is similar to James T. Lemon's (1967, 1972), which is based on central place theory. Lemon, a cultural geographer, studied regional settlement patterns in southeastern Pennsylvania in the eighteenth century, contending that towns, "by acting as channels for information, ideals, and goods, gave a definable shape to many activities throughout the region" (Lemon 1972:118). Successful central places were "points of nearly optimum accessibility for buyers and sellers" (Lemon 1972:119). In keeping with the tenets of central place theory (see Jordan and Rowntree 1982:342-344), he ranks the towns in this region on a scale of 1 to 5 according to the demographic threshold supporting these centers and the range of services provided (Lemon 1972:119). Higher ranked centers had a larger demographic base and supported more numerous activities. The largest and only city rating a 5 was Philadelphia, a service center with a population of over 10,000 (Lemon 1972:Table 20). Its vitality was based on "ability to organize commerce within the British commercial structure but to remain partly autonomous from it" (Lemon 1972:127).

Carl Bridenbaugh (1970), one of the earliest modern urban historians, in contrast to Lemon's theory of urbanization, stresses the significance of collective behavior. American urban development accompanied accumulation of community wealth and evolved as

a result of commercial prosperity in the period during which capitalism emerged in the West. This resulted in the creation of distinctive institutions, which took advantage of commercial opportunities implicit in the cultural transition from late medieval feudalism to early capitalism. In contrast to the relatively elitist corporation, modeled on the medieval borough, the New England town meeting, for example, exhibited "considerable efficiency in handling of urban problems...Its greater powers of local taxation, and the fact that it placed the spending of public moneys and the enactment of civic ordinances in the hands of those directly affected by these operations, made it a far more effective form of government for dealing with community problems" (Bridenbaugh 1970:75). The genesis of American cities, according to Bridenbaugh (1970:74) was trade, and consequently, they were located "on sites more favorable for the pursuit of commerce." In their collective responses to political, economic, physical, transportation and social challenges, these infant trading centers evolved into cities, which became the setting for intellectual and cultural leadership.

Like Bridenbaugh, Lemon linked colonial cities with commerce, although he couched his analysis in terms that facilitate "measuring" the extent to which one center may have been more or less urbanized than another. With specific attention to the historical causes for American colonial urbanization, he argues that prior to 1730, urbanization reflected a desire for better trade on the part of the merchants and an increase in the standard of living, size of population, and volume of exports. The slower pace of urbanization after 1756 paralleled a weaker and more erratic pattern of economic development associated with lower levels of migration, dislocation resulting from the Revolution, and reluctance among Philadelphia's merchants to pursue new markets (Lemon 1967:529-531).

Stephanie Grauman Wolf (1976) presents an interesting historical discussion of eighteenth-century urbanism in her elegant study of Germantown, Pennsylvania, in the period 1683-1800. In her opening essay, she reflects upon the urban-rural continuum, "village, 'town', 'city' --all words that define gatherings of human individuals and families into communities" (Wolf 1976:17). The basic criteria for a village are "a small, homogeneous, agricultural community, lacking any real divisions of class or occupation and ruled by a traditional hierarchy made up of village elders" (Wolf 1976:17-18). A city, by contrast, is large, heterogenous, alienated from the land, characterized by division of labor and class, and governed by nontraditionally oriented, frequently young members of the elite (Wolf 1976:18). Urban society is cosmopolitan, literate, impersonal, and the landscape reflects socioeconomic and functional segregation (Wolf 1976:19).

In the succeeding pages of the chapter and the book, Wolf then deals with all of the ways in which these polarities blurred in colonial towns, specifically in Germantown. Germantown possessed

a number of urban traits: mobility of population, ethnic and religious heterogeneity, and economic specialization. Family size was smaller than previous estimates of the sizes of colonial families, and inheritance strategies did not reflect preference for land. Indeed, the earliest proprietors appear to have subdivided their properties into small lots, which they sold or rented at a profit, and to have ensured their children's futures by providing them with a trade or craft. Almost half of the population was unchurched, and German-speaking groups rapidly assumed English as their language in the second and third generations. On the other hand, "local government was almost nonexistent, and legislation was largely confined to worries about free-running cows and pigs" (Wolf 1976:20).

Bridenbaugh emphasizes collective response to shared problems as the hallmark of urbanization. Conzen and Lemon stress demographic characteristics and services, and Wolf goes beyond population and activities to discuss the significance of networks that may or may not have existed within the framework posited by central place theory. Economist Jane Jacobs (1984) offers still another perspective on understanding cities, their origins, and economic vitality. She argues (Jacobs 1984:41) that local import substitution or replacement activities are essential for successful urbanization. Local manufacturing and entrepreneurial activities, in her view, assume critical importance. The colonial transatlantic trade between American "resource depots" and advanced European cities became the "springboard" for American urbanization, beginning in Boston and then in Philadelphia. Bostonians, by exporting clapboards and processed fish, began to replace imported items, supplying their own hinterland and competing successfully with British merchants for the West Indian trade (Jacobs 1984:145).

Other historians of colonial America, less concerned with cities and their origins, have addressed issues similar to those motivating historians of nineteenth-century cities and have elaborated on themes common to the general colonial experience as these were manifested in urban settings. Jon Butler (1983) explored the dimensions of Huguenot ethnicity in colonial America by examining the experience of Huguenots in Boston, New York, and South Carolina; his study, thus, obliquely provides information in eighteenth-century New York with particular reference to its impact on Huguenots. Studies of colonial New York (Archdeacon 1974; Wilkenfeld 1973, 1976; Abbott 1974) found significant spatial concentrations of groups defined by religion, ethnicity and occupation in the late seventeenth and eighteenth centuries. Spatial segregation of culturally and/or economically defined groups is thus detached from industrialization, although industrialization and development or urban mass transit systems may have intensified this phenomenon. Results from these studies applicable to the present investigation have been presented in detail in Chapter IV.

Blackmar (1979) investigated other, less tangible expressions of social distancing among groups in New York City by examining ownership and leasing arrangements in the late eighteenth and nineteenth centuries. Prior to the northward geographical expansion of the city and the emergence of well defined neighborhoods in the vicinity of Greenwich Village, Gramercy Park, and Yorkville, the upper classes, Blackmar contends, had already distinguished themselves by the manner of property tenure and complete separation of home from workplace, which was still within walking distance from the residence. Land owners rented ground rights, similar to modern development rights, to middlemen, who were similar to real estate developers. They built mass housing and through a system of sub-leases rented the properties to working class occupants. The working classes tended to occupy increasingly smaller units in pre-built housing. colonial tenants, by contrast, had tended to lease ground rights directly from the land owners and to build their own housing, thus achieving greater control over their built environment.

Patterns in colonial wealth distribution have been subjects for study by James Henretta, Gary Nash, and Alice Hanson Jones. Henretta (1965) and Nash (1979) investigated socio-economic patterns in colonial cities and discovered that eighteenth-century cities were characterized by increasing social and economic stratification. Wealth inequalities appear to have been greater in urban than in rural contexts. Jones (1980:47-49) emphasized continuity between urban and rural wealth holders. Town dwellers, who comprised at most ten percent of the colonial population, tended to own their own houses and other urban properties in addition to "one or more farms or 'plantation' or 'tracts of land' in rural areas." New England was the "most heavily urban of the regions" in terms of proportion of the total resident population in cities and towns (Jones 1980: 201). Residents of port cities (e.g., Boston, Salem), however, did not "have wealth equal to that of residents of Philadelphia or Charleston" (Jones 1980:201) so the nascent polarization between urban and rural groups suggested by Nash's and Henretta's studies appears to have been less pronounced in New England than in other regions of the Colonies.

Not surprisingly, investigation of colonial cities has addressed issues similar to those that have permeated the large field of urban history as well as those peculiar to the colonial setting. Issues germane to urban history broadly conceived include spatial segregation, social and economic stratification, and the relationship of the underlying economy, in this case commerce, to both. Issues peculiar to the colonial setting tend to involve theoretical models associated with the origins of cities and a more general concern for the character of colonial society. In this regard, discussion of the urban-rural continuum (cf. Wolf 1976) suggest that colonial cities were qualitatively different from nineteenth-century cities, and models developed to explain the nineteenth-century city may be inappropriate for understand-

ing the colonial urban experience. Even while Nash, Henretta, Abbott, Archdeacon and Jones show that increased socio-economic stratification and segregation by culturally defined groups can be identified with eighteenth-century urban centers, and while such stratification and spatial segregation are characteristics of urban as distinct from rural environments, Wolf's treatment of the networks within a single town suggest that the quality of the colonial urban experience differed from that characteristic of the nineteenth century. One obvious difference is that colonial cities were simply smaller both in demographic and spatial terms.

Although proposing to examine the urban process, most urban historians have focused their attention upon individual cities. Pred (1980), however, argues that individual cities can only be understood in the context of understanding urban systems. An economic historian, he understands urbanization as fundamentally growth in population, which reflected expansion in employment opportunities that enabled major cities to attract and keep migrants. In the period 1790-1840, "mutually-related trade and information flows influenced both the growth of individual mercantile cities and the emerging characteristics of the infant city system of the United States (Pred 1980:4). Fundamental to antebellum urban population growth were inter-urban relationships that preserved or created nonlocal job opportunities or generated nonlocal employment multipliers (Pred 1980:119). The most important of these interdependencies was that between major urban centers. The interdependencies were enhanced by locally occurring, self-perpetuated feedbacks, which also had employment multiplier effects. From this perspective, New York, through which commercial and information circuits flowed, becomes the most influential city in the east.

Detailed investigation of a single block in a single neighborhood in lower Manhattan hardly represents a basis for generalizing about the development of the entire city. Such an investigation can, however, be conducted in terms that reflect current historical issues such as are appropriate to the resources present in the study area. Results of the preceding literature review have formed one of the perspectives within which the research questions (Chapter III) have been formulated. The descriptive historical context (Chapter IV) has been prepared in terms designed to bridge the gap between the ensuing archaeological analysis and the concerns of the contemporary historical community.

C. RECENT THEMES IN URBAN ARCHAEOLOGY

Compared to urban history, urban archaeology is a relatively new field of endeavor. The number of urban archaeological projects in the past ten years, however, has grown dramatically as a result of Federal, state, and local environmental laws and regulations. Unfortunately the field has no "set of meaningful questions about urban cultural changes that will provide unifying goals for our often-fragmented activities" (Salwen 1982:xvi). As Dickens (1982)

points out, the field has been put into the position of formulating theory, developing methods, and compiling a suitable data base all at the same time.

In reviewing previous urban archaeological work in the United States (cf. Dickens 1982; Staski 1982), the fragmented nature of the field is very apparent. Methodologies, research frameworks, and research topics are quite varied. Many studies examine patterns in material culture as reflections or measures of socioeconomic character of households and neighborhoods (Cressey et al. 1982; Rothschild and Rockman 1982; Cheek et al. 1983; Geismar 1983; Honerkamp, Council and Fairbanks 1983; Schulz and Gust 1983; Shephard 1983; Henry et al. 1984; Cressey et al. 1984; Klein and Garrow 1984; Wise 1985) and ethnic affiliation of households (Bridges and Salwen 1980; Bower and Rushing 1980). Other research topics include urban site formation processes (Rothschild and Rockman 1982; Rubertone 1982; Ingle 1982; Staski 1982; Geismar 1983; Honerkamp, Council and Fairbanks 1983), nature and change in urban land use (Cressey et al. 1982; Rothschild and Rockman 1982; Rubertone 1982; Geismar 1983; Henry et al. 1984; Klein and Garrow 1984), variability in urban industries (Ingle 1982), and landmaking activities in urban ports (Huey 1984; Kardas and Larrabee 1980; Rockman, Harris and Levin 1983; Geismar 1983). Some works attempt to study these various topics within the context of large-scale processes. For example, Rockman, Harris, and Levin attempted to examine commercial and residential behavior at the Telco Site in New York City in terms of the capitalist world economy. Another site in New York City, the 175 Water Street block, was investigated to improve scholars' understanding of change in commercial behavior as a result of economic processes of the late eighteenth and early nineteenth century (Geismar 1983). Areas of Wilmington, Delaware, have been studied in terms of the effect of industrialization on land use patterns and consumer behavior (Klein and Garrow 1984). Urban archaeological projects that attempt to examine an entire city in the context of these larger processes are rare. Two important programs in this category are the MARTA Archaeological Project in Atlanta, Georgia (Dickens and Bower 1980; Dickens and Crimmins 1982) and the Alexandria Urban Archaeological Program (Cressey and Stephens 1982; Cressey et al. 1982).

Despite the wide range of topics in urban archaeology, the different types of sites studied (e.g., residential, commercial, industrial, Afro-American, Euro-American) and the dates of these sites (from seventeenth to early twentieth century), there is a common theme found in most studies. This theme is reflected in the title of Dickens's recent volume (1982) on urban archaeology: a search for pattern and process. The urban archaeologist is attempting to study patterns in the archaeological record that reflect, both directly and indirectly (cf. Schiffer 1983), behavioral patterns. The latter, in turn, contribute to understanding critical processes such as urbanization and industrialization (Baughner-Perlin 1982). This link between pattern and process is a

framework that has existed in historical archaeology for many years.

The key to understanding process lies in pattern recognition. Once pattern is recognized, the archaeologist can then ask why the pattern exists, why it is often so predictive it can be expressed as laws. In so doing, he can begin to build a theory for explaining the demonstrated pattern (South 1977:31).

Urban archaeologists have been examining a number of different material patterns in the urban archaeological record, and attempting to use these patterns to describe and explain urban land use, land making activities, wealth and social structure, (particularly social stratification) in addition to other aspects of urban life. However, what is also becoming apparent in many very recent studies, is that the relationships that were once accepted between particular urban material patterns and historic urban activities and processes (i.e. the systemic context, cf. Schiffer 1972) do not exist, or are so complex, that the use of material remains to study these activities and processes is an inefficient research methodology. Also, scholars are discovering that the observed patterns in urban material culture often reflect very different aspects of the historic "systemic context" than had been originally hypothesized.

The Alexandria Urban Archaeology Project is an excellent example of this changing aspect of urban archaeological research. As originally developed, the project addresses two major topics: the increased standardization of the urban hierarchy in North America between the eighteenth and nineteenth centuries and the linkage between this increase and changes in urban settlement patterning, material attribute patterning and group behavior (Cressey and Stephens 1982).

Diachronically, the Alexandria study delineates specific status groups, determines their residential locations and neighborhood affiliations, and compares their settlement and material patterns over time to ascertain varying physical distances and materials differences as expressions of changing hierarchical relationships, group formation, and conflict. We expect that as social economic and physical distances increase between groups in a industrial-capitalist society, differences will also increase for categories of material culture (Cressey and Stephens 1982: 43).

The processes of urban development which are the focus of the Alexandria project include group formation, conflict, and chang-

ing hierarchical relationships. These processes are examined through studies of household consumer behavior and group settlement patterning in the city's core versus peripheral areas.

These research topics were examined through a city-wide survey which employed both historical and archaeological data (Cressey et al. 1984). Households were classified in terms of class affiliation (e.g., upper middle, lower middle and lower class); and the material assemblages of these households, in addition to the configuration of the household lots, were compared. Surprisingly, for these nineteenth century urban households, there was no significant difference in the economic value of the ceramics that were consumed and disposed of. Also, there was no significant difference in the type and form of glass and ceramic vessels that were used by the households. Differences were found, however, in more "quality of life" variables, such as the size of the house, the size of the lot, and the use of the rear yard area (formal garden versus trash disposal area and gardening area for food). There were also observed changes in the frequency of architectural materials, but these were restricted to the upper middle class households who were, during the mid- and late nineteenth century, rehabilitating the old houses of the city's core area (Cressey et al. 1984).

As expected, differences in the material culture of different social and economic groups did increase during the nineteenth century. However, the categories of material remains that did not change, but were similar among the different groups, were those types of materials that have been traditionally used by historical archaeologists in their family, household and group "socio-economic" and "status" studies (i.e. ceramics and glass).

Problems in the correlations between ceramic values and the "status" or "class" of an individual or household has been demonstrated in several other studies. One of the first was an article by Miller and Hurry 1983, pointing out the dangers of making these correlations without data on the historical context of the site, household, or individual under study. Wise (1985) has shown how purchases of ceramics from second-hand stores can produce a false picture of the purchasing power of a household. In terms of the analytical tool often used by historical archaeologists to measure ceramic economic value, i.e. the Miller economic scaling index (Miller 1980), Cheek has recently shown (1984) how comparisons of index values from households at different times in the nineteenth century can result in an inflated index value, because of the decrease in the market price of ceramics during that century.

In an archaeological/historical study of a block in downtown Wilmington, Delaware (Louis Berger & Associates, Inc. 1985), it was observed that household life cycles, structure and income strategies, in addition to the nature of the local and regional marketplace, all effect the consumer behavior of households in

the nineteenth century. This study also examined the relationship between socioeconomic status and urban consumer behavior. Households were assigned to various socioeconomic categories, based on those criteria most often used in historical archaeological research, i.e. taxable income and/or occupation of the head of household. No correlation was found between these categories and consumption patterns. This did not suggest that socioeconomic levels were not linked to how a household purchased and used goods. Rather, it suggested that the manner in which historical archaeologists measure "status" and "class" for nineteenth century populations may be too simplistic or incorrect. Historians even have great difficulty in measuring and defining "class" or "status" (cf. Greene and Pole 1984); and some state that in certain cases, as in the colonial period, historians should avoid the task all together (Wolf 1976). This is not to say that urban archaeologists should not examine these issues, but future work should proceed much more carefully, and the nature of historic "status" and "class" needs to be more fully studied.

Patterns of land use are another important focus of urban archaeological research. Recently, however, the utility of archaeological data in the study of these patterns appears to be in question, especially in the investigation of gross land use categories, (i.e. residential, commercial, industrial) of late eighteenth- and nineteenth-century cities. In the archaeological investigation of the Telco Block in lower Manhattan (Rockman et al. 1983), researchers found that the documentary data provided a more fine-tuned picture of nineteenth-century land use along the block's street faces than did the archaeological data. In the Wilmington Boulevard project (Klein and Garrow 1984) it was not possible to examine diachronic land use patterning with archaeological data. As with the Telco Site, historical evidence provided the necessary information for such a study. Another Wilmington, Delaware project, in the Christina Gateway (Louis Berger & Associates, Inc., 1985) demonstrated that lots with historically documented mixed land use rarely yielded archaeological materials that could be linked to commercial activities, while the domestic activities were well represented in the archaeological record. Similar observations have been made in studies conducted in southeastern urban centers (cf. Zierdan et al. 1983).

These investigations suggest that when sufficient documentary data are available, it is not necessary to conduct an archaeological study of gross land use categories in terms of their presence or absence; or in order to identify changes in land use from one category to another. Of course, if archival data are not extant, then the value of the archaeological assemblages, in terms of these land use categories, is increased. Also, an archaeological study is often the only means to investigate the internal configuration of urban commercial and residential lots. For example, at the Barclays Bank Site (see this volume), there

are no eighteenth- and early nineteenth-century records describing the size, location and orientation of structures within lots nor the location and use of outdoor spaces. However, for the post 1820 period, such data are available from the documents.

Given these problems, more and more researchers are focusing on the nature of urban households and the consumer behavior of these households (Henry et al. 1984, Beaudry 1984, Cressey et al. 1984, Shephard 1985, Wise 1985, Louis Berger & Associates, Inc. 1985). These studies use historical data on household size and structure, and changes in household configurations over time, to provide the context in which to study and understand this behavior. It should be pointed out that the investigation of the urban household is a current research theme in the "new history." Further, it appears that archaeology has the unique ability to efficiently examine the day to day aspects of urban household consumer behavior, thus complementing current historical endeavors.

The importance of the household in archaeological research is highlighted in recent studies by Schiffer et al. (1981) and Wilk and Rathje (1982). They point out that it is often the physical remains of the household that archaeologists are actually studying. Schiffer et al. (1981) also examine the complex variables that are involved in household consumption, including family and household life cycles. In particular, they investigate how life cycles are linked to reuse of household materials. Even though their study deals with a modern southwestern community, it provides a framework for examining historic period households. For example, Beaudry (1984) discusses the importance of the household developmental cycle (following the work of Goody, 1971) within a historical context. Henry et al. (1984) actually uses archaeological data to measure the effects of the life cycle on consumables.

D. RECENT STUDIES IN URBAN ARCHAEOLOGICAL RESEARCH IN NEW YORK CITY

Many of the archaeological studies reviewed earlier were conducted in New York City, particularly in lower Manhattan. Table II.1 summarizes the various projects that have taken place in the city, and their locations are shown in Figure II.1. The earliest projects, such as 64 Pearl Street, 209 Water Street, and Schermerhorn Row Block studies, were generally small in scope, and focused on the nature of landmaking in lower Manhattan. It was not until Stadt Huys and 7 Hanover Square that research on land use patterning, internal lot configurations, early Dutch settlement, and colonial and nineteenth-century commercial and residential activities could be studied in New York City using an archaeological data base.

Those investigations that involved sites similar to the Barclays Bank Site (e.g., a landfill block, commercial and residential

TABLE II.1 SUMMARY OF ARCHAEOLOGICAL PROJECTS IN THE BOROUGH OF MANHATTAN, NEW YORK CITY, N.Y.

Project	Dates of Major Deposits	Primary Research Topics	Source
Broad Financial Center	17th and 18th century	Chronology of material remains for first half of 17th century. Reconstruction of trade patterns in Dutch and British colonial periods. Ethnic character of early 17th century New York. Material reflections of shift from Dutch to British occupations. Investigation of contact Period Native American sites.	Grossman 1985
Stadt Huys/85 Broad Street Site	17th century, some late 18th and early 19th century	Historic trade patterns. Dutch and British colonial lifeways. Composition of urban archaeological deposits in New York City. Impact of late construction on buried archaeological deposits in the city.	Rothschild and Rockman 1982, Rockman and Rothschild 1984
64 Pearl Street	Late 17th century	Landmaking	Pickman and Rothschild 1981
7 Hanover Square	17th and 18th century, some 19th century	Nature of landfill and fill retaining structures in New York City's early waterfront. Investigation of materials in landfill deposits versus other types of urban archaeological deposits. Dutch and British colonial lifeways.	Rothschild and Pickman 1981, Rothschild, personal communication, 1986
Old Slip and Cruger's Wharf Site	18th century	Landmaking and wharf construction	Huey 1984
Telco Block	Late 18th and 19th century	Landmaking. Waterfront/commercial development. Land use patterning within waterfront. Separation of home and work place and how it is reflected in the archaeological record.	Rockman, Harris, and Levin 1983
175 Water Street	Late 18th and 19th century	Landmaking. Waterfront/commercial development. Land use. Changes in merchant activities. Introduction of city services to the waterfront area.	Geismar 1983

TABLE II.1 SUMMARY OF ARCHAEOLOGICAL PROJECTS IN THE BOROUGH OF MANHATTAN, NEW YORK CITY, N.Y. (Continued)

Project	Dates of Major Deposits	Primary Research Topics	Source
60 Wall Street Site	18th to mid-19th century	Commerical activities. Domestic life styles. Land use patterning and architectural development.	Society for Historical Archaeology Newsletter, 1985
209 Water Street	18th to mid-19th century	Landmaking	Brouwer 1980
Sheridan Square	Late 18th and 19th century	Lifeways in a rural New York area.	Wall, personal communication 1986
Assay Site	Late 18th and 19th century	Landmaking and wharf construction. 19th century consumer behavior as reflected in domestic and commercial archaeological deposits.	Wall, personal communication 1986. LeeDecker personal communication, 1986
Schermerhorn Row Block	Late 18th and early 19th century	Landmaking	Kardas and Larrabee 1978, 1980
Site 1, Washington Street Urban Renewal Area	19th century	Landmaking. Industrial activities within New York City.	Geismar 1986
Sullivan Street	19th century	Investigation of New York City's first suburb. Material reflections of temporal and class differences in 19th century New York. Health and hygiene in the 19th century city. Changes in class distinctions over-time.	Salwen, personal communication, 1986
53rd at 3rd Site	mid to late 19th century	Lower and middle class lifeways in mid-Manhattan during the 19th century. Nature of landfilling on fast land.	Winter, Amorosi and Cotz 1984
Block 2172, Lot 68 and 78 (Inwood Area)	unknown	Originally to study Native American sites and identify remains of the Battle of Washington Heights. Only landfill found within site area.	Winter 1985

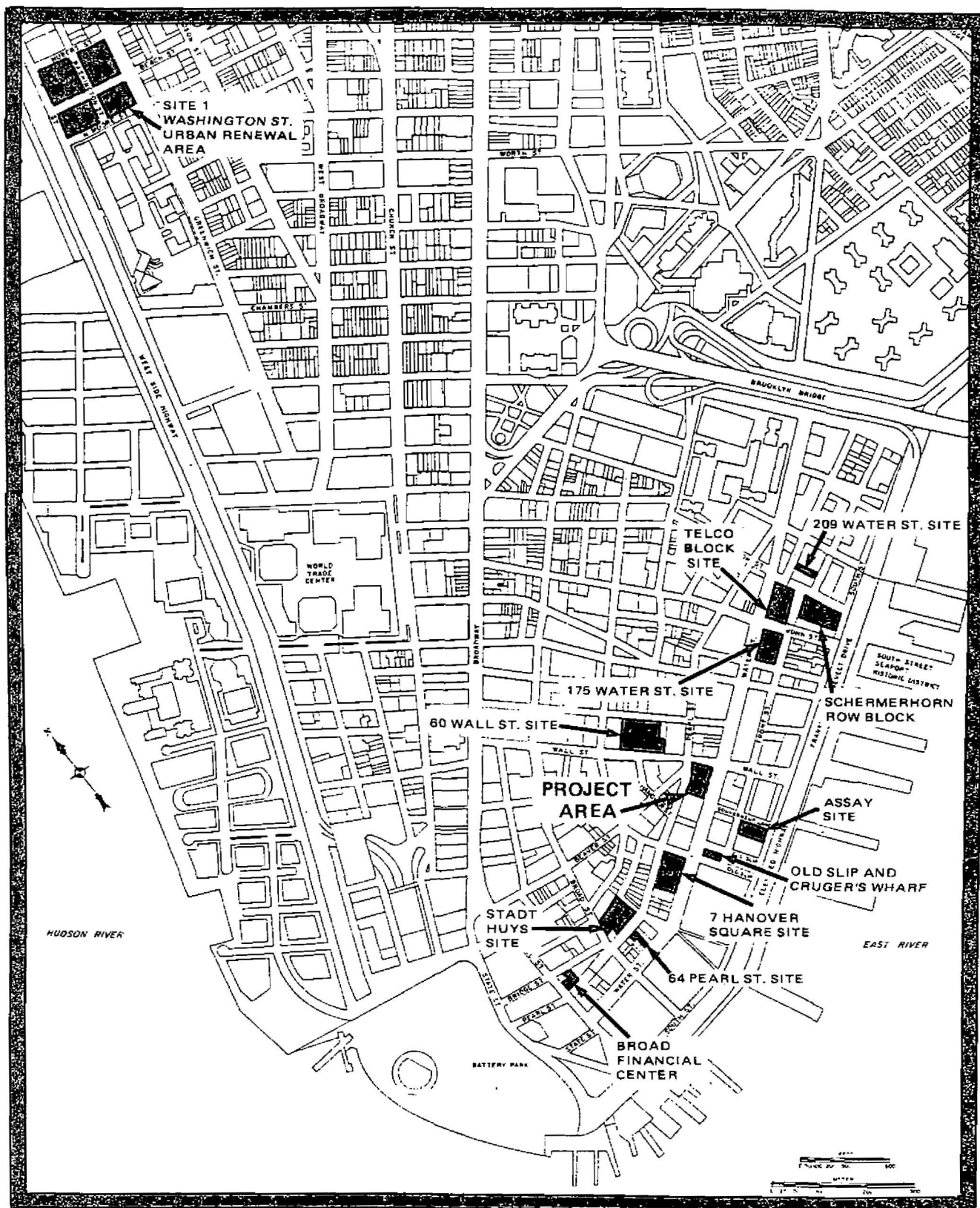


FIGURE II.1: Barclays Bank, 75 Wall Street Project Area and Other Archaeological Sites in the Vicinity

activities from the eighteenth and early nineteenth centuries) include Stadt Huys, 7 Hanover Square, the Telco Block, and the 175 Water Street Block. The 60 Wall Street Site is contemporaneous with the Barclays Bank Site, but is located on fast land. The 100 Broad Street Site is also on fast land, but produced materials mostly from the Dutch colonial era. Unfortunately, reports are not available on the Stadt Huys, 7 Hanover Square, and 60 Wall Street Sites. Though published, the 53rd Street report deals with a much later, nineteenth-century occupation. Therefore, this review of work in the city will focus on the Telco and 175 Water Street projects.

The Telco Block

Three research topics guided the investigation of the Telco Block, located in the South Street Seaport area. The first examined the changing social context of landmaking from the late seventeenth through the late eighteenth century. During this time, the city's economy was dominated by an elite class of merchants who were involved in shipbuilding and commercial/middleman activities (Rockman et al. 1983:231). It was this class of individuals who were primarily responsible for landmaking efforts in New York City. The second topic concerned the transformation of the urban household from a unit of production to one oriented toward consumption, and the separation of the workplace from the place of residence, which is said to occur with this transformation (Rockman et al. 1983:231). The third and final topic addressed the social context of individuals in the workplace, investigating the acceptance of a "work discipline" by laborers on the waterfront during the late nineteenth century (Rockman et al. 1983:231).

Using archival data, the Telco Block researchers identified how changes in the economic and political activities of the merchant elite resulted in changes in landmaking procedures in New York City during the seventeenth and eighteenth centuries. These changes appeared to have been linked to the transformation of land into a more marketable commodity. Though these observations were not based on archaeological evidence, it was suggested that the physical remains of the merchants class' activities, such as wharves and landfill found on the Telco Block, could be used with documentary evidence to better understand this group of individuals. Further, landfill sites like Telco, represent special activities of this class that are incompletely described in the historical record.

During the first two decades of the nineteenth century, land values along the waterfront were increasing and the owners of property within the Telco Block were actively involved in the expansion of trade and production, which was the hallmark of this period. Documentary evidence on the block suggests that a separation of residences from workplaces was also occurring during this time. Archaeological data from the site did show a dramatic

decrease in domestic-related materials by the 1830s, which was viewed as supporting the documentary evidence of a separation of residences from the workplace. However, the archaeological data from the block, did not "pinpoint all of the subtleties that we saw in analyzing the historical data" (Rockman et al. 1983:256). The change from mixed commercial/residential to strictly commercial occurred at different rates and in different forms along the block's street faces. The archaeological data did not reflect this complexity.

Rockman et al. (1983:257) believed that the separation of the workplace from place of residence was a means to establish social distance between employers and employees, reducing social conflict resulting from the increase in the distance in the standard of living between the two groups. This increasing distance in the standard of living between the groups was suggested, according to the Telco Block researchers, by the increase over time in the economic value of the ceramics used by the merchants on the block. This observation was based on a Miller analysis of three assemblages from the block, dating to the late eighteenth and early nineteenth centuries.

Concerning the third research topic, there was evidence of a high proportion of alcoholic bottles in commercial lots on the block during the mid-nineteenth-to early twentieth-century. The presence of these materials was interpreted as a physical manifestation of workers not responding to outside efforts to reform their class and place a "work discipline" upon them. The Telco data suggested that alcohol was consumed by the laborers at their places of work (Rockman et al. 1983:272).

175 Water Street Site

Information on the 175 Water Street project is presented in a comprehensive Phase III report (Geismar 1983), and is also summarized in an article by Geismar (in press) to be published in American Archaeology. The following discussion is based on Geismar's summary article.

Like the Telco Block, the 175 Water Street block was created out of landfill to meet commerce and trade needs of the merchant class. The process of landmaking began with the building of wharves and piers to increase dockage and to create an active seaport facility for the owners of the water lots. Landmaking occurred by the filling of dockage areas. This process included the use of a derelict ship as a landfill retaining feature. The placement of the ship across several separately owned water lots, and data obtained in the documentary record, demonstrated a cooperative effort on the part of the merchants involved in the landmaking enterprise, which took place over a 40 year period.

Historical research showed that the occupation of the block, beginning in 1780, was primarily domestic; but, by 1830, the block had become more commercial. Based on this information, a major focus of the project was to test a model on American merchant practices. The model has merchants beginning as all purpose businessman in the eighteenth century, then after 1815, becoming specialist/middlemen. In the 1850 to 1870 period, merchants functioned as warehouse distributors (Geismar in press). The first stage of merchant activity was not archaeologically represented in the block, as the earliest domestic or commercial materials date to after this phase. Thus, only the two later stages of merchant activity could be examined.

To test the model archaeologically involved identifying domestic as opposed to commercial deposits and measuring the frequency of these two deposit types, over time, within the block. Archaeological material from the site suggested a shift from predominantly residential to commercial activities by the 1820s and 1830s, and the presence of specialist/middlemen by around 1800. There was also a higher proportion of architectural materials in the mid-nineteenth century deposits as compared to earlier contexts. This was seen as the result of buildings being used as warehouses. An alternate explanation was that areas in the block were filled in with window glass and other construction materials that had become more inexpensive and thus available to consumers (Geismar in press). These archaeological data supported the model for changes in merchant activities, but demonstrated an earlier timeframe for these changes.

One interesting aspect of the 175 Water Street study was the delay of city water and sewer services to the block. These services were accessible in the 1840s and 1850s. However, the archaeological evidence indicated that they did not appear on the block until at least the 1860s. This lag was seen as one aspect of waterfront life, whereby the occurrence of increasing commercial activities and the presence of poor and transient households and individuals results in a later connection to city services as compared to other parts of the port (Geismar in press).

E. RESOURCE AND RESEARCH POTENTIAL OF THE BARCLAYS BANK

The applicability of any research context and subsequent research design, are based on the anticipated nature of archaeological remains contained within a project area. For the Barclays Bank project, this "research potential" is derived from the results of the Phase I background and Phase II archaeological testing studies.

The objective of the Phase I investigations, which took place during the fall of 1983, were to (1) establish whether the project was located on historic landfill, (2) determine when the earliest occupation took place, (3) characterize the range of occupations, and (4) identify cycles of construction and demoli-

tion that might have affected the preservation of subsurface resources. The study found that the project area was located on late seventeenth-century English landfill; that the earliest occupation dated to approximately 1699; and that occupation of the project area was characterized by maritime/waterfront activities followed by mixed residential-commercial uses up to the 1820s. An unusual aspect of this period of mixed commercial-residential land use was the presence of many chemists/druggists within the block. These individuals appeared to be involved in both wholesale and retail activities, including the import of drugs from Europe and American cities, and also the export of drugs to these cities. After the 1820s, the block was dominated by warehouses and auction houses. By mid-century, offices began to appear among the warehouses and then, by the end of the century, were the predominant land use within the block. Phase I research also demonstrated that the cycles of construction and demolition that occurred within the block may not have disturbed potentially significant subsurface deposits.

The Phase II testing program conducted in January 1984, exposed extensive yard deposits, middens, and house and outbuilding foundations. The majority of deposits and features were restricted to the rear yard areas, which concentrated within the center of the block. Deposits along the street faces were destroyed by late nineteenth and twentieth century construction. The date ranges of the yard deposits were from the mid-eighteenth century to the late nineteenth. It appeared that the majority of the materials were mid-eighteenth century. The sources of these materials seemed to be from both domestic and commercial activities, with more weight toward the domestic. Testing also revealed deep stone walls, running east/west, in the southern portion of the project area. These walls may have served as landfill retaining features. To examine landfill deposits, samples were obtained of soil laying above river bottom. These soils contained many of the same types of materials found in other landfill sites in the area (e.g., ceramics, glass, bone and leather). However, several Native American artifacts were retrieved from the landfill deposits, a pattern not evident in other New York City sites.

Following the overall project research methodology, as presented earlier in this chapter, the first step in developing a research design for the data retrieval phase was to determine what current research concerns in history could be applied to data sets identified in the Phase I and II studies. The project historian identified some general issues germane to the study of this and other blocks in the city. These topics include spatial segregation, social and economic stratification, and the relationship of these variables to the underlying economy, in this case, commerce, (Wilkenfield 1973, Conzen 1983). Other topics which relate to these larger issues include: (1) the relationships between changing local and regional economies and social structure and household and business activities (Goldin 1979, Ryan 1981); and (2) comparisons of these activities among different cities

(Conzen 1983). Specific topics that are directly applicable to the Barclays Bank Site itself include the nature of land use over time on the block, the characterization of the block's occupancy history, and though very difficult, but not impossible to measure, the social standing of the block's occupants and businesses.

As noted earlier, several of these issues are most efficiently addressed within the context of historical research and not archaeology. For example, contributions to general historical issues such as social stratification have yet to be achieved in urban archaeology for late eighteenth and nineteenth century contexts on the east coast. We still need to build the middle range concepts (cf. Binford 1983, LeeDecker and Friedlander 1985) that bridge wine bottles and porcelain tea cups to these processes. What can be examined and measured archaeologically at the Barclays Bank Site, are the linkages between changing economy and social structure, and household and commercial consumer behavior, in this case that of the chemist/druggist and other types of households on the block (i.e. merchants and skilled craftsmen). Specifically, what is the nature of the consumer behavior of these merchants and skilled craftsmen? What consumable items do they make and sell? Do these activities change with changing economics of the city and the region and with changes in family structure and economy? How does the consumer behavior of these households compare to others in the city's commercial core or to those in other urban areas?

In addition to these research issues, there are two other topics that can be addressed using data from the Barclays Bank Site. These include internal lot configurations and landmaking activities. The study of internal lot structure, that is the placement of buildings, walkways, trash disposal features, wells, privies, and landscaping, is a recent focus in urban archaeological studies. Beaudry (1986) provides a good summary of this type of research. To study internal lot characteristics, she recommends that:

analysis of landscape treatment be combined with analysis of fully delineated phases of feature construction and refuse deposition that relate to the documentary chronology of household composition. In this manner the archaeology of domestic spaces can contribute to our understanding of how people in the past consciously altered their immediate surroundings as they sought to establish and maintain order in the larger context of the external world (Beaudry 1986:15).

Landmaking has been a major research focus in New York City archaeology, as exemplified by the Telco and 175 Water Street sites. The Barclays Bank Site can be examined in the context of

these and other sites excavated in lower Manhattan. Specifically, how does the Barclays Bank Site compare to contemporaneous and later landfill sites? Are there differences in landmaking technology and fill sources? Is the time frame in which the sites are filled similar?

In Chapter III, each of these research issues are presented in the form of hypotheses. Methods for testing the hypotheses are also detailed. The historical and archaeological data sources to be used in addressing these hypotheses include the Barclays Bank Site, in addition to other sites in the city and the northeast region.

III. RESEARCH DESIGN

A. INTRODUCTION

In order to develop a research design that was grounded in historiography (cf. Beaudry 1984), an urban historian was involved in all aspects of the Barclays Bank project. The historian provided information on current issues in urban research, noting the different models and methods being used by historians, and developed the descriptive, historical context of the block under study. Project archaeologists reviewed current research topics in urban archaeology to determine if they were applicable to the historical frameworks and specific historical contexts that were identified by the historian. The archaeologists also examined the artifactual and structural data base of the site, defined in the Phase II study, and determined with the assistance of the historian, what historical and archaeological issues could best be addressed through the study of these data.

The results of this process of research design development have been detailed in the previous chapter. Several research issues were identified that would guide data retrieval efforts at the site and all subsequent structural and artifactual analyses. These research concerns involve the consumer behavior of the merchant and skilled craftsman households that occupied the block, their use of internal lot space, and the types of land-making activities performed by the block's original water lot owners. These research topics are presented below as a series of research hypotheses. The data requirements of each, and the methods to be used to obtain these data are detailed.

As a first step in the project research design, data from the site will be used to develop a description of the consumer behavior of the chemists/druggists who occupied the block, and of the items sold and used in their shops. There are several secondary sources on chemists/druggists, and some primary documents associated with their activities (See Chapter IV). However, there have been few studies of the day-to-day workings within these chemist/druggist shops, an area of research that can be explored archaeologically. A descriptive study of these special merchants will provide information on a heretofore little studied aspect of life within New York City's growing waterfront and commercial core during the late eighteenth and early nineteenth century. This study will also produce some of the base line data to be used in addressing the project's research hypotheses. The data requirements of this descriptive component of the research design include historical information on the activities of the chemists/druggists, their role within the larger society, their involvement in import and export activities of the port, and information on the goods sold or purchased by the shops on the block. These data are obtained primarily from secondary sources and, when possible, newspaper advertisements.

Archaeological data requirements include identifying the quantity, variability, and quality (or value) of materials used and disposed of by the chemist/druggist shops; and similar measurements on the goods and foods consumed and disposed of by the domestic side of the chemist/druggist household. These archaeological data will be derived from: (1) pattern analyses of artifact assemblages from the shops and domestic activities of these merchants, (2) analyses of vessel form and function, (3) identification of dietary patterns, and (4) economic scaling of ceramic assemblages. The latter involves the Miller analysis (Miller 1980) and a relative economic ranking of ceramic vessels. Investigation of dietary patterns is based on the types of floral and faunal remains within the domestic assemblages, the frequency of these materials, the proportion of different genres and species, and the types of man-made modifications exhibited by these materials. Analysis of vessel form and function is rather straightforward. This involves grouping of glass and ceramic vessels into accepted form (e.g., plate, bowl, tea cup, bottle, vial) and function (e.g., pharmaceutical, food serving, hygiene) categories (cf. Beidleman et al. 1983, Cressey et al. 1982, Klein and Garrow 1984). Pattern analyses simply follow the format established by South (1977), making modifications where necessary. Comparisons are made at both the artifact group and class levels.

Another aspect of consumer behavior that will be examined is the extent to which these small-scale merchants curated and recycled ceramic and glass vessels or other artifacts. Specifically, does the refuse from the chemist/druggist households show curation of expensive ceramics? Is bottle glass reused due to its scarcity in the local market? These questions and other aspects of curation and recycling (cf. Schiffer 1976) will be investigated through the dating of individual ceramic, glass, and metal objects, and dating of the deposits from which they were recovered. Comparisons of mean ceramic dates and termini post quem of both glass and ceramics will be a major focus of this analysis.

B. RESEARCH HYPOTHESES

Hypothesis #1

Among all the lots occupied by small-scale merchants, such as the chemists/druggists, the internal configuration and use of space within the lots will be similar.

Use of space in urban and rural lots has become an important topic in historic archaeological research (cf. Beaudry 1986, 1987, Zierden and Hacker 1987). Beaudry states that the study of lot space and landscaping can provide insights into issues of class and status (1986:44). Specific types of landscaping features that are used in such a study include:

landfilling, either to create fast land or to alter grade levels for aesthetic or practical reasons; changes

in sanitary facilities and utilities in keeping with changing technology and notions of hygiene; plantings and gardens; surfaces such as walkways, cobbled yards... and so on (Beaudry 1986:44).

Hypothesis #1 examines the patterning of feature placement, refuse disposal, landscaping activities, and building size, shape, and location. It states that households of similar occupation and activities will use their lots in a similar fashion. Also, there will be similarities in the positioning of the main house/shop and additions within the lot, and in the size and configuration of the buildings. This assumes that the households were involved in decisions about the main house/shop construction, or at least about alterations and additions to the main building. Of course, space constraints within the block as a whole must be considered in this analysis.

Data requirements of this hypothesis include historical documentation on lot ownership, occupancy, and use, and timing of any changes in these variables. These data are obtained from cartographic sources, deeds, and city directories. Archaeological data requirements include identification of interior and exterior spaces, features, refuse areas, and evidence of landscaping activities. These lot "elements" are assigned to a given occupation of the property through artifactual and stratigraphic dating, and their distribution and form is compared to other contemporaneous lots in the block. This comparison involves those lots occupied by small-scale merchants, in addition to those occupied by other household types, such as skilled craftsmen. Comparisons can also be made to contemporaneous merchant households and other household lots identified within the Telco and 175 Water Street Sites. Specific archaeological methods to be used in addressing Hypothesis #1 include the following: dating; ceramic cross mend analysis to link deposits, features, and structures; and chronological mapping of the distribution of lot "elements."

Hypothesis #2

The internal configuration and use of space within the lots will change as a result of change in the lot function, change in the household type occupying the lot, and/or the introduction of city services.

Hypotheses #2 is similar to #1, but examines lot use diachronically. Several factors are hypothesized as affecting how space is used in a lot, including property function (e.g., residential, commercial, mixed); the type of household which occupies the lot, (e.g., laborer headed household as opposed to a skilled craftsman); and the accessibility of city services, particularly water, sewer, and trash disposal. Changes in lot function would probably result in changes in the character of a lot, particularly in terms of formal landscaping and the use of out-buildings and features. In terms of shifts in household occu-

pancy, Cressey et al. (1984) have found that different household types (defined along economic and ethnic lines) used lot space in different ways. Finally, when city services are used, there is a change in the use of lot "elements" such as wells, privies, and cisterns. However, it is not known if these features are always immediately closed after the introduction of city services, or continued to be used as supplementary water and sanitary facilities.

The historical and archaeological data requirements of this hypothesis are similar to those for Hypothesis #1. The only additional information required is data on city services and their accessibility to the block's occupants.

Hypothesis #3

Controlling for household structure and wealth, the consumer behavior of the block's skilled craftsmen, chemists/druggists, and other small-scale merchants will be similar. Further, the consumer behavior of these households will be similar to that of contemporaneous and economically comparable households in New York City, or any other coastal city in the Northeast region.

Consumer behavior will be examined through measurement of the quality, quantity and variability of goods and foods consumed and disposed of by the households (cf. Shephard 1980, Klein and Garrow 1984). Historical research will not attempt to identify the types of items consumed by these households. This will be strictly an archaeological endeavor. However, historical studies associated with this hypothesis will involve identification of a household's structure and relative economic standing. As these factors directly affect consumer choices (See Chapter II), they must be controlled for in order to attempt to identify patterns of consumer behavior along larger-scale economic, or social lines, as is attempted in this hypothesis.

The archaeological data requirements of this hypothesis are similar to those for describing the consumer behavior of the domestic side of the chemist/druggist households. The only difference is the addition of comparative data from other merchants and skilled craftsmen from the block, from other sites in the city, and other urban centers in the region. Quality of items consumed will be based on the ceramic economic scaling data. Quantity and variability measurements will come from the pattern analyses, identification of dietary patterns, and analyses of vessel form and function.

The contemporaneous and economically comparable households in New York City to be used in testing this hypothesis will be from the 175 Water Street Site. Unfortunately, specific economic data on the 175 Water Street households are not readily available. Therefore, the only means of identifying "economically comparable" is by occupation, assuming that individuals in the same occupation

category are of equal economic standing. Only households from New York City will be used in this analysis. There are no published data on contemporaneous and economically comparable households from other cities in the region.

Hypothesis #4

As the economic base in New York City changes, or if fluctuations occur in economic activity, there will be changes and fluctuations in the consumer behavior of the block's small-scale merchants, such as the chemists/druggists, and skilled craftsmen. These same consumer changes and fluctuations would be observed among economically comparable households in the city and among those in other eastern coastal cities, where these economic changes and fluctuations also occurred.

This hypothesis examines the linkage between external economic activities and the consumer behavior of small-scale merchant and skilled-craftsmen households of the late eighteenth and nineteenth century. Confirmation of this hypothesis would be the association of economic change and fluctuation with concomitant change and fluctuation in consumer behavior, as seen in the quality, quantity, and variability of goods and foods consumed and disposed of by these households.

The thrust of the historical research associated with this hypothesis is to identify points of change and fluctuation in New York City's economic history, such as embargoes, panics, and shifts in economic focus, (e.g., merchantile to industrial). Research for previous hypotheses will provide the additional historical data that will be needed to address Hypothesis #4, such as the locations of the chemists/druggists in the block, and their occupancy history.

Archaeological data requirements of this hypothesis are the same as for Hypothesis #3. For this analysis, however, timing of changes in consumer behavior is of great importance. Other critical factors in this analysis are the nature of the local market place and technology. It is possible that changes in consumer patterns, for example the increase in glass vessel use in the nineteenth century, may be linked to technological changes and availability within the market and not larger-scale economic activities. Whenever possible, the effects of the local consumer market and technology must be controlled for.

The sample of contemporaneous households to be used in addressing this hypothesis will be from the Barclays Bank Site, 175 Water Street Site, and the Telco Block; and a site in downtown Wilmington, Delaware. It should be noted that the validity of these comparisons is contingent upon controlling for household structure, and identifying comparable economic changes and fluctuations in both New York City and Wilmington, Delaware.

Hypothesis #5

Households contemporaneous with the block's small-scale merchants and skilled craftsmen, but of different economic standing, will exhibit different consumer behavior patterns. Also, as the economic base of New York City, or any coastal city in the Northeast region, changes or fluctuates, the consumer behavior of these households of different economic standing will also change and fluctuate, but in a different pattern than the block's skilled craftsmen and small-scale merchants.

This fifth hypothesis is based on the assumption that different household types consume differently, and that they will react differently to the same, outside, economic pressures. The historical and archaeological data requirements of this hypothesis are similar to those for Hypothesis #4. However, the sample of households used will change. In this analysis, households headed by laborers, a "landed gentlemen," and white-collar employees will be compared, over time, to the small-scale merchants and skilled craftsmen of the Barclays Bank Site and other sites. These different household types are the kinds of households that have been investigated in the Wilmington and Washington, D.C., studies. Unfortunately, all the published consumer data from sites excavated in New York City concern only small-scale merchants and skilled craftsmen.

These five hypotheses address the occupancy history of the Barclays Bank block in comparison to other sites in the region. Hypothesis #6, however, examines landmaking activities within the block in relationship to the other landfill sites in New York City.

Hypothesis #6

The process of landmaking within the block will be the same as contemporaneous landfill sites, but different from later landfill properties.

Historical research will provide data on the landmaking activities within the block in terms of when specific lots were filled. These data are derived from deeds for both water lots and land lots, and from various cartographic sources. Data on landfill mechanisms, such as the construction of landfill retaining features and the nature of the fill material used to make land, will be obtained from observations made during Phase II and III field efforts on the block, and from analysis of fill from the site. This analysis involves artifact classification, dating of artifactual materials, and study of fill soils in terms of their characteristics and distribution within the block. Landmaking activities within the Barclays Bank Site will then be compared to those of other sites in the city.

IV. HISTORICAL RESEARCH

A. INTRODUCTION

The objectives of this chapter are to describe the historical research that has taken place during the three phases of this project, summarize the results of this work, and provide a contextual description of New York City for the period 1740-1830. The current issues in urban history have been briefly described in Chapter II; findings pertaining primarily to New York have been incorporated into the overview presented in the next section.

The objectives of the Phase I investigations, which took place in Fall 1983, were to (1) establish whether the project was located on historic landfill, (2) determine when the earliest occupation took place, (3) characterize the range of occupations, and (4) identify cycles of construction and demolition that might have affected the preservation of subsurface resources. The study (Louis Berger & Associates, Inc. 1983) found that the project area was located on late seventeenth-century English landfill, that the earliest occupation dated to approximately 1699, that occupation of the project area was characterized by maritime/waterfront activities followed by mixed residential-commercial uses through the 1820s, and that construction and demolition activities were unlikely to have disturbed significant subsurface deposits.

During Phase II and Phase III archaeological field investigations in the winter of 1984, various document repositories of New York City and Washington, D.C., were searched in order to identify manuscripts of potential relevance to in-depth Phase III studies. LBA found that site-specific research for the mid-eighteenth century would be extremely difficult because neither tax lists nor deeds to properties in the project area and adjacent blocks had survived. Abbott (1974) solved this problem on a city-wide basis through painstaking review of eighteenth-century newspapers. A similar approach was not viable for the present project, however, since virtually no materials existed that would enable LBA to link names found in the newspapers with names directly associated with the project area in this period. In some cases, names of owners for the mid-eighteenth century were identified, but this typically occurred when a mid-eighteenth-century transaction was not recorded until much later, or when the prologue to the conveyance recited prior ownership.

The abstracts of seventeenth and eighteenth-century wills published by the New York Historical Society were also consulted as were the records of apprenticeships. Although some data were collected this way, the problem persisted since LBA could not be sure that owners of lots in the project area in 1734, the last

extant tax list until the tax list in 1784, still owned the property in question when they died, if, in fact, known owners died during the high eighteenth century. In-depth historical research was further frustrated by the absence of manuscript materials associated with known owners. One extremely interesting anonymous ledger, written in Dutch and dating to the early eighteenth century, was identified at the Library of Congress, Manuscripts Division, but the period (1706-1714) covered by this document was outside the chronological period of interest defined by the archaeological materials.

On the other hand, several important secondary studies of New York City (Wilkenfeld 1973, Abbott 1974, Archdeacon 1976, Blackmar 1979, Nash 1979, Kammen 1982) as well as recent archaeological data recovery projects in the vicinity (Geismar 1983) provided sufficient information to develop a contextual framework. Additional, detailed investigation of the timing of the landfill was undertaken as well as some study of the role of the eighteenth-century druggist, since this industry appears to have characterized the site in the high eighteenth century. Some comparative work on lot owners in the late 1780s was undertaken, based on rankings presented in Wilkenfeld's (1973) dissertation. Finally, several series of local newspapers for the early 1790s were judgementally sampled for references to the Hulls and Posts, druggists who owned property excavated during Phase III investigations.

B. OVERVIEW

1. Landfill

The Dongan Charter (1686) granted New York City the rights to "all the waste, unpatented and unappropriated lands lying and being within the City of New York and Manhattan Island. . . extending and reaching to the low water mark" (Childs 1868, as quoted in Harris 1980:6). In 1691, purchasers of water lots were required to "fill up the front of said land with one entire house" and to build the houses so that the side facing the street was of brick or stone. In 1692, owners of adjacent upland properties were given priority in purchasing water lots (Peterson and Edwards 1917:85).

Eight water lot grants encompassing the project area were awarded between 1694 and 1697. All of the original grantees except for James Graham appear to have owned lots in the immediate vicinity in August 1696, the date of the earliest tax assessment. Given the sequence of names and the fact that both Robert Sinclair and John Theobald are known from other sources to have lived on the west side of Queen (now Pearl) Street, the sequence of names in 1696 very probably reflects ownership of lots adjacent to the project area, where land owners who had priority in purchasing water lots would have been expected to live (New York Historical Society 1911:67; see also Will of Mary Sinclair, Widow of Robert Sinclair, July 20, 1721, Ibid:217).

The earliest structure on the site has been associated with 144 Pearl Street. The original grantee, Christina Veenvos, conveyed the area corresponding to 140 Pearl Street/106 Water Street (Lot 16) to John Abeel, an Albany mariner, on December 10, 1696, only three days after her award (Liber 21, Page 190; New York Historical Society 1893:67). On the same day, Veenvos sold Barent Reynders (or Reyndersen), who was one of her tenants in November 1696 (New York Historical Society 1911:67), the parcel corresponding to 142 Pearl Street/108 Water Street (Lot 17) (Liber 25, Page 30). Veenvos sold the remaining tract, 144 Pearl Street/110 Water Street (Lots 18 and 26) to Dr. Henricus Selwyns, a minister, in May 1699; the property then contained a "new house" and was bounded on the west by a "house and lot" belonging to Reynders (Liber 23, Page 47). The presence of both Reynders's and Veenvos's houses are confirmed in the 1699 tax lists (New York Tax Assessments, East Ward, November 1699). By this time, houses also appear to have been built on Theobald's lot (152 Pearl Street), Sinclair's lot (150 Pearl Street/116 Water Street), Hendrik Kormer's lot (148 Pearl Street/114 Water Street), Abeel's lot (140 Pearl Street/106 Water Street), Johannes Vansantos's lot (138 Pearl Street/104 Water Street), Johannes Vandelaer's lot (136 Pearl Street/102 Water Street), Samuel Staats's lot (134 Pearl Street/100 Water Street), Johannes Vanderspiegel's lot (132 Pearl Street/98 Water Street), and Castor Liersen's lot (130 Pearl Street/96 Water Street) (Liber 23, Page 47).

Landfill was accomplished through a mix of haphazard/idiosyncratic practices and carefully engineered structures built for the purpose of retaining fill material. Geismar (1983:672) described two primary processes associated with landfill: (1) unstructured harbor buildup and river accretion, and (2) careful engineering in which fill material was placed behind fill retaining structures. At the 175 Water Street site, she identified two primary filling episodes as well as secondary filling, undertaken to "eliminate pockets of depressed fill," after construction had resulted in uneven settling (Geismar 1983:672).

Geismar (1983:672-673) traced the European antecedents for landfill structures back to Marcus Vitruvius Pollio, whose Ten Books on Architecture were rediscovered in the fifteenth century. Scamozzi, a seventeenth-century Venetian architect, described use of timber grillage similar to structures identified at the 175 Water Street Site, as well as derelict hulls, also found at this site in lower Manhattan (Geismar 1983:673). Use of both types of structures has been traced to Holland and to England (Geismar 1983:30-33, 673), suggesting that colonial New Yorkers, whether English or Dutch, shared a series of European traditions with regard to harbor construction and landfill.

Geismar (1983:686-687) described at least three different structures commonly used in landfill activities in addition to derelict hulls: cofferdams, wharves or grillages, wooden bulkheads. American waterfront improvements were distinguished from English,

however, in the extensive use of wood, which, although scarce in the Old World, was abundant in the New. Use of wood may have become somewhat curtailed by the early nineteenth century as a result of a relative decline in the resource (Geismar 1983:677). Finally, as the shoreline crept into the East River, earlier generations of waterfront structures (quays, wharves, piers and docks) were incorporated into the fill-retaining system.

2. New York City Prior to the Revolution

At the beginning of the eighteenth century, New York City boasted "a broad middle spectrum of property holders with small homes and ratable private estates" (Wilkenfeld 1973:23). The city supported a diverse range of occupations and specialized craftsmen. Thirty percent were employed in industries associated with the urban maritime/commercial economy, and not surprisingly, the East Ward, which contained the wharves and docks along the East River, was the most populous of the city's six wards (Wilkenfeld 1973:29-30). It was not the wealthiest of the wards; wealth, in fact, concentrated in South Ward, which was smallest in population (Wilkenfeld 1973:29-30). North and West Wards were the poorest as well as furthest from the waterfront. Merchants, mariners and ship captains clustered in East Ward (Wilkenfeld 1973:31). Other evidence of occupational clustering is evident with concentrations of brickmakers, joiners, and silversmiths in West Ward and coopers in North Ward (Wilkenfeld 1973:32).

Colonial New York was distinguished from other colonial cities by its mixed ethnic base of English, Dutch, Huguenots and Jews, to name the principal groups. Archdeacon (1974) has identified correlations between ethnic affiliation and wealth in the period 1689-1710, which were also manifest in the urban social geography. English inhabitants, then still a demographic minority, concentrated in higher socio-economic brackets. The Dutch were "financially second class citizens, and the French Protestants [Huguenots] were found among the extremely poor." French and English dominated the professions, especially the merchants, conferring a significant economic advantage "because maintaining an extensive trade with the Mother Country was a prerequisite of great commercial success" (Archdeacon 1974:66). Huguenots and Jews, moreover, took advantage of relatives and coreligionists in other colonies to achieve advantageous mercantile connections" (Archdeacon 1974:66; Butler 1983:153).

Early New York City tax lists are available for the periods 1695-1709 and 1721-1734. As observed in the preceding section on landfill, the sequence of names associated with land ownership in the project area has been identified in these lists from 1699 forward. Wilkenfeld (1973, 1976) and Archdeacon (1974) have described city-wide spatial concentrations based on wealth, occupation and ethnic affiliation. Although a sample based on the study area is too small to permit drawing generalizations for the

entire city, consideration of this sequence does suggest how kinship, ethnic affiliation and tenure affected the social fabric of a street.

The first observation on the structure of the tax lists is that the owners of properties in the project area owned other properties in the immediate vicinity. Second, particularly in the early years of the century, tenancy was common, and as the example of Barent Reynders (see landfill discussion) suggests, tenants frequently bought properties either that they had previously rented or were near rental properties they occupied. Perhaps because of the transient character of waterfront occupations, tenure (i.e., ownership versus rental) may not be a predictor of socioeconomic status of commercial occupants. Reynders was a prosperous merchant as was Joseph Buono, a Sephardic Jew, who rented space from Sinclair between 1699 and 1702. Buono, in fact, was among the wealthiest merchants in New York City, reporting property during these years valued between L130 and L170 (New York City Tax Assessments, 1699-1702; New York Historical Society 26:241)).

Ownership and occupancy of properties in the project area reflected the city's ethnic mix of English, Dutch, Huguenots and Jews. Closely allied to ethnic affiliation were kinship relations. Peter (or Pierre) Morin, a Huguenot, rented property from Christopher Liersen in 1695; this was probably on the west side of Queen Street, across from the project area, which was at that time still under water. In 1716, Andrew Fresneau, Morin's son-in-law, bought Adolph's water lot grant, which by then had been filled in, and between 1726 and 1734, Fresneau's widow Marie rented rooms to her maternal aunt Judith Jamin, Morin's sister-in-law. Jamin was godmother to several of the Fresneau and Morin children (Eglise du Saint Esprit 1886:81, 109, 122).

Similar relationships can be spun out among other individuals and ethnic groups represented in the project area. The Liersen, Vanderheul and Vanderspiegel families were related by marriage (New York Historical Society 25:369). Barent Reynders was son-in-law to rebel leader Jacob Leisler, whose widow Elsie owned the water lot grant immediately south of the project area. Samuel Staats, another of the original grantees, had figured prominently in this late seventeenth-century uprising. His daughter married Isaac Gouverneur, who owned the lot at 98 Water Street in the late eighteenth century. Robert Sinclair left his property to his widow Mary, who leased and then bequeathed the property in the project area to her daughter Anne and son-in-law Daniel Crommelin. Mary and Anne Sinclair were apparently Dutch-speaking, since Mary left her daughter two Dutch bibles. The Crommelins, in fact, eventually relocated in Amsterdam. The family, however, intermarried with local Huguenots, and one of the daughters, Elizabeth, was baptised in the French church in 1715 (New York Historical Society 26:394, 1894:217; Eglise du Saint Esprit 1886:47, 136).

By the 1730s, the city had been laid out as far as Beekman's Swamp. The center of population was still the East Ward, and the project area was still a waterfront location, bounded on the east by Hunter's Key. Wealth-holders, particularly merchants, mariners and ship captains, concentrated in East Ward (Wilkenfeld 1976: 171, 172, 176). East Ward was also a center for Anglicans while congregants in the Dutch church gathered in North Ward, Out Ward, and Harlem township (Wilkenfeld 1976:180). The project area itself in 1730 (Table IV.1) contained a mix of English, Huguenot, Jews and Dutch, suggesting that although concentrations can be perceived on a city-wide basis, contemporary pedestrians probably observed a heterogeneous urban fabric.

After 1730, New York slowly grew toward the west and north, although as late as 1760, "most New Yorkers lived within a mile of the Fort at the tip of the island" and "houses were in greatest demand and population most dense in the wards along the East River" (Abbott 1974:40). On the eve of the Revolution, "the most clearly delineated neighborhood. . . was its commercial quarter" on the East River (Abbott 1974:41). Here, most of the city's merchants had their establishments, and the "bulk of its [the city's] wholesale and retail business in imported commodities was transacted" (Abbott 1974:41). Most ships moored at Hunter's Quay (or Key) or Burnet's Quay (or Key); both are immediately east of the project area.

In addition to the merchants' establishments, important commercial institutions also clustered in this vicinity. The Customs House was located on lower Broad Street. The Exchange stood at the foot of Broad Street, and substantial business was conducted at the Exchange Coffee House and at the Merchants Coffee House at the foot of Wall Street, across from the project area. Affluent, mercantile families lived along Hanover Square, Queen, King, Wall, Smith, Broad, Duke and Dock Streets (Abbott 1974:42-43). A market at the foot of Wall Street was demolished in 1762, affording local residents relief from its "offensive" character (as quoted in Abbott 1974:45).

The "middling" classes concentrated in the East Ward, North Ward and Montgomerie Ward. These included retailers, makers of consumer goods, metal workers, grocers, druggists, printers, and skilled construction workers (Abbott 1974:46). Manufacturing establishments and noisome industries (e.g., tanneries, distilleries, breweries, sugar houses, shipyards, ropewalks, and facilities for slaughtering animals) were located on the periphery (Abbott 1974:48). Not far from these areas were the homes of New York's poor, more than half of whom lived in the northern half of Out Ward, well beyond the 1745 palisade, which extended from Warren Street on the Hudson River to James Street on the East River. Whereas the affluent merchants tended to reside in the commercial district or just west of it, the docks themselves were crowded with poor and disreputable individuals, many of whom were transients (Abbott 1974).

TABLE IV. 1

OWNERS AND OCCUPANTS OF THE STUDY AREA, 1730

Modern Designation	Owner	Value of Property ¹	Comments	Occupant	Value of Property ¹	Comments
152 Pearl St. corner of Wall & Water Sts.	Effie Theobald	75	Widow of Captain John Theobald, merchant, 3 houses reported			
				Benjamin Price	30	
				Robert Bevin	5	
				Abraham Yats	5	
150 Pearl St. 116 Water St.	Widow Sinclair	65	Widow of Robert Sinclair, merchant, Dutch- speaker			
				Ebenezer Grant	30	
148 Pearl St. 114 Water St.	Bartholomew Skaats	41	Goldsmith, 2 houses reported			
				Martha Harthcoat	30	
				James DeLancy	40	Merchant, Huguenot
146 Pearl St. 112 Water St.	Widow Fresneau	110	Widow of Andrew Fresneau Merchant, Huguenot			
				Judith Jamain	10	Kinswoman, Huguenot

TABLE IV. 1 (Continued)

OWNERS AND OCCUPANTS OF THE STUDY AREA, 1730

Modern Designation	Owner	Value of Property ¹	Comments	Occupant	Value of Property ¹	Comments
144 Pearl St. 110 Water St.	Henry Coerten	65	2 houses reported, Dutch	William & Joseph Haynes	30	
142 Pearl St. 108 Water St.	Mordeccai Gomez	100	Merchant, Jewish			
140 Pearl St. 106 Water St.	David Abeel	30	Merchant, Albany resident	William Bradford	20	
138 Pearl St. 104 Water St.	Albartus Bosh	60	2 houses reported			
136 Pearl St. 102 Water St.	Justus Bosh	30	Merchant, Rye resident	James Favier	30	
134 Pearl St. 100 Water St.	Andrew Coeymans	120	Merchant, 3 houses reported	Nathan Kiley John McKennan Fredrick Seabring	20 20 20	
132 Pearl St. 98 Water St.	William Smith	25				

TABLE IV. 1 (Continued)

OWNERS AND OCCUPANTS OF THE STUDY AREA, 1730

Modern Designation	Owner	Value of Property ¹	Comments	Occupant	Value of Property ¹	Comments
128/130 Pearl St. 94-96 Water St.	William Walton	270	4 houses reported	James Desbrosses	10	
				Stephen Desbrosses	5	

¹Rounded to nearest pound.

Sources: (attached)

SOURCES FOR TABLE IV.1:

New York City Tax Assessments, 7 March 1729/1730

Will of Robert Sinclair, 8 October 1704, New York Historical Society:394

Will of Mary Sinclair, 10 December 1736, New York Historical Society:217

Will of Louis Gomez, 7 May 1740, New York Historical Society: 292-293

Will of Justus Bosch, 4 December 1739, New York Historical Society:272-273

Will of Mordecai Gomez, 12 November 1750, New York Historical Society:310-312

Andries Coeymans et al. to Barent Reynders, 30 April 1718, recorded 5 February 1753, Liber 33, Page 511

Christopher Abeel to David Abeel, 5 May 1743, recorded 1 November 1770, Liber 38, Page 506

Esther Gomez et al. to James Swords, 11 January 1810, recorded 11 December 1810, Liber 89, Page 503

Rebecca Gomez et al. to Uriah Hendricks, 4 November 1767, recorded 12 November 1767, Liber 38, Page 90

Isaac Gomez, Jr. et al. to Daniel Gomez, 23 March 1762, recorded 9 July 1766, Liber 37, Page 539

Ryneer Skaats et al. to Hugh Gaine, 10 January 1772, recorded 28 November 1787, Liber 44, Page 406

Nash (1979:109) has argued that in economic terms, the decades prior to the Revolution saw increasing social differentiation between rich and poor in all American cities, with the emergence in New York of a "genuinely wealthy upper class," more comparable to European norms than had been the case earlier in the colonial period. At the beginning of the eighteenth century, urban conditions for colonial laborers put them "ahead of their European relatives," although "life at the top left the colonial elite far behind" (Nash 1979:22). Between 1690 and 1700, colonial urban centers began to rival such lesser British cities as Hull, Bristol and Glasgow as a result of the exploitation of their hinterlands and European wars that increased demand for American goods, notably ships from Massachusetts and foodstuffs from the Middle Colonies (Nash 1979:54). This resulted in the beginning of consolidation of "economic power in the hands of a small class of wealthy merchants" located in Boston, New York, and Philadelphia (Nash 1979:69).

Demographic growth accelerated after 1720, and the composition of urban labor began to change. Philadelphia saw an increase in indentured labor, and New York witnessed an increase in slavery (Nash 1979:102, 104, 107). Slave auctions took place twice a week at the Merchants Coffee House and at other locations in the city. By 1746, 21 percent of the population were slaves, and slaves represented 30 percent of the total laboring class (Nash 1979:108) among whom they seem to have moved fairly freely (Abbott 1974:50). Nash (1979:109) sees the significance of slavery as a status symbol for the increasingly visible elite, who employed slaves as house servants, footmen and grooms, and as creating divisions among the artisans between those who could afford slaves and those who made do with apprentices.

Economic depression between 1729 and 1737 resulted in a "serious shrinkage of trade" (Nash 1979:124), higher interest rates, and shift of some merchants into banking and finance. War between 1739 and 1754 unleashed prosperity again, and the New York economy boomed, reaping the benefits of both legitimate commerce and privateering (Nash 1979:177). A period of economic depression occurred in 1753-1754 as a result of declining demand from the West Indies for foodstuffs, but increasing population in the city's regional hinterland restored prosperity in the last half of the decade (Nash 1979:179). The French and Indian War brought enormous war-related contracts to New York, and British military strategy through Lake Champlain and the Mohawk made New York a logical supply base. Spin-off effects due to military spending, privateering, illegal trade with the French West Indies, and increased wages for laborers and mariners rippled through the urban economy (Nash 1979:235).

In the aftermath of the war, "depression gripped all three northern seaports [i.e., Boston, New York and Philadelphia]" (Nash 1979:246). New York, which had prospered the most from military contracts consequently suffered the most when these

ended. Increased provincial taxation went hand-in-hand with increased urban poverty (Nash 1979:246). High immigration into the city sustained demographic growth, and the building industries thrived. Continental droughts after 1764 created transatlantic demand for foodstuffs shipped through New York, although economic uncertainty was reflected in the abandonment of bound labor. By 1771, the proportion of slaves in the total population had dropped to 14 percent. Rent and other subsistence costs remained generally stable, although real wages declined (Nash 1979:313, 322-323).

Nash, thus, posits a volatile urban economy accompanied by social stratification and discontent by both merchants and laborers, albeit for different reasons, on the eve of the Revolution. Relative changes of this sort discernible with hindsight may not have been as apparent to contemporaries. Ten years before the Declaration of Independence, a French traveler to the colonies observed that New York:

consists of about 2700 houses or buildings, it is upwards of a mile in length and about 1/2 that in breadth, it is said to be a very healthy spot, the East and south parts are low and Convenient for Wharfs, the north and west parts elevated and dry. the Streets are Irregular, but being paved with round pebbles are allways Clean; there are severall well built brick houses in the English taste, the others in Dutch with the gablands towards the streets and cover'd with tyles. . .[the city is]. . . abounding with great plenty and variety, they have beef, pork, veal, muton [sic], poultry, venison, wild fowl, especially wild pegeon, fish, oysters, roots, and all kinds of vegetables in their season. . .the City of York consists principally of merchants, shop keepers, and tradesmen (as does Philadelphia) who have the reputation of punctual and fair Dealings, there are some rich houses in it, the people are very sociable and kind to strangers (A French Traveller in the Colonies 1764-1765:46, 48).

3. Patterns of Trade Before and After the Revolutionary War

Both contextual descriptions of the eighteenth-century East Ward and data associated with the project area indicate that the Barclays block can be characterized as a waterfront dominated by merchants and shopkeepers in the colonial period. Archaeological materials recovered as well as extant, albeit fragmentary historical documents indicate the presence of several chemists/druggists. The colonial merchant druggist is discussed in the next section. Since these individuals were also traders

and merchants who dealt in a specialized set of commodities, this section discusses the overall patterns of colonial and late eighteenth century commerce.

The colonial trade consisted of two principal sectors: transatlantic and coastal. The coastal trade served two functions: (1) redistribute colonial products for consumption within the colonies, and (2) collect commodities for export overseas via the large centers (Boston, New York, Philadelphia, and Charleston) and distribute imports through these centers to the hinterlands (Shepherd and Walton 1972:785). The New England colonies dominated the West Indian trade (here understood as part of the coastal trade), and together with the Middle Colonies, whose hubs were Philadelphia and New York, the two regions dominated the entire coastal trade. New England, deficit in regional production of grain and foodstuffs, imported these from the Middle Colonies and upper South. Exports from the Middle Colonies reflected local production of foodstuffs, primarily bread and flour, as well as a few manufactured goods, such as bar and pig iron. This region also had the largest trade with Southern Europe of all the colonial regions (Shepherd and Walton 1972:796-797). Although the Middle Colonies tended to produce surpluses of major foodstuffs, such as grain, flour and meat, growth in the period 1768-1772 was not due to the increase of any single commodity, but rather, "increases in value of the more important commodities alternated" (Shepherd and Walton 1972:804; Shepherd 1970:68). It is important to emphasize, however, that economic development in the late colonial period in New England and the Middle Colonies, including New York, was based on the coastal and West Indian trade; transatlantic trade with Great Britain was significant in the South (Shepherd and Walton 1972:804). Thus, severing the ties with Great Britain was likely to wreak less damage to the commercial economies of the Northern and Middle Colonies than to the Southern colonies.

Jones (1980:312) argues that the Middle Colonies, by 1774, as a result of the region's diversified agricultural, commercial and nascent industrial base, had accumulated relatively high financial assets, ultimately putting the region "in the best relative position for financial, commercial and industrial ventures." In the short run, economic dislocation following the Revolutionary War brought lean times to New York City in the 1780s, but after 1793, increased demand from Europe helped fuel maritime prosperity. In 1797, New York captured first place in the nation in volume of exports and imports (Albion 1939:1-13), although the importance of foreign trade in the overall economy had already begun to decline. Like Jones, Shepherd and Walton (1976:312) argue that the far-reaching significance of late colonial and post-Revolutionary commerce consisted in its enabling "the new nation to take advantage of economic possibilities which arose in following years." Since commerce was concentrated in the cities, notably New York, city-based activities had enormous impact within their respective regions and eventually across the nation. Shepherd and Walton (1976) argue that specific changes in post-

war trade patterns represent intensification of patterns already apparent in the late colonial period. In the 1790s, the major part of the Atlantic trade was with Great Britain, although pre-war levels were not regained. Commerce was established directly with France, the Netherlands and other northern European ports, and trade with the West Indies surpassed earlier levels. Commerce with southern Europe was re-established, and the principal difference was open access to non-British islands in the Caribbean (Shepherd and Walton 1976:417). The most dramatic feature was the increased export of foodstuffs, like barreled meat, bread and flour, which were items important in the West Indian trade (Shepherd and Walton 1976:412). Exports from New York boomed, "reflecting the increased agricultural output of that state" (Shepherd and Walton 1976:414). Although per capita exports for all regions decreased from 1.31 in 1768-1772 to 0.99 in 1791-1792, per capita exports increased for New York in the same period from 1.15 in 1768 to 1.51 in 1791-1792, exceeding pre-war levels (Shepherd and Walton 1976:413).

Shepherd and Walton's analyses of pre- and post-war trade, which have been summarized above, indicate that European markets were less important economically than the West Indian for the Middle and Northern colonies in general and for New York in particular. It follows, then, that reopening the British trade after 1793 did not create prosperity in the city, as contended by Albion (1939) but, rather, enhanced recovery already underway. The principal American exports in the West Indian trade, moreover, were livestock, foodstuffs, bread and flour. The principal imports were sugar and sugar derivatives, primarily molasses. Drug supplies in themselves were a relatively minor trade from the perspective of New York's total commerce. Their presence, however, indicates a clientele of sufficient prosperity to support the activity.

4. The Eighteenth-Century Druggist

The eighteenth-century druggist combined roles associated with modern physicians, pharmacists and drug companies. In England, the title of physician was confined to those who had studied at a university. Although physicians were expected to prescribe and mix their own drugs, other professionals, including apothecaries and surgeons, created their own medicines and involved themselves in the business of prescribing remedies for various diseases. Folk remedies further complicated the situation, and recipes for home medicines were routinely included in household manuals and cookbooks (Gill 1972:13, 19; Drake 1960:38).

Distinctions blurred even further in the American context. Apothecaries, such as James Kennedy of Alexandria, Virginia, were frequently called "Doctor," and physician/apothecaries were traders in imported drugs as well as health care providers. Apothecary establishments typically contained several rooms, each one suggesting one facet of their multiple functions. One room

was set aside for display and sales, a second for consultation, and a third as a laboratory for mixing drugs (Gill 1972:67). As the eighteenth century progressed, druggists formed partnerships. In some cases, an older man took in a younger partner who may have expected eventually to inherit the entire practice (Gill 1972:32). Joel and Jotham Post, an apothecary partnership, occupied 144 Pearl Street in 1794. The firm of Joel and Jotham Post was listed as druggists in the 1795 city directory (New York City Directory and Register 1795:170); Jotham Post was a physician, suggesting that the partnership consisted of a health-care provider and a druggist who specialized in the acquisition and mixing of medicines. Thus, partnerships among druggists may have served to link specialists within the broader industry.

Eighteenth-century druggists sold a wide variety of goods. Silvester Gardiner of New England sold dye stuffs, paint colors, and linseed oil in addition to patent medicines and apothecary and grocery ware (Sonnedecker 1963:144). Druggists in New York similarly advertised an enormous variety of medicines and goods, and Benjamin Franklin's store in Philadelphia sold coffee, tea, chocolate, palm oil, saffron, spermaceti, crown soap, powdered mustard, linseed oil, patent medicines and "seneca rattlesnake root, with directions how to use it in pleurisy" (as quoted in Sonnedecker 1963:144). James McCarty, a Petersburg apothecary, similarly offered a wide variety of imported patent medicines, spices, groceries, and medical instruments:

We have late imported from London, in the Royal Exchange, Captain Woodford, and the Hope, Captain Holmes, a fresh Assortment of DRUGS and MEDICINES, which will be sold at the same low Prices as usual at our Shop in Petersburg. Like Keyser's Pills, Norris's Antimonial Drops, Dr. Radcliffe's purging Elixir, Squire's and Daffy's Elixirs, Walker's Jesuits Drops, Bateman's ditto, James's Fever Powders, Turlington's Balsam of Life, British Rock Oil, Anderson's and Lockyer's Pills, Greenough's Tincture for the Gums and Teeth, Freeman's and Godfrey's Cordials, Essence of Water Dock, Tincture of Golden Rod, Beaume de Vie, Hopper's Pills, Pike's Ointment for the Itch, Eau de Luce, Hungary, Honey, Lavender, and Orange Flower Waters, Smelling Bottles, Nourishers, Cephalick Snuff, Hardham's ditto, No. 9, Teeth and Flesh Brushes, Ladies Sticking Plaister, Nipple Glasses, Breast Pipes, Isinglass, Hartshorn Shavings, Sago, Salop, Vermicelli, French and Pearl Barely, Antimony, Brimstone, Verdigrise, Rotten Stone, Spirit of Turpentine, Crucibles, Black Lead, Pots, &c. Capers, Olives, Pickled Walnuts, East India Mongoes, &c., &c. (as quoted in Gill 1972:31).

It is not known whether all druggists within the Barclays Bank Site sold such a wide variety of drugs and related items. One way to identify the range of commodities sold by these small-scale merchants is to examine newspaper advertisements. Unfortunately, using these materials is problematic. The purpose and audience for whom these papers were published is not well-understood, and it is not known if druggists placed notices in all papers or just a select few. It is not clear when druggists advertised--daily, weekly, when opening a new enterprise or when moving to a new location. Nor is it clear whether they intended to communicate with the public or with clients who visited the city periodically to replenish their stock. Miller (1984:43) has pointed out the significance of supplying the country stores for understanding the ceramics trade, and presumably a similar case could be made of all sectors of the late eighteenth century consumer market.

Biases, thus, cannot be readily identified, since newspapers conceivably met a range of needs. There was no obvious way to obtain a stratified sample of newspapers that have survived. Also, to look at all surviving papers in order to reduce most biases is prohibitive. For this study, therefore, a judgmental selection of surviving newspapers at the New York Historical Society was taken. Such an approach provided some general, descriptive information on the types of commodities and activities that occurred in a shop and, it is hoped, will provide some direction for future research. It is emphasized at this juncture, however, that these results cannot be considered representative of all chemists and druggists within the city.

Given these caveats, the purpose of this brief study was to locate and record advertisements of shops within the study block. During the search, notices for druggists on other blocks were recorded for general, comparative purposes. Based on the Phase I study and the results of the Phase III artifact dating analysis (see Chapter VII), researchers focused on the period 1780-1820. The selection of specific newspapers was arbitrary. However, papers chosen met two criteria: (1) publication during the entire time period, 1780-1820; and (2) publication on a daily basis. The papers that were examined included the New York Gazette and Weekly Mercury (1780), the New York Gazette and the Daily Advertiser (1783), the New York Daily Gazette (1784), and the New York Gazette and Advertiser (1800). The Gazette and Weekly Mercury (1800) was chosen because Hugh Gaine, who lived within the study block, published the paper. The 1793 and 1794 series were taken in order to find notices for the Posts, who opened their shop on the block during this time. It was observed during the study that notices were often placed in the papers announcing the opening of a new business or relocation of a pre-existing one. The 1800 series was chosen simply to bracket the time period under study.

The notices that did appear were usually for the same drug firm, and these notices would be repeated almost verbatim throughout a year and sometimes several years. One advertisement was found for Joel and Jotham Post, who occupied 144 Pearl Street between 1793 and 1797. Several interesting patterns were observed, despite the limited results of the study. Most of the notices showed that a variety of goods were sold in the chemists'/druggists' shops. Drugs were sold both wholesale and retail. Prescriptions were filled; patent medicines were available; and almost all sold medicine chests, made to order. The advertisements often detailed the origins of drugs sold, which was usually Europe, and more specifically London, Liverpool, and Amsterdam. Several notices offered services that included filling orders for individuals and doctors who lived in the country or for ships' surgeons.

The Posts' advertisements appeared first on December 25, 1793, soon after they occupied their shop on Pearl Street. It was repeated until the end of the year.

A fresh general assortment of genuine Drugs and Medicines, wholesale and retail by Joel and Jotham Post No. 29 Hanover Square [144 Pearl Street].

Where may be had warranted Genuine Patent Medicines: such as

Antipurtulis	Hoopers Pills
Andersons Pills	Essence of Peppermint
Hills balsam of honey	Grenoughs tincture
Refined liquorish	for the teeth
Patent d[itt]o	Peppermint drops
Steers opodeldop	Pate de quinquve, etc.

Family prescriptions and medicine chests for ships, put up with care and attention, with particular directions.

N.B. Wanted immediately a quantity of old Linen, proper for dressing wounds, for which a generous price will be given.

Only drugs are listed in the Posts' advertisement. It is possible that other items, such as cosmetics, were also sold but were not considered important enough to be placed in the notice. This is one area where archaeological research may be of some assistance, since material from their shop was recovered during the field investigation. The request for old linens to dress wounds is interesting and was probably associated with Jotham Post, who was a doctor. Research by the Merrimack Valley Textile Museum (1980) has shown that worn out shirts and shifts were often recycled as bandages, and as raw materials for papermaking.

Review of James Kennedy's Letters at the Library of Congress suggests the complexity of druggists' commercial activities. Kennedy dealt with several firms in New York City in the period 1795-1803, including that of Robert Lenox and Wainwright and Caldwell, which occupied 152 Pearl Street in 1791. In some instances, the New York firm clearly acted as a wholesaler, providing supplies to Kennedy, which he then either used or sold. Thus, Wainwright and Caldwell wrote him in March 1795 in order to offer a quantity of aloe and "succotrine" on "low terms" (Wainwright and Caldwell to James Kennedy, New York, March 4, 1795). On the other hand, Kennedy appears to have imported items himself, which he then sold to New York-based firms. In 1796, Wainwright and Caldwell requested further information concerning "a quantity of Medicine" Kennedy had received, urging him, however, to "mention nothing of this to anyone" lest it jeopardize their arrangement (Wainwright and Caldwell to James Kennedy, August 20, 1797). Kennedy also appears to have acted as a consignment agent for Wainwright and Caldwell. After Caldwell died, Wainwright wrote Kennedy asking for an accounting of "Druggs in your Possession" on their account (Wainwright to James Kennedy, New York, March 29, 1797).

In addition to trading in drugs and medicines, Kennedy also dealt in wine. In 1797, Robert Lenox wrote that Kennedy's shipment of wine was unlikely to sell well in New York since "Port wine is not much rank [sic] here and the market is kept full ye supplied by a Portuguese House who seem very good" (Robert Lenox to James Kennedy, New York, November 9, 1797). Lenox held Kennedy's shipment of port wine until he obtained a good price for it. In the meantime, he sent Kennedy the items he had requested, which he had tried unsuccessfully to "barter" for with the warehoused wine. The attached invoice includes brimstone, white lead, rozin, braziletto, cassia, cloves, curramb, ginger, tar, pimento, pepper and barley (Robert Lenox to James Kennedy, New York, November 26, 1797). Despite the slow sale of his wine in 1797, four years later James Kennedy still traded with Lenox in both wine and medicines. In 1801, Lenox wrote "Ginsang is now and then wanted here. At present it is worth 3/9 to 4s, this money per pound--if you chuse to ship it here I will make the most of it for you, either in payment of wine or the proceeds can be sent you" (Robert Lenox to James Kennedy, New York, November 8, 1801).

Massing of druggists and wine merchants along Pearl Street in 1794 suggests that the combination indicated in Kennedy's correspondence may have been fairly common. Wine, in fact, was used as a medium in which to dissolve the powdered medicinals. In 1794, druggists and/or physicians were found at 144 and 152 Pearl Street. A wine merchant was located at 140 Pearl, which had been occupied three years previously by a druggist. Traders in one of the commodities may have found common sources or suppliers, thus creating a common interest.

5. New York City, Revolution to Erie Canal

The British army occupied New York from the summer of 1776 through 1783. Although its population swelled to 33,000 with the addition of soldiers, camp followers and refugees, housing was radically reduced as a result of two major fires. The first, soon after the imperial army took over in 1776, consumed the western portion of the city (Abbott 1974:41). A second fire in 1778 at Cruger's wharf, located immediately south of the project area, destroyed 64 houses, 3 ships, storehouses and at least 1 dwelling (Huey 1874:16). The project area appears to have been consumed by this blaze (Bedini 1984:78).

In the period 1790-1830, New York grew more rapidly than any other American city and achieved a dominant position before the Erie Canal opened in 1825, despite losing both state and national capitals by 1797 (Kammen 1982:123). Foreign immigration remained high after 1790, accounting for a demographic increase of 295 percent between 1790 and 1820. The city's hinterland also grew at an amazing rate, and bonds between the city and its regional context were strengthened by the incorporation of 253 turnpikes and 70 bridge companies between 1799 and 1823. Astute businessmen created specialized institutions, such as the Board of Brokers, that accelerated economic growth. Public services were extended and centralized in municipal agencies.

During most of the eighteenth century, residents of New York obtained fresh water from public wells, Tea Water Pump, and barrels imported from the rural hinterland. Efforts to build a city-wide system, beginning in 1774, foundered during the Revolutionary War. In 1789, the State of New York granted the Manhattan Company a charter that conveyed them rights to build a water system for the City of New York. Various options explored included bringing water from the Bronx River, sinking wells closer to the center of the city, and using the Collect as a reservoir (Geismar 1983:40-41). It was eventually decided to sink a well at the corner of Reade and Centre Streets and to pump the water from this source to a reservoir on Chambers Street. Water was distributed through a system of logs, which became a nuisance in themselves since poplar roots tended to obstruct the flow (Geismar 1983:41).

The earliest plan for water distribution called for mains along Broadway and Pearl Streets with lateral mains running down Beekman and Wall Streets (Ring 1799:6). The project area, situated at the intersection of the two mains, was in a prime location for easy access to the new water source. Availability of water, based on records at the Chase Archives, is summarized in Table IV.2. The earliest known date when water was available is 1812 (94 Water Street). However, water may have been accessible to these properties prior to this time.

TABLE IV.2
DATES OF ACCESS TO CITY WATER SYSTEM

Street Address	Year	Street Address	Year
Wall Street Properties	By 1820		
150 Pearl Street	By 1812	116 Water Street	By 1820
148 Pearl Street	By 1814	114 Water Street	By 1820
146 Pearl Street	By 1815	112 Water Street	By 1818
144 Pearl Street	By 1815	110 Water Street	By 1815
142 Pearl Street	Unknown	108 Water Street	By 1814
138 Pearl Street	By 1816	104 Water Street	By 1812
136 Pearl Street	By 1813	102 Water Street	By 1816
134 Pearl Street	Unknown	100 Water Street	By 1813
132 Pearl Street	By 1815	98 Water Street	By 1819
130 Pearl Street	Unknown	96 Water Street	By 1816
128 Pearl Street	By 1815	94 Water Street	By 1812
		92 Water Street	By 1814

Source: Water Book 1820

The most notable change in post-Revolutionary society was the "substantial relative aggrandizement" of the elite (Wilkenfeld 1973:160). Nash (1979) argues that significant social stratification had occurred in New York prior to 1774 as a result of a volatile economy that tended to favor disproportionately those at the top who were better-equipped to ride out its vagaries as well as to take advantage of changing opportunities from military contracts and fluctuations in trade. How the Revolutionary War may have affected this process is unclear from Wilkenfeld's analysis since he compares generalizations based on the 1730 tax list with those drawn from the 1789 tax list. Changes he discerned may have taken place by 1775, and the Revolution itself may have been less important in instigating or accelerating these changes. Wilkenfeld's findings, therefore, are consistent with Nash's overall conclusion regarding social and economic stratification, based on material up to 1774, but the role of the war is unclear.

The description of trade patterns presented earlier implies that individuals who controlled colonial trade were likely to have dominated post-Revolutionary trade since the patterns were not substantially different. At least some merchants, James DeLancy, for example, were Loyalists and departed when the British army evacuated in 1783. Blackmar (1979:137) indicates that some artisans were able to become urban lot owners in the 1780s by participating in public sales of confiscated Loyalist estates, although "investors acquired larger and multiple parcels," some of which they held for as much as thirty years "before subdividing and selling in a favorable market."

The process of social stratification was offset to some extent by wealth variation within occupational groups (Wilkenfeld 1973:171). Stratification was also apparent in urban settlement patterns. Population generally spread northward, and the center of population shifted from the East Ward on the East River to the West Ward on the Hudson River. Wealth, however, remained concentrated in East and Montgomerie Wards, which, with 49 percent of assessed urban wealth, significantly outdistanced the other wards. East and Dock Wards also ranked highest in per capita wealth (Wilkenfeld 1973:171). Merchants, brokers, doctors, printers and goldsmiths clustered in the East Ward in disproportionate numbers (Wilkenfeld 1973:172). Still, while some clustering was evident "almost all the forty-seven major trades and occupations had representatives in at least all six of the interior wards in 1789" (Wilkenfeld 1973:175). Among the trades and occupations represented in the East Ward in 1789 were dry goods store owners, attorneys, iron mongers, tobaccanists, joiners, store owners, grocers, cabinet makers, blacksmiths, coopers, boarding house owners, hatters, tavern keepers, tailors and hairdressers.

Part of the late eighteenth-century boom was reflected in rebuilding the virtually burned-out colonial city. Between 1786 and 1790, the number of dwellings increased by 45 percent, and a housing boom accompanied the enormous demographic growth of these decades. Demand, however, substantially exceeded supply, and land values between 1785 and 1815 increased by 750 percent (Blackmar 1979:137). The elite benefitted disproportionately from the real estate market, and the management of properties became increasingly complex. Colonial landlords had leased ground rights, leaving tenants wide latitude in construction; late eighteenth-century lessees were subject to greater restrictions concerning the types of buildings constructed on lots they rented from owners. Secondary markets in leaseholds grew, and "Manhattan tenants began to pay house rents that returned an annual profit to the rentier who owned the land, to the lessee who owned the building, and to the sublandlord who leased the building" (Blackmar 1979:138).

Working class tenants, confronted with declining wages, declining prospects for upward mobility and increasingly cramped living conditions, protested deteriorating social status; and "the

social distancing of landowners reinforced the impersonal structure of the housing market, undermining whatever the proximity of the walking city may have achieved in deferential or harmonious social relations" (Blackmar 1979:138-139). Working class households responded to the highly-competitive real estate market by taking in boarders and creating other forms of shared housing (e.g., kitchen privileges, boarding houses). As the first decades of the nineteenth century progressed, the emerging "middle class" of professionals and office workers, merchants, entrepreneurs, and petty manufacturers, demanded residential space that "departed from the traditional integrated housing forms" (Blackmar 1979:143). So-called "genteel" homes characterized on convenience to a separate workplace, healthfulness and "family comfort" replaced the merchant house that had included both office or counting room as well as family quarters near the wharves, which were vulnerable to epidemics. At the same time, multifamily housing became identified with the poor, and separation of homeplace from the workplace became the emblem of the upwardly mobile. The poor crowded into the old brick and brick-front houses built by eighteenth-century artisans, and "multifamily housing fixed their class identify" while the single-family dwelling became an attribute of the middle class (Blackmar 1979:143, see also 140-141).

Because proximity to work was still important in the era before mass transit, the social gradients along a given street could be quite steep: "'class neighborhoods' in Manhattan emerged in the form of 'class streets,' or even parts of streets divided into 'respectable' and 'nonrespectable' blocks" (Blackmar 1979:143). Although the Hudson River waterfront began to develop rapidly after 1807, for example, and Greenwich Street was a busy commercial thoroughfare, side streets in the vicinity of Columbia College (Park Place, Murray, Warren and Chambers Streets) became known as an affluent neighborhood (Spann 1981:101, 107; Kirkorian and Tidlow 1984:26). Commercial spaces persisted, dispersed among residential properties, but they "ceased to house a resident labor force" (Blackmar 1979:143). Between 1800 and 1840, rising commercial rents and increasing reluctance to live among the laboring classes resulted in construction of middle class enclaves in Greenwich Village and other sites such as Yorkville, located further north on Manhattan Island (Blackmar 1979:143; Spann 1981:107). "This gradual separation of residential houses into class neighborhoods between 1800 and 1840 depended both on the strength of middle class purchasing power and the reorganization of the building industry to houses for the generalized market" (Blackmar 1979:143).

Middle class neighborhoods were characterized by uniformity and development in fairly substantial clusters, such as the row houses that defined Gramercy Park and Washington Square. Overproduced single-family houses were subdivided into several smaller units occupied by working class households, and new construction in working class districts "was uneven, with

small-scale builders and investors erecting one, two, or three dwellings at a time" (Blackmar 1979:144). These were inadequate to house the tide of immigrants who arrived in the city between 1825 and 1850; these settled in back buildings and other spaces "filtered from within working class neighborhoods" (Blackmar 1979:144).

LBA inspected the tax lists for 1789 for the project block and vicinity and compared the real and personal property taxed with decile rankings provided by Wilkenfeld (1973:158). The lists were also visually checked to control for ownership of multiple properties. Brownjohn, for example, and Gomez were among the wealthiest men in the city, and Gaine and Clopper also owned numerous properties. The results are summarized in Table IV.3 (See following page). This list was then compared with the first Federal census, which reflects occupancy; the sequence of names was confirmed and additional information on household composition obtained. These data are summarized in Table IV.4 (See following page).

Wilkenfeld's decile rankings indicate that the top percent of the population held 54.3 percent of the city's total wealth. The range of wealth held by these people was extremely large: L16,430 to L1,280. Generally, the range within each decile decreased as the ranking decreased. Wilkenfeld's rankings are present in Table IV.5.

TABLE IV.5
ECONOMIC STRUCTURE OF NEW YORK CITY, 1789

Tenth of Population	Range in Rating*	Total Rating*	% of Total Valuation	Cumulative Percentage
Top Tenth	16,430-1,280	1,214,595	54.3	54.3
2nd Tenth	1,265- 660	399,865	17.9	72.2
3rd Tenth	650- 400	225,335	10.1	82.3
4th Tenth	400- 300	142,270	6.4	88.7
5th Tenth	290- 200	94,175	4.2	92.9
6th Tenth	200- 120	72,365	3.2	96.1
7th Tenth	120- 80	42,210	1.9	98.0
8th Tenth	80- 50	24,855	1.1	99.1
9th Tenth	50- 20	15,215	0.7	99.8
10th Tenth	20- 0	3,720	0.2	100.0

* Values given in New York currency.

Source: Wilkenfeld 1973:158

TABLE IV.3

OCCUPANTS AND DECILE RANKING, NORTHERN HALF OF STUDY BLOCK, 1789

Address ¹	Occupant	Occupation of Occupant	Total Valuation (L)	Ranking ²	Owner
83-85 Wall St.	John Emory	Unknown	150	VI	Estate of William Brownjohn
	Joseph Hale	Unknown	100	VIII	"
152 Pearl St.	Francis Wainwright	Wainwright & Caldwell, Druggists	500	III	"
150 Pearl St.	Timothy Hurst	Timothy Hurst & Son, Druggist	50	VIII	"
148 Pearl St.	Hugh Gaine	Printer & Bookseller	3550	I	Hugh Gaine
146 Pearl St.	Oliver Hull	Druggist	1500	I	Oliver Hull
144 Pearl St.	Richard Kep	Unknown	50	VIII	Widow Smith
142 Pearl St.	Timothy Wood	Unknown	300	IV	Estate of Moses Gomez
140 Pearl St.	Cornelius Clopper	Listed in Directory but No Occupation Given	2300	I	Cornelius Clopper
Address	Occupant	Occupation of Occupant	Total Valuation (L)	Ranking	Owner
87 Wall St.	Mr. Bradford	Unknown	50	VIII	Estate of William Brownjohn
118 Water St.	Carlisle Pollack	Merchant & Insurer	100	VII	"
116 Water St.	Daniel Champion	Unknown	50	VIII	"
114 Water St.	Adolph Yates	Grocer	100	VII	Hugh Gaine
112 Water St.	Benjamin Miller	Unknown	100	VII	Aaron Underhill
110 Water St.	Henry Relay	Shoemaker	50	VIII	William Greg
108 Water St.	James Hays	Britchesmaker	150	VII	Estate of Moses Gomez
106 Water St.	John Reed	Bookseller, Bookbinder	200	VI	Cornelius Clopper

¹Modern street addresses; correlations based on deed, directory, and tax research, summarized in Appendix

²Ranking provided by Wilkenfeld (1973:158). "I" indicates top ten percent or decile, based on wealth; "II" indicates second decile; "III" indicates third decile; and so on.

TABLE IV.4

HOUSEHOLD STRUCTURE, NORTHERN HALF OF THE STUDY AREA, 1790

Address ¹	Occupant	Household Size	White Men	White Women	Slaves	Occupation of Householder	Ranking
Wall St.	Neal McKinnon	1	1	0	0		?
Wall St.	Perence Risley [sic]	3	2	1	0		?
152 Pearl St.	Francis Wainwright	6	2	2	0	Druggist	III
150 Pearl St.	Timothy Hunt (Hurst)	8	2	4	2	Druggist	VIII
148 Pearl St.	Hugh Gaine	13	4	4	5	Printer & Bookseller	I
146 Pearl St.	Oliver Hull	7	2	5	0	Druggist	I
	John Hull	7	3	4	0	Druggist	?
144 Pearl St.	Richard Kipp	7	2	4	1	Unknown	VIII
142 Pearl St.	Timothy Wood	7	4	3	0	Unknown	IV
140 Pearl St.	Cornelius Clopper	2	1	0	1	Unknown	I
Address	Occupant	Household Size	White Men	White Women	Slaves	Occupation	Ranking
118 Water St.	Carlisle Pollock	2*	1	0	0	Merchant & Insurer	VII
116 Water St.	Daniel Champion	5	3	2	0	Unknown	VIII
114 Water St.	Adolphus B. Yates	8*	3	2	0	Grocer	VII
112 Water St.	Benjamin Miller	8	4	4	0	Unknown	VII
110 Water St.	John Clits	9	6	2	1	Unknown	?
108 Water St.	James Hays	4	3	1	0	Britches Maker	VII
106 Water St.	John Reid	7	4	3	0	Bookseller, Bookbinder	VI

¹Modern addresses; correlations based on deeds, directories, and tax lists, as well as sequence of names indicated in census list.

There was another category of household membership made up of other "free" persons. These may have been free blacks who were servants. There were 3 such members of the Yates household and 1 such member of the Pollock household.

Service: Heads of Families at the First Census, 1790, New York, p. 117

There was clearly greater homogeneity within the bottom decile than was within the top decile, in which the top 2 percent owned wealth ranging from L16,430 to L3,800, totaling 24.0% of the total valuation (Wilkenfeld 1973:158).

Among the occupants of the study area (Tables IV.3 and 4), Rank I lot occupants were also owners. The principal determinant of their wealth appears to have been their real property, which included only real estate and not capital goods or inventory. The Pearl Street frontage displayed greater socioeconomic variation than the Water Street frontage did, although the households of higher economic status were also found on Pearl Street. In this regard, it is also interesting to note that mixed use (residential/commercial) properties occurred on both Pearl and Water Streets, and there appears to be no obvious correlation with economic status. Household size (Table IV.4) did not vary between Water and Pearl Streets, although the Wall Street households were smaller and apparently more transient. Thus, Blackmar's observation (1979:143) as to the variability along streetfaces appears to be applicable to the study area, although the homogeneity appears to be more characteristic of its lower status frontage than its upper status. This is potentially very interesting, since Blackmar (1979) argues that neighborhoods coalesced around the middle class after 1800.

Lower Manhattan, particularly along the East River, was increasingly given over to commercial uses. Through the end of the eighteenth century, the project area consisted of mixed residential and commercial uses. Businesses associated with the project area, in addition to the druggists and wine merchants, included a variety of craftsmen and retailers, who might be expected to meet the needs of the nearby residential neighborhood. Over the first two decades of the nineteenth century, merchants, auctioneers and their storehouses gradually supplanted these craftsmen and retailers, and residences became less common. Artisans who did remain provided services associated with nearby shipping or with transporting goods within the city.

The pattern reflects specialization with commerce. Three of the known "stores" (or warehouses) belonged to firms dealing in dry goods. "Pearl Street", wrote one observer in 1818:

contains all the large houses. Here everything is sold wholesale. The shops are well supplied with goods and this street is considered the richest, though its appearance is less brilliant than Broadway (as quoted in Stokes 1898-1928:V:1597).

Residential uses of the project area had largely disappeared with a few exceptions by 1820, and the transformation was complete by 1830. In the vicinity, the final transformation resulted from damage associated with the fire of December 16-17, 1835. Pearl

Street burned from Wall Street to Coenties Slip, and Wall Street burned from William Street to South Street.

C. CONCLUSION

Several research questions have been posited. These involve consideration of (1) land use patterning, (2) nature of consumer behavior, and (3) timing of the landfill. The review of recent studies in colonial urban history (See Chapter II) discussed a body of literature that described increasing socioeconomic stratification, spatial segregation by culturally-defined groups, and the commercial basis for American urbanization. In addition, Wolf's (1976) treatment of blurred distinctions between models of the village and the city were summarized.

The limitations of the historical data base have been outlined in the first section of this chapter. Briefly, although manuscript materials for the high eighteenth century are conspicuously lacking, some compensation is offered by the extant modern secondary sources. The results have been applicable primarily to addressing the first research question, although careful attention to the timing of landfill has been paid.

On the basis of the research conducted, the initial landfill episode along Pearl Street was completed by 1699. Since landfill operations elsewhere in lower Manhattan have tended to be episodic and haphazard, the entirety of the study area may not have been complete by this time, although occupation of properties of the Water Street side of the study area appears to have occurred early in the eighteenth century. Lot histories are presented in Appendix C.

Concerning general land use patterns in colonial New York, information has been adduced showing that clustering of groups defined by occupation, ethnicity, and religion is obvious at the ward level as early as the late seventeenth century. Within wards, however, there was substantial variation, a generalization borne out by site specific research conducted for this project. Early eighteenth-century occupation of the study area was characterized by a mix of ethnic and occupational groups. Research into individuals directly associated with the study area in the early eighteenth century (ca. 1700-1735) suggested that the impersonal transactions between buyer and seller, landlord and tenant, and among neighbors, occurred within a matrix of kindred.

This situation is also described by Wolf (1976:155-165). Juxtaposing the personal, communal society of a village with associational urban society, characterized by impersonality, change, and individuality, she notes that "the requirement for group interaction among individuals of varying backgrounds in a wilderness situation imposed the necessity of forming associational societies within the confines of relatively isolated small towns or villages." On the other hand, she continues:

...all but the largest metropolitan centers--Philadelphia, Boston, New York--lacked the numbers and diversity necessary for the growth of a flourishing associational society. There were just not enough people to assume leadership in the variety of tasks required by an impersonal and codified approach to communal living (Wolf 1976:157).

Despite her caveat, certain formal, impersonal transactions clearly followed lines defined by kinship and proximity in early eighteenth century New York. Where many of the forms and structures of the city appear to point in the direction of modern urban norms, these behaviors took place in a context based on immediacy that would not have been unfamiliar to village inhabitants. Thus, the blurring of distinctions that Wolf identified in Germantown reappear in a fine-grained analysis of early New York City.

Bonding based on proximity and kinship appears less pronounced in the spatial patterns exhibited in the study area in the late eighteenth and early nineteenth centuries. During this period, massing of similar economic interests is evident in the study area, which contained several druggists and wine merchants, booksellers, printers, and craftsmen. These people met the needs of the nearby residents with services and items imported via the equally nearby wharves. As the example of Jotham and Joel Post suggests, the distinctions among wholesaler, retailer, and health care provider blurred, and several functions were accommodated within a single enterprise. The relationship between the enterprise and the household--what Ryan (1981:15) calls the family's "productive" versus consumer/social reproductive function--is equally unclear in this transitional period. It is obvious from the census data that these were physically mixed use (domestic/commercial) properties in the late eighteenth century. However, Blackmar suggests that socioeconomic distinctions could be defined within a small area, even a single block, so that it becomes tempting to speculate that equivalent functional segregation could be accomplished within a single lot or structure. Thus, the separation of workplace from homeplace could have occurred within a small physical space in a manner intensely meaningful to the occupants. Similarly, it becomes very difficult to assign spatial correlates reflective of a change in the family/household's socioeconomic functions.

While it is obvious that linking large scale changes to very small areas and short time spans, consisting of perhaps two or three years, is problematic, there are nonetheless suggestions of changes discerned at the urban level over the course of the first decades of the nineteenth century. There appears to have been greater homogeneity along Water Street than along Pearl Street, based on economic ranking, although the data on occupational affiliation suggests massing of druggists near the corner of

Pearl and Wall. Despite the greater variation along Pearl Street, known high status occupants were found along this street. Rear lot lines appear to constitute the boundary rather than the street, and the street itself may have provided focus for the neighborhood. It is interesting in this regard that contemporary observers characterized neighborhoods in terms of streets. Thus, Pearl Street became known as the center for wholesale goods in the early nineteenth century. As the city spread northward and movement became easier, the forces contributing to diversity within short distances had given way to those promoting homogeneity, and after about 1820, the project area was dedicated to commercial uses.

V. ARCHAEOLOGICAL FIELD METHODS

A. INTRODUCTION

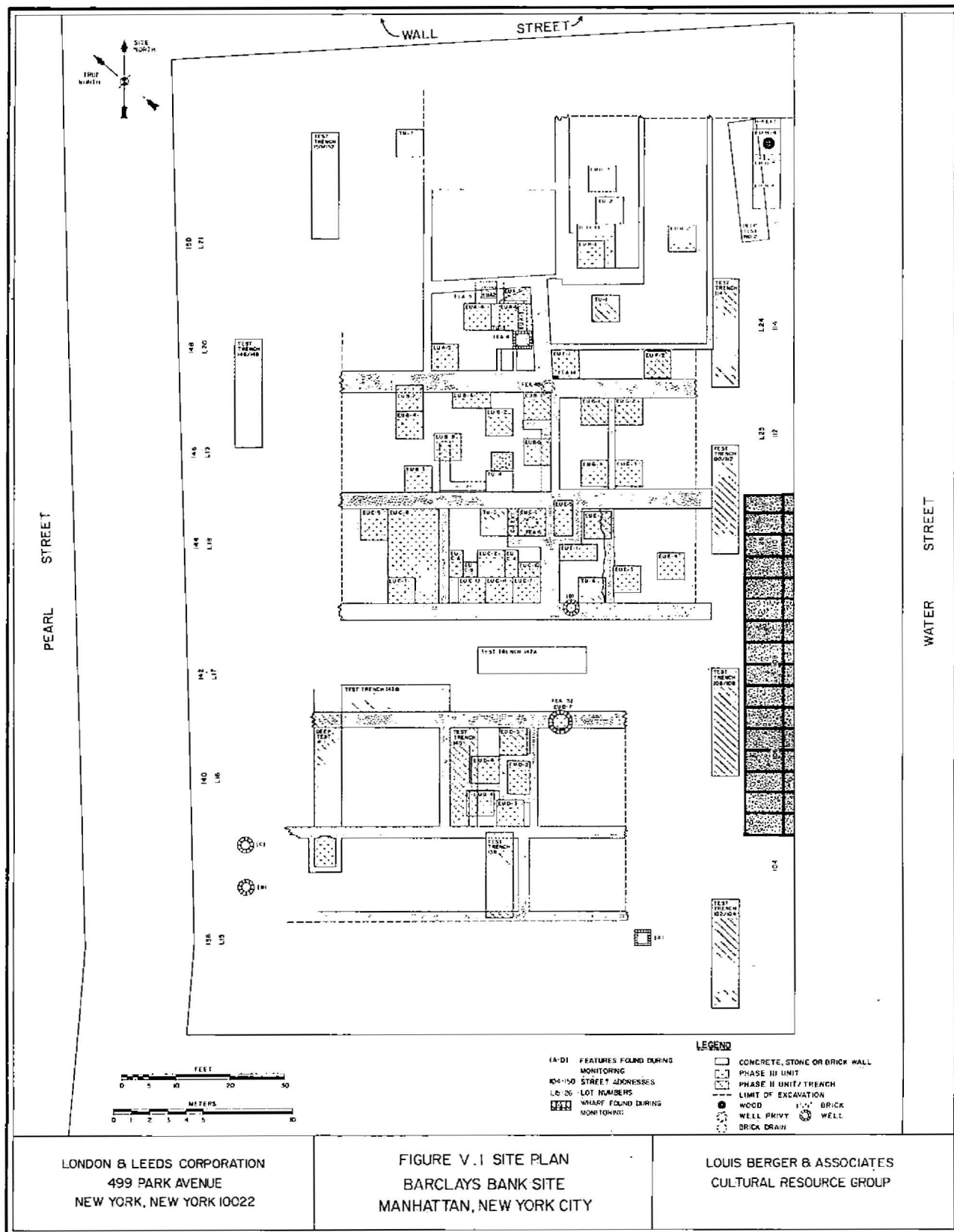
Guided by the project's research design (Chapter III), a field strategy was developed to accomplish the following objectives:

1. Identify intact domestic and commercial refuse deposits, foundation walls, and internal structural divisions within lots.
2. Recover datable artifact assemblages for internal lot use and consumer behavior studies.
3. Identify landfill retaining features and sample landfill deposits.

The selection of specific data recovery methods was also influenced by an assessment of the level of integrity of archaeological deposits within the block. This assessment was based on historical land use data. Until recently, the project area consisted of several four to five story buildings used for office space. Many of the rear yard areas were still open, just prior to 1983, or were covered by one story additions or sheds. Such structures usually have shallow foundation walls and no cellars. A twelve story office building was located at the corner of Wall and Water Street and probably had a deep cellar and foundation. In 1983, all structures in the project area were demolished, basements were filled with building debris, and the entire site was leveled. It was predicted that intact archaeological deposits would occur in the once extant, open yard areas, and below shallow basements. These expectations were based on the results of other archaeological excavations in lower Manhattan (Rockman et. al 1983, Geismar 1983). The focus of the testing and data recovery field efforts, conducted from January 3 to March 28, 1984, was on such areas.

B. FIELD STRATEGY

Field investigations were divided into two phases. Phase II testing, was designed to 1) provide information for assessing the archaeological potential of the project area, and 2) identify horizontal and vertical distribution of deposits and features, as well as the nature and composition of landfill within the block. Two 5 by 15 foot deep tests were excavated, by backhoe, to expose, sample, and record the vertical extent of landfill features and deposits. One test was within Lot 16 at 140 Pearl Street, and the second within Lot 23 at 116 Water Street. Both were oriented north/south (Figure V.1). Nine backhoe trenches measuring 5 feet by 15 feet, were placed in several areas of the block to obtain information on basement depths (Figure V.1). None of the backhoe trenches or deep tests were placed in back yard



areas, as their excavation would have destroyed intact commercial and domestic deposits or features. Seven excavation units, each measuring 5 feet by 5 feet, were placed in areas of high resource potential (i.e. yards, open areas within lots and/or areas having shallow basements).

Results of this testing phase, which are detailed in a Phase II report (Louis Berger & Associates, Inc. 1984) indicated that intact eighteenth century archaeological deposits and features were extant within the project area, and that these remains warranted further investigation. The specific areas that required additional work are listed in Table V.1.

TABLE V.1

LOTS RECOMMENDED FOR DATA RETRIEVAL

<u>Lot #</u>	<u>Address</u>	<u>Nature of Subsurface Resources</u>
15	138 Pearl St.	Possible dockage or fill retaining feature
16	140 Pearl St.	Yard deposits and possible dockage or fill retaining feature
18	144 Pearl St.	Yard deposits and features
19	146 Pearl St.	Yard deposits and features
20	148 Pearl St.	Features
23	116 Water St.	Features and land fill deposits
24	114 Water St.	Yard deposits under an alleyway
25	112 Water St.	Possible land fill retaining feature
26	110 Water St.	Yard deposits and structural features

The first step in the data retrieval program involved the mechanical removal of modern demolition debris from the areas to be sampled by the hand dug excavation units. In addition, rubble was removed in the area of a possible dockage or fill retaining structure in the lots at 138 and 140 Pearl Street. Spoil removal in this area was extended to the top of the walls exposed in Deep Test #2, excavated during the testing phase.

Once demolition rubble was removed, crew members established a grid system within each of the study lots, demarcating the quadrants in which the 5 by 5 foot units would be placed. Deposits within units were excavated by natural strata, which, when greater than 0.3 feet in depth, were subdivided into 0.3 foot arbitrary levels. Excavated soils were water screened through quarter-inch mesh hardware cloth, and artifacts were then bagged by stratum and level. Flotation and soil samples were taken of each cultural and/or natural stratum.

When a feature was encountered within a unit, a detailed plan view was drawn. The feature was then bisected and profiled, after which the remainder was excavated by natural, and when necessary, arbitrary levels. Soil and flotation samples of 2.5 gallons per sample were taken of each stratum. Features located outside an excavation unit were excavated in a similar manner.

The investigation of the possible dockage or fill retaining features in the lots at 138 and 140 Pearl Street involved the use of heavy machinery. Walls and associated features were exposed by machine and cleaned by hand. All structural elements were then photographed, drawn, and mapped.

Several excavation units and trenches were advanced to the base of original landfill deposits. These deep areas were shored with wood and trench jacks, and whenever necessary, were dewatered during excavation. Several pumps were employed for this purpose.

Actual depths of disturbances identified during data recovery were often different than anticipated. The southwest corner of Lot 25 at 112 Water Street, was originally slated for backhoe excavation to locate a deep east/west oriented stone wall exposed in Test Unit 4. Historic documentation and Phase II results indicated that this lot had a deep basement which probably destroyed any archaeological deposits, as was the case in Lot 24 at 114 Water Street. In the latter, testing revealed a basement floor 6.0 feet below surface, with no intact deposits under the flooring. After removing the concrete floor in Lot 25 at 112 Water Street, it was discovered that the lot contained relatively intact archaeological deposits and a yellow brick feature. This area was therefore included in the data recovery plan.

C. FIELD RECORDING

A provenience form was completed for each level excavated within a stratum. The form recorded specific observations and a tentative interpretation of how the level being excavated related to associated deposits and features. Regardless of what was recovered, each level was assigned a catalogue number. Provenience information recorded for each catalogue number included lot number, stratum, level, feature number, a description of the deposit, opening and closing elevations, date the level was opened and closed, and the number of bags of artifacts, soil or

flotation samples collected from a level. Notes were kept during the course of fieldwork by the Principal Investigator, Field Director, and Crew Chiefs. These documents detailed daily tasks and presented tentative interpretation of the site's archaeological deposits and features.

Color and black and white photographs were taken by the Staff Photographer and Crew Chiefs. All data pertinent to each photograph was recorded on photograph record forms. Photographs were taken of all unit and feature plan views, in addition to all profiles, which were also drawn (minimally two walls of each unit or feature). Views of deep tests were also photographed.

The archaeological record within each of the lots, as seen during data retrieval, was extremely diverse. The specific field strategy employed to investigate each lot, and the results of this investigation are discussed in the next chapter on a lot by lot basis.

VI. ARCHAEOLOGICAL FIELD DATA AND INTERPRETATION

A. INTRODUCTION

This chapter describes the archaeological field investigations of the data retrieval program. As noted earlier, Phase II testing indicated a high potential for intact eighteenth-century deposits and features associated with domestic and commercial land uses. Employing the field strategies described in Chapter V, selected areas of the site, labeled A to H (See Figure V.1 and Table VI.1), were investigated through both controlled unit excavation and machine stripping (Plate VI.1).

Table VI.1. EXCAVATION AREAS WITHIN STUDY LOTS

Area A	Lot 20, 148 Pearl Street
Area B	Lot 19, 146 Pearl Street
Area C	Lot 18, 144 Pearl Street
Area D	Lot 16, 140 Pearl Street
Area E	Lot 26, 110 Water Street
Area F	Lot 24, 114 Water Street
Area G	Lot 25, 112 Water Street
Area H	Lot 23, 116 Water Street

The remaining portions of the block were cleared by machine (i.e., Lots 15, 16, and 17, in 140 to 142 Pearl Street) in order to identify deep fill-retaining and dockage features.

The area sampled within the site was 6.8 percent. When the Phase II test excavation units and trenches are included, the sample size increases to 12 percent. A total of 73 features were investigated, including cellar floors, building additions, wells, privies, cisterns, barrels used as trash receptacles, and outbuildings. In some cases, e.g. Lot 18, 144 Pearl Street, almost an entire rear yard area was excavated. The dates and functions of many of the 73 features were unknown. Some have also been extensively disturbed by modern construction activities. However, several were intact, and contained or were associated with datable artifactual deposits and/or features. Table VI.2 lists these important features and Figure VI.1 shows their

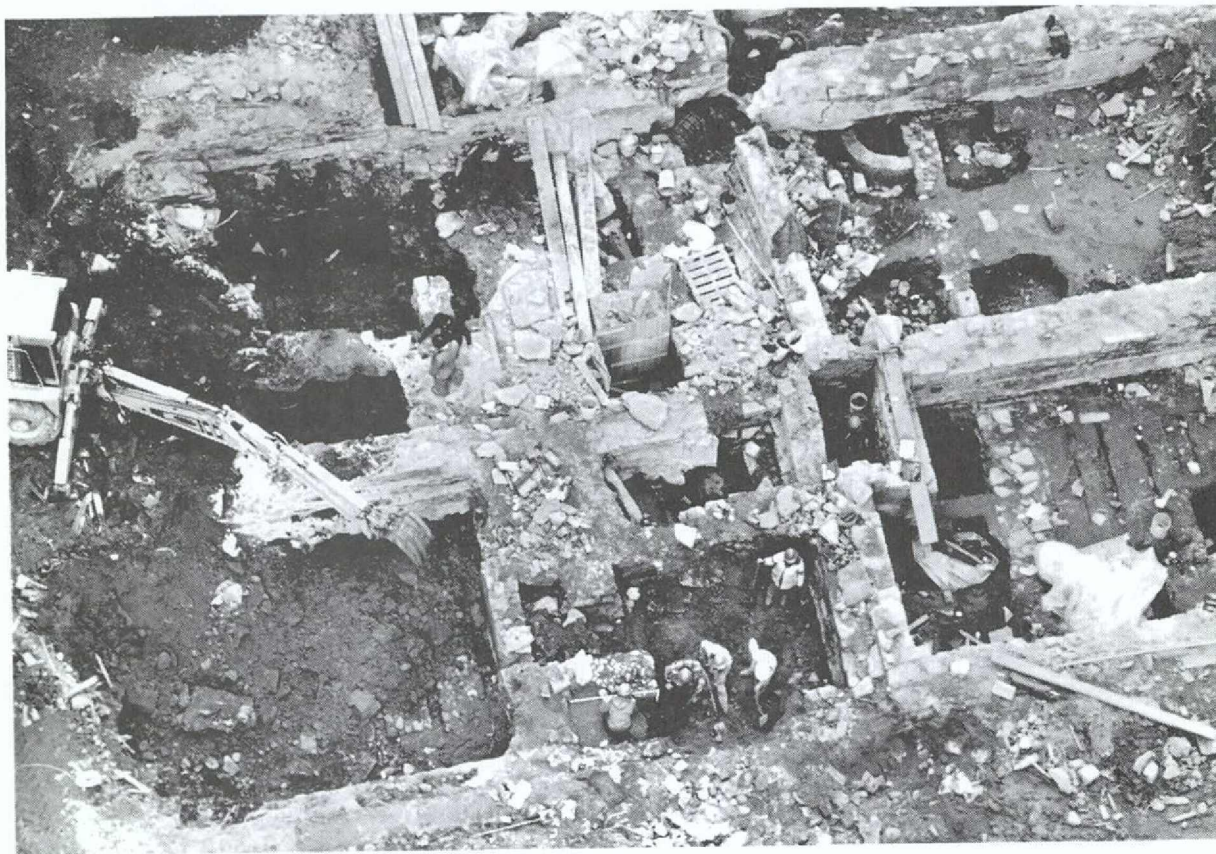


PLATE VI.1 Machine and hand excavation. (Lot 18/144 Pearl Street and Lot 26/110 Water Street in center of photograph).

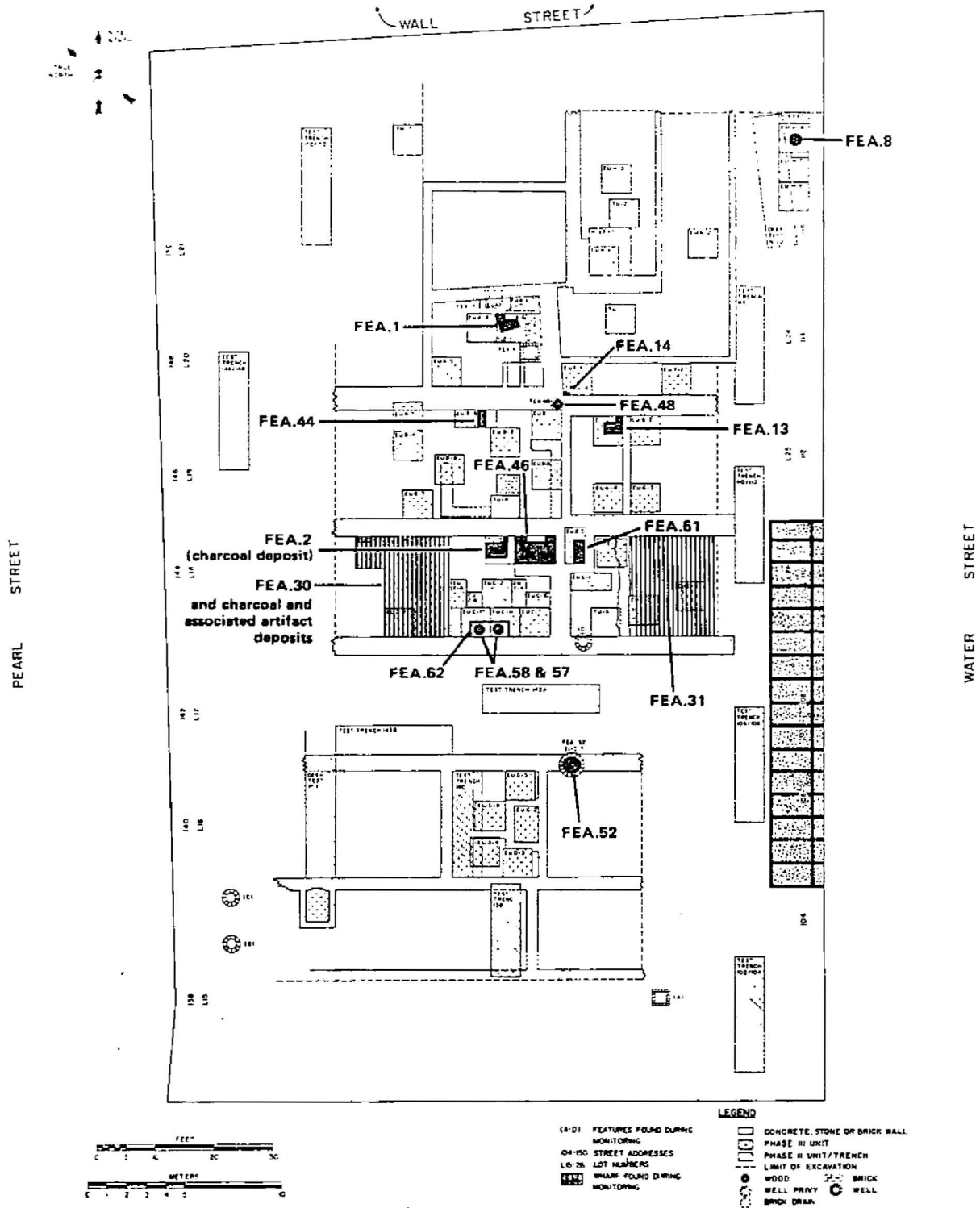
TABLE VI.2

LIST OF IMPORTANT FEATURES AND DEPOSITS

Lot/(Area)	Address	Feature #	Time Period	Type of Feature	Significance
20 (A)	148 Pearl	Fea. 1	MCD 1714 TPQ (glass) 1690	wooden box cistern	structure related to early occupation
19 (B)	146 Pearl	Fea. 48	TPQ 1800	privy/well	association with early nineteenth-century households
		Fea. 44	TPQ 1820 (past 1835?)	builder's trench	contains domestic and pharmaceutical refuse
18 (C)	144 Pearl	Fea. 30	TPQ 1762	cobble floor of cellar	early architectural feature
		Fea. 46	1820s	stone and brick structure	contains commercial and domestic refuse
		Fea. 62	unknown (possibly early 1700s)	wooden cistern	structure related to early occupation
		Fea. 57	MCD 1776 TPQ 1795	barrel	contains commercial and domestic refuse
		Fea. 58	MCD 1772 TPQ 1762	barrel	contains pharmaceutical refuse
		Fea. 2 and related deposits in Units C - 3, 5 and 8	TPQ 1780	charcoal deposit	contains commercial and domestic refuse
16 (D)	140 Pearl	Fea. 52*	TPQ 1820	brick well	contains commercial fill
26 (E)	110 Water	Fea. 61	TPQ 1762 (?)	wooden box cistern	structure related to early occupation
		Fea. 31	MCD 1772 TPQ 1800	remnants of cellar floor	architectural feature containing domestic refuse
25 (G)	112 Water	Fea. 13	Fill MCD 1776 Fill TPQ 1810 construction date unknown	yellow brick cistern	shape and location
24 (F)	114 Water	Fea. 14	MCD 1672 TPQ 1640	wooden structure	possible fill retaining structure
23 (H)	116 Water	Fea. 8	MCD 1785 TPQ 1820	barrel	possible domestic refuse

* Feature 52 is more properly located within 106 Water Street.

FIGURE VI.1.
Location of Important Features and Deposits



locations within the project area. These features are considered important because they have the potential to provide data on the commercial and residential activities of the block, and can be used to reconstruct cycles of construction and rebuilding within many of the lots, and within the block as a whole.

Each lot discussion, which is presented below, begins with a review of its occupancy history (See Appendix C , Section 2 for more detailed descriptions). This is followed by the specific field strategies used in each lot, and a description of the archaeological record that was revealed by these efforts. Whenever possible, results of excavation in each lot are discussed in terms of depositional units. These are a single deposit or several deposits that are temporally, functionally, and/or spatially linked. For example, landfill may contain three depositional units, each representing a distinct filling episode in which different types of soils were used.

As noted in Chapter I, LBA was able to monitor the excavation of the office tower basement and foundations after all retrieval field efforts were completed. The results of the monitoring, and the linkages between observations made during monitoring and the findings of the controlled data collection, will be described at the end of this chapter.

B. LOT 20 AT 148 PEARL STREET

1. Historic Overview

The 148 Pearl Street lot appears to fall within Water Lot Grant 2, granted to Robert Sinclair in 1694. That year, he sold a portion of the property to Henry Kormer, who, with Sinclair, built a wharf at the low water mark of the original water lot. By 1702, Kormer owned and leased two houses at 148 Pearl Street and 114 Water Street. Prior to 1772, the property changed hands several times and was leased to a series of tenants.

In 1759, Hugh Gaine had moved his printing office to 148 Pearl Street, "to the House next Door to Doctor William Brownjohn's in Hanover Square, near the Meal Market" (Stokes 1898-1928:IV:690). Brownjohn owned the property at 150 Pearl Street, which extended the width of the block to Water Street. In 1772, Gaine bought the property (which still included both the Pearl and Water Street frontages, although it was probably occupied as two units, one facing Pearl and the other facing Water Street). He subsequently moved to Rotten Row (now Water Street), "next Door to the Corner opposite the Merchants Coffee House" (Stokes 1898-1928:IV:995), which was situated at the southeast corner of Wall and Water Streets, across from the project area. Gaine had his print shop on Rotten Row, or Water Street, when he reported the Revolutionary cause in the summer of 1776. He evacuated to Newark in the fall but returned to New York by December 1776. At that time he opened a printing shop on Pearl Street, presumably at No. 148.

In 1804, Gaine sold 148 Pearl to a merchant, Daniel Phoenix. It is not known if Phoenix occupied the property. In 1813, Calvin Baker, a merchant, owned and appears to have lived on this property. From 1820 to 1850, 148 Pearl Street contained a store. By 1860, the lot contained a four-story building, with a possible rear yard area. This structure was probably demolished prior to construction of the Orient Building, which occupied the northwest corner of the block (148, 150, 152 Pearl and 79, 85 Wall Streets) in the early twentieth century.

The archaeological potential of this lot was unknown. No data on basement depths was available for the twentieth-century structures within the lot. However, the one-story addition that covered the rear of the lot, which was associated with the Orient Building, probably had very shallow foundation walls.

Portions of the Orient Building itself appeared to extend into 148 Pearl Street. It was hypothesized that this 13-story steel-framed building would have a deep basement and/or foundations, and thus would have severely impacted earlier archaeological deposits.

2. Testing Results and Data Retrieval Strategy

Testing began with the removal of all modern demolition debris, by bulldozer and backhoe, from the rear of the lot. The north, east, and south lot walls were exposed, as was the rear wall of a structure facing Pearl Street (Figure VI.1). The area encompassed by these walls was the rear yard of 148 Pearl Street. In addition, the walls fell at the exact locations of the north/south lot lines and building walls as indicated on the earliest insurance map of the block (i.e., 1852). Therefore, these walls date to at least the mid-nineteenth century.

The yard contained a top rubble layer overlying a red quarry tile pavement. Under this pavement was a second layer of demolition debris, also modern. Materials indicating a modern association included plastic, twentieth-century machine-mold bottle glass, carbon rods, etc. Beneath this second demolition layer was a third demolition deposit which contained both modern and eighteenth- to nineteenth-century materials, such as delftware, creamware, pearlware, blue transfer printed whiteware ceramics, white clay pipes, etc.

Upon encountering this third demolition deposit, a 5 x 5 foot excavation unit was placed within the yard. Rubble deposits continued down into the unit, but with an increase in the frequency of eighteenth-century materials, (MCD of 1761). At 4.80 feet below lot datum (+.515 feet M.S.L), the top of a small (3 x 3 foot) wooden structure was encountered. Only a portion of the structure was present in the unit. Adjacent to this feature was a builder's trench. The wooden structure consisted of tongue and groove upright planks or sidewalls, supported by wooden beams on

the exterior, fastened by mortise and tenon joints. The floor of the feature was also wood planking. The structure was filled with artifacts, and brick and mortar rubble. This fill dated to the mid- to late eighteenth century (MCDs of 1735 to 1750). This date range was based on the presence of delftware, combed slip ware, Whieldon ware, and scratch blue stoneware ceramics. The feature's builder's trench contained material suggesting a similar time range. This wooden feature was not a landfill retaining structure, given (1) its high elevation within the project area, (2) the date of material within the feature and (3) the existence of a builder's trench. It may have functioned as some type of out-building.

The remainder of the unit, at the level of the wood feature and its builder's trench, consisted of pockets of soil, mostly in association with the mid-nineteenth-century walls of the lot. However, along the south side of the unit was an east/west running timber, with perpendicular spread-footer timbers underneath. Such complexes, by definition, are for structural support. What this complex supported was not evident during testing.

The wood feature and its builder's trench overlaid soil deposits of an undetermined date, that in turn overlaid landfill. The landfill deposits were exposed by augering just outside of the area of the wooden structure. These deposits appeared to begin approximately 7.85 feet below lot datum (-2.535 feet M.S.L.). Landfill was indicated by a matrix of silty clay with a high organic content and a high frequency of wood chips, leather, seeds, bone, and shell.

During the removal of the upper demolition layers, and prior to placement of the test unit in the yard, two brick-lined features were uncovered along the walls of the lot. One (Feature 4) was located along the east wall of the lot, above the quarry tile floor (Figure VI.1). The second (Feature 3), along the north wall of the lot, was capped by the tile floor (Figure VI.1). It was not possible to test the feature along the east wall, as it was filled with cement. However, the second brick feature was more accessible. Placement of shovel tests in the southeast corner of the feature revealed several intact cultural deposits, which tentatively dated to the eighteenth century (MCD of 1769). This date was based on the presence of undecorated creamware, Jackfield, green edged pearlware, transfer printed pearlware and Rhenish stoneware ceramics. One stratum within this feature was very organic in appearance. The function of this brick feature was not evident during testing.

In addition to the 5 x 5 foot excavation unit in the yard of 148 Pearl Street, a backhoe test trench, oriented north/south, was excavated to bisect the 146/148 lot walls ten feet east of Pearl Street (Figure VI.1). The purpose of the trench was to establish the extent and integrity of intact cultural deposits underlying building foundations fronting on Pearl Street.

The backhoe test trench in Lot 20 uncovered a deposit of modern demolition debris, containing brick mortar, steel pipe, safety glass, plastic and bottle caps. This deposit extended to a depth of 3.0 feet below surface (+4.9 feet M.S.L), and was overlying a concrete basement floor. Two walls were exposed at the juncture of Lots 19 and 20. The northernmost wall, constructed of brick, was probably associated with the structure on Lot 20. Under the concrete floor, a second modern demolition deposit similar in composition and content to the overlying demolition rubble, was encountered. Underlying the second demolition rubble, the first of two landfill deposits was excavated. The first deposit, approximately 2.0 feet thick, extended to 11.6 feet below surface (-3.7 feet M.S.L), and contained pipe stem fragments, glass, oyster shells, brick, and mortar. The second landfill deposit was a matrix of very dark brown and gray, mottled, clayey coarse sand; it contained delftware and redware ceramics, pipe fragments, case bottle fragments, bone, shell, wood, brick, mortar, a water worn jasper flake, and coral. This deposit extended to the bottom of the trench, 12.5 feet below surface (-4.6 feet M.S.L). Results of the 148 Pearl Street test trench seemed to indicate that intact occupational deposits were not present beneath the building foundation at the front of the lot.

The goals of data retrieval in Lot 20 were to consist of: (1) identifying the size, shape and function of both Feature 1, the wooden structure, and Feature 3, the square brick-lined feature; and (2) clarifying the relationship of each feature with the configuration of structures within the lot. These were to be accomplished through removal, by machine, of all modern demolition rubble overlying the eighteenth-century rubble deposit. This latter rubble deposit would then be examined with six (6) 5 x 5 foot hand controlled excavation units. Hand excavation was to proceed into the lower strata, including the wooden structure and its fill. All units were also to be advanced to the top of landfill. Forty-nine percent (49%) of the yard area was to be sampled by these units. Unit placement would be as follows: (a) one unit over Feature 3, the brick-lined feature along the north lot wall (the feature to be totally excavated as was the area surrounding the feature); and (b) five units around Feature 1, the wooden structure. All soils were to be processed as discussed earlier (See Chapter V).

Once the Phase III excavations began in Lot 20/148 Pearl Street, conditions within the lot required alterations in the data retrieval plan. The number of units in and around Feature 1, the wooden structure, was decreased to two. One of the excavation units planned for Feature 1 was relocated to the yard area, away from the wood structure. This would allow the remainder of the yard area to be sampled. The excavation unit proposed for Feature 3 remained unchanged. After the wooden structure was fully exposed, recorded and removed, a unit was measured under Feature 1. This unit overlapped Test Unit 3 and Unit A-2. The purpose of this additional unit was to sample the landfill deposits under

Feature 1. As a result of these changes, a total of five excavation units were placed within the lot, sampling 34 percent of the cleared area (Figure VI.1).

3. Data Retrieval Results

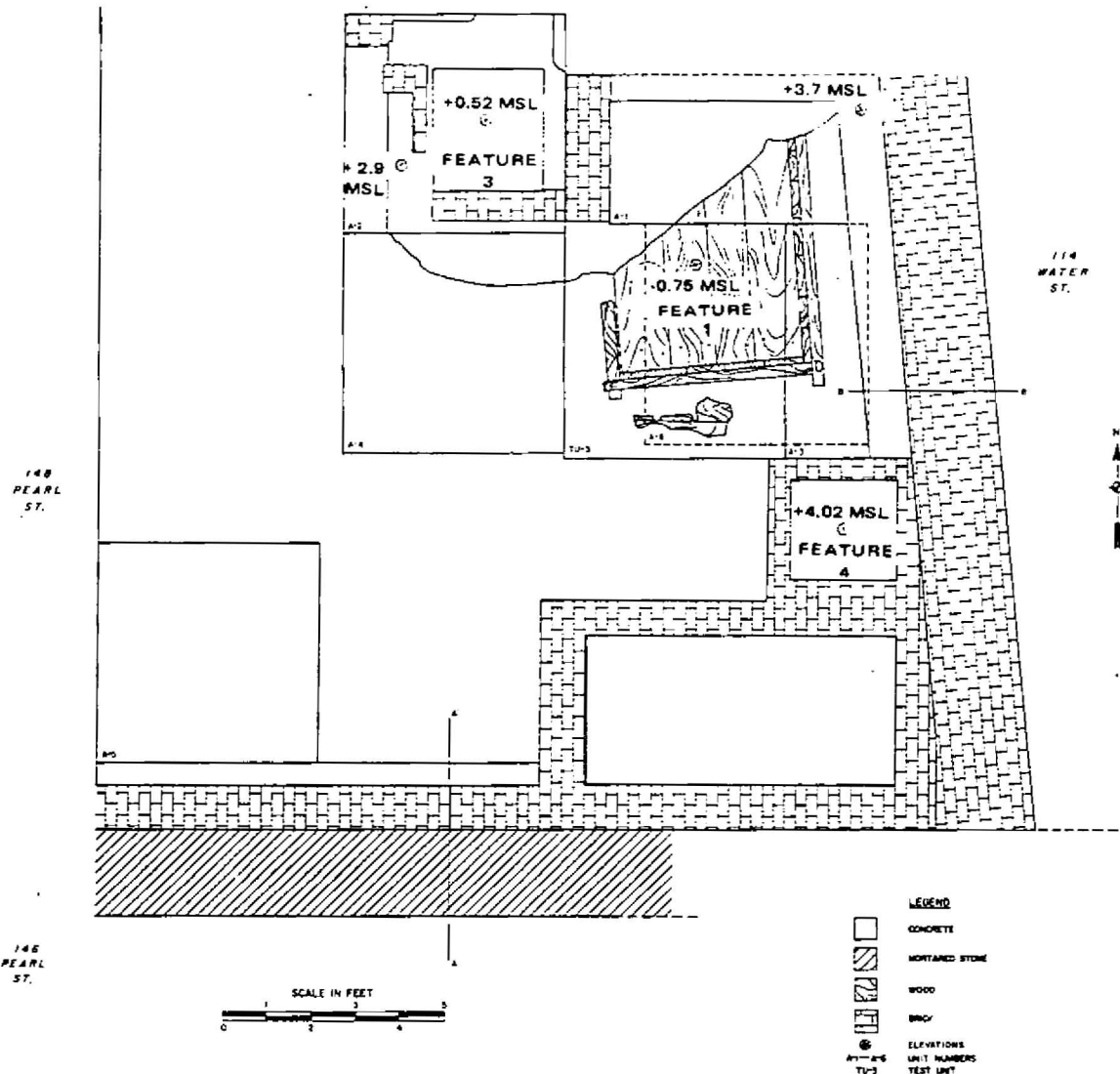
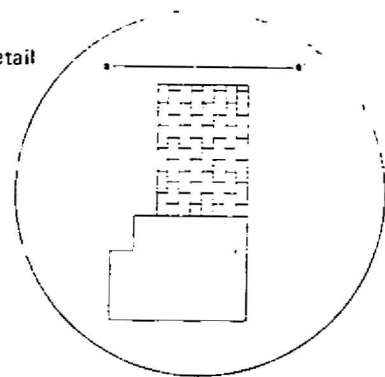
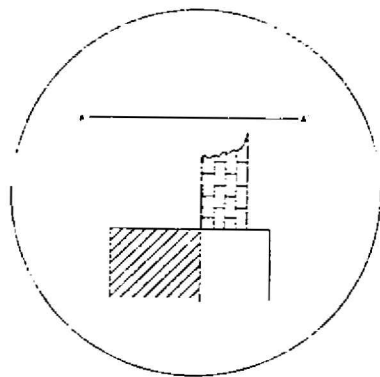
Five major archaeological contexts were represented in Lot 20 (Figure VI.2). The earliest was a deposit representing original river bottom; the second was associated with landmaking activity. The third context centered around the construction and use of a rectangular wooden structure (Feature 1), while the fourth was associated with a severely truncated stone wall and a possible spread footer support complex. The final context centered around the construction of the thirteen-story Orient Building. Also associated with this building are two square features, Numbers 3 and 4.

The deepest deposits within Lot 20 consisted of alternating bands of red and green fine silt with clay, which sloped to the east. Similar deposits were encountered in several deep test excavations within the block. These deposits were interpreted as river bottom. They extended to a depth of at least -3.30 feet M.S.L., which was the extent of the deepest excavation within the lot. Above these deposits was the lot's second archaeological context; landfill. The latter consisted of an alternating series of sands and silts, following the slope of the river bottom.

Feature 1 and its associated strata represented a third context. The feature appeared to be the base of a wood structure, at 0.75 feet M.S.L. (Figure VI.2 and Plate VI.2). It extended north under the concrete footing of Feature 3 (Figure VI.2) for an unknown distance. The structure appeared to have been made by laying floor boards, approximately 0.1 foot thick by 1.0 foot wide, across wooden support beams and nailing them in place with hand wrought nails. The sidewalls or uprights of the structure consisted of boards approximately 0.1 foot thick by 1.0 foot wide. The height of the structure was unknown, as it was truncated by later construction (i.e., the Orient Building). The walls were held together horizontally by tongue and groove construction. They were also grooved 0.1 foot up from the base to fit into the floor boards. The uprights were held in place by 0.25 foot by 0.25 foot exterior wood beams. Two corners of the feature were exposed during excavation, and both had beams intersecting with mortise and tenon joints (Figure VI.2). The builder's trench for Feature 1 had been dug into landfill. The narrow width of the builder's trench and the lack of construction debris (e.g., wood shavings and nails) suggested that the wood structure was built above ground, then lowered into place.

The function of the wood structure was not evident during excavation; however, two possible uses were posited. The first was that the structure functioned as a cistern for water collection. The placement of the structure indicated that it would have been

FIGURE VI.2:
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 20/148 Pearl Street



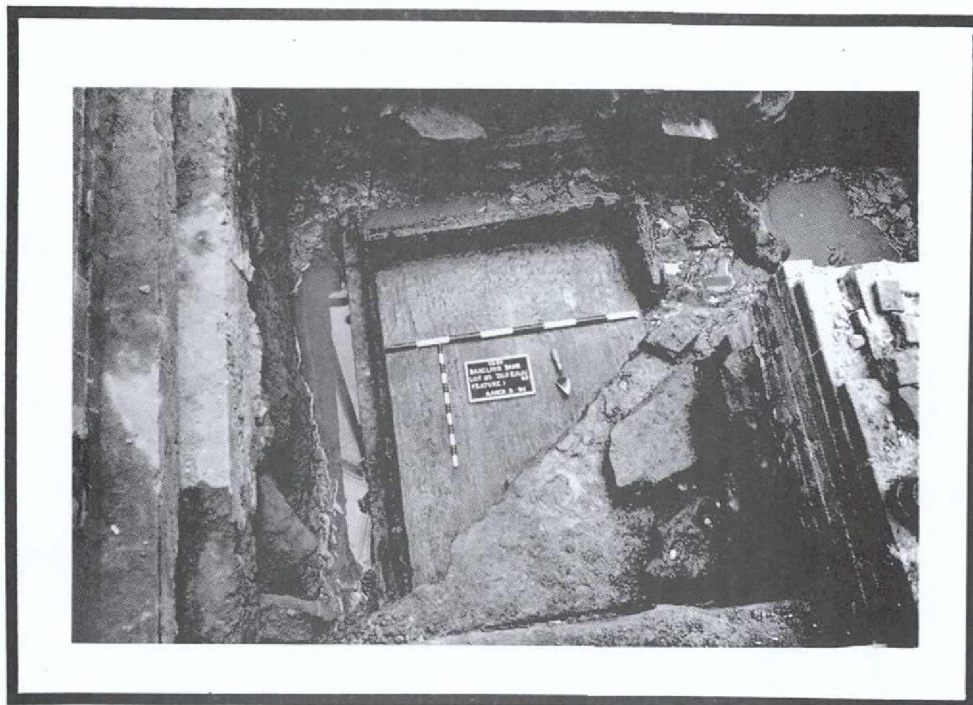


PLATE VI.2 Feature 1, Wooden cistern. Lot 20 at 148 Pearl Street.

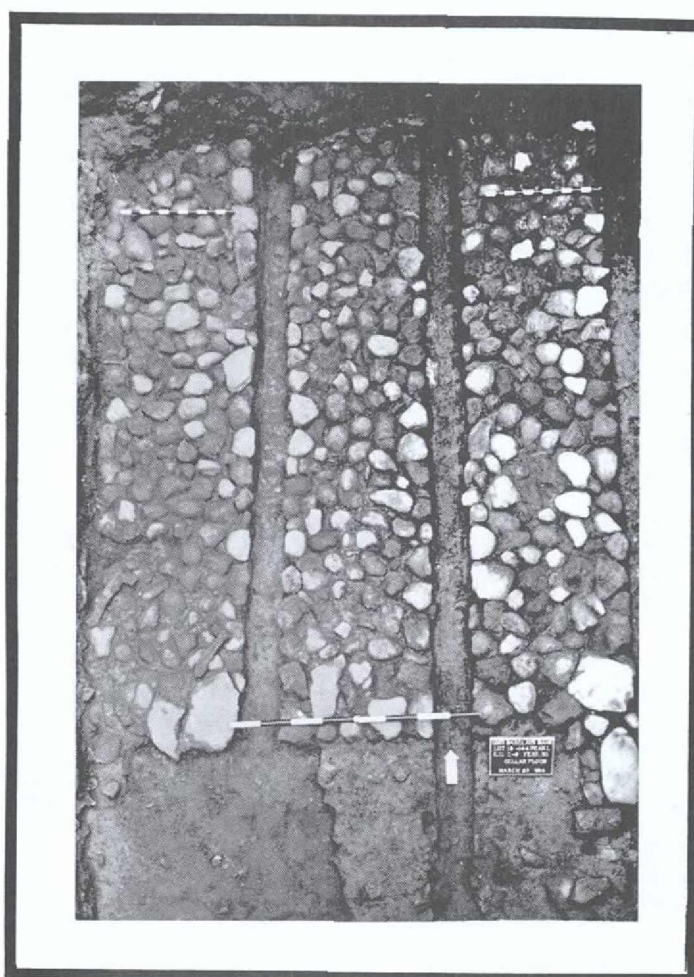


PLATE VI.3 Cobble cellar floor. Lot 18 at 144 Pearl Street.

located immediately east of the main building fronting on Pearl Street. Documentary research showed that by 1860 the building fronting at 148 Pearl Street measured 21.9 by 59 feet, on a lot measuring 21.9 by 65 feet, leaving approximately 21.9 by 6 feet of backyard space (See Appendix C, Section 1). This rear yard area would appear to be an ideal location for the placement of a cistern. The mortise-and-tenon-joined wooden beams reinforcing the wood structure from the exterior suggested that the feature was built to contain a large amount of pressure from the interior. Also, the tongue and groove constructions would have resulted in a tight seal, keeping water in.

A second interpretation for Feature 1 is that it functioned as a subsurface, cold storage structure. However, this hypothesis seemed questionable. Excavation of the feature indicated that the feature was at or within a foot of the mean sea level mark. This would have created a wet, or, at least minimally, moist environment - one not conducive to storing perishable food items. However, the wooden structure may very well have been used for ice storage.

The fourth archaeological context was associated with a severely truncated stone wall and its builder's trench and support beams (See Plate VI.2, top center). Wooden timbers, oriented east/west, were laid at the base of the trench. Overlying these timbers was another course of logs, but laid perpendicular to the lower course. This wooden structure may have been the footing or base from which the stone wall was built. The function or extent of this truncated wall was not evident during excavation.

The fifth archaeological context in Lot 20 was associated with the construction and use of the Orient Building, and possibly two concrete and brick features (Features 3 and 4). The elements of the Orient Building uncovered in this lot consisted of several steel "I" beams set in concrete. These beams, which extended into 148 Pearl Street, were probably supports for the large steel-framed building. Feature 3, the northernmost brick structure, was constructed on a concrete footing at 0.52 feet M.S.L. (Figure VI.2). This eastern portion of Lot 20 appeared to have been excavated to a depth of 0.32 feet M.S.L. (the highest point of Feature 1) in order to pour the concrete base of Feature 3, as well as the concrete supports for the above-mentioned steel "I" beams. No mold impressions were observed on the surface of the concrete base of Feature 3, suggesting that the concrete was poured into the "earthen" mold, then allowed to set. The lower portion of Feature 3, also constructed of concrete, was built atop this concrete base. The exterior surface of this portion of the feature exhibited a wood grain pattern, suggesting the concrete was poured into a wood plank mold, as were the concrete supports for the steel "I" beams. The interior of the feature was lined with wood planking; and this planking was probably the interior form of the concrete mold. Overlying the poured concrete portion of Feature 3 were five courses of red brick, embossed

with the name "ROSE." Upon completion of the concrete work associated with the Orient Building and Feature 3, this area was more than likely backfilled. Feature 3 was subsequently truncated by later construction and/or demolition activities.

Feature 4, the southernmost brick structure in Lot 20, was located during the testing phase. The feature measured 3.5 x 3.5 feet and had a sealed bottom and side walls. All that remained of the feature was its base and four courses of red brick (side walls), embossed with the name "ROSE." The base of the feature appeared to have been constructed within the fill which surrounded Feature 3 and the foundation "I" beams of the Orient Building. Feature 4, therefore, appeared to postdate both the Orient Building and the construction of Feature 3. This chronology was supported by the fact that Feature 3 was capped by the tile floor and Feature 4 was not. This tile floor corresponds to a one-story addition to the Orient Building, which occupied the rear portion of 148 Pearl by at least 1932 (See Appendix C, Section 1). The functions of Features 3 and 4 were not evident during the field investigation.

C. LOT 19 AT 146 PEARL STREET

1. Historic Overview

Number 146 Pearl Street was originally contained within the bounds of Water Lot Grant 3, granted to Peter Adolph on October 12, 1694 (Appendix C, Section 2). By 1708/9 his widow reported a house on the property. The lot was purchased in 1715/16 by Andrew Fresneau who had apparently developed both the Queen (Pearl) and Water Street frontages of the property by 1721. Ownership of the two frontages was separated sometime between 1731 and 1747.

Little is known about the property between 1731 and 1789. By 1789, it was occupied by Oliver Hull, a druggist. Hull occupied 146 Pearl Street until the 1820s. Over the next 30 years, the lot was the location of a series of stores or warehouses. From 1860 to 1900, a four-story building measuring approximately 21 x 55 feet occupied the lot, which measured 21 x 64 feet. By 1900, a four-story building covered the entire lot until it was demolished in 1983.

No basement data were available, from the city's Buildings Department, on the mid- to late nineteenth-century structures that occupied this lot. However, the most recent map of the area (1982) indicated that the building on the lot contained no basement. In addition, mid-nineteenth-century maps showed that the rear of the lot was an open yard area, which was eventually covered with a one-story structure. Given the shallow depths of foundations for such structures and the absence of a basement, this lot was assigned a moderate potential for containing intact archaeological remains. Phase II efforts were to include the excavation of a 5 x 5 foot unit within the yard area. In addition

a backhoe trench was proposed for the front of the lot, to identify any intact structural remains that would have fronted on Pearl Street. The results of the trench and the unit excavation are discussed below.

2. Testing Results and Data Retrieval Strategy

Lot 19 was initially cleared by bulldozer and backhoe down to the tops of the east, south, and north lot walls, which were beneath several feet of modern demolition rubble. Mechanized clearing of an area approximately 18 x 20 feet from the rear lot wall was halted when a pavement of dressed slabs was encountered, indicating an intact surface. This pavement, which was also present in Lot 18 at 144 Pearl Street, occurred only in the easternmost section of the lot. The remainder was covered by a concrete floor.

A 5 x 5 foot excavation unit (Test Unit 4) was placed adjacent to the 146/148 Pearl Street lot wall, in the back yard area (Figure VI.1). Excavation of Test Unit 4 revealed a variety of twentieth-century deposits overlying an irregular concrete floor 0.3 to 0.9 feet thick. Immediately beneath the floor were several deposits of refuse dating to the late eighteenth and early nineteenth centuries. These strata were in turn overlying wood flooring. Ceramic materials from the deposits dated to the occupancy of Oliver Hull, the druggist. In fact, some of the ceramic artifacts (e.g., a delftware ointment pot) may have been from the druggist shop. Below the wood flooring were several deposits with low artifact frequencies, which in turn were above a stone wall and associated builder's trench. This stone wall and trench had been dug into the top layer of landfill.

In addition to Test Unit 4, a backhoe test trench was placed in front of the lot approximately ten feet east of and parallel to Pearl Street. The trench bisected the 146/148 lot walls (Figure VI.1). Two walls were exposed on the 146/148 lot line. The northern wall was constructed of brick and the southern of stone. South of the stone lot wall (in Lot 19), the backhoe removed a deposit of modern demolition debris, containing brick, mortar, safety glass, plastic, and bottle caps. This deposit extended to a depth of 4.2 feet below surface (3.7 feet M.S.L.), and overlaid a concrete floor. A second rubble level, 1.0 foot thick, was found below this floor, and appeared similar to the deposit underlying the concrete floor north of the brick wall (i.e., in Lot 20, 148 Pearl Street). Underlying the second rubble level, in Lot 19, was a reddish brown, silty sand approximately 1.0 foot thick. This sand deposit, which was present in other areas of the block, was defined as the uppermost deposit of landfill. The landfill deposits in the trench began approximately 7.8 feet below surface (0.1 feet M.S.L.) and extended to the bottom of the trench at a depth of approximately 15.0 feet below surface (-7.1 feet M.S.L.).

The cultural material recovered from landfill consisted of delftware, undecorated creamware, comb-slip-decorated buff body earthenware, and redware ceramics; white clay pipe fragments; glass; bone; fish scales; leather; and peach pits. The lowest deposit, a reddish brown silty clay, exhibited a marked reduction in artifactual material, and consisted of delftware ceramics, glass, wood, iron fragments, and white clay pipe fragments. This stratum also had waterworn pebbles, suggesting that it represented river bottom.

Testing efforts in Lot 19 located several important archaeological features and strata. These included the refuse deposits and wood floor below the irregular concrete floor, and the stone wall below the wood flooring in Test Unit 4. It was hypothesized that this stone wall was from an early occupation of the lot. Additionally, the wall may have been associated with a similar stone wall, at the same depth, within the lot at 110 Water Street.

The above deposits, features, and structural elements had the potential to provide data on the use of late eighteenth- and early nineteenth-century rear yard areas, and on the occupancy of chemists/druggists. These archaeological remains could also yield data on the use of internal and external space within an early eighteenth-century lot, especially if the deep wall in 148 Pearl Street was associated with the similar wall in 110 Water Street. A linkage would suggest the presence of a building dating prior to establishment of final lot lines within the block.

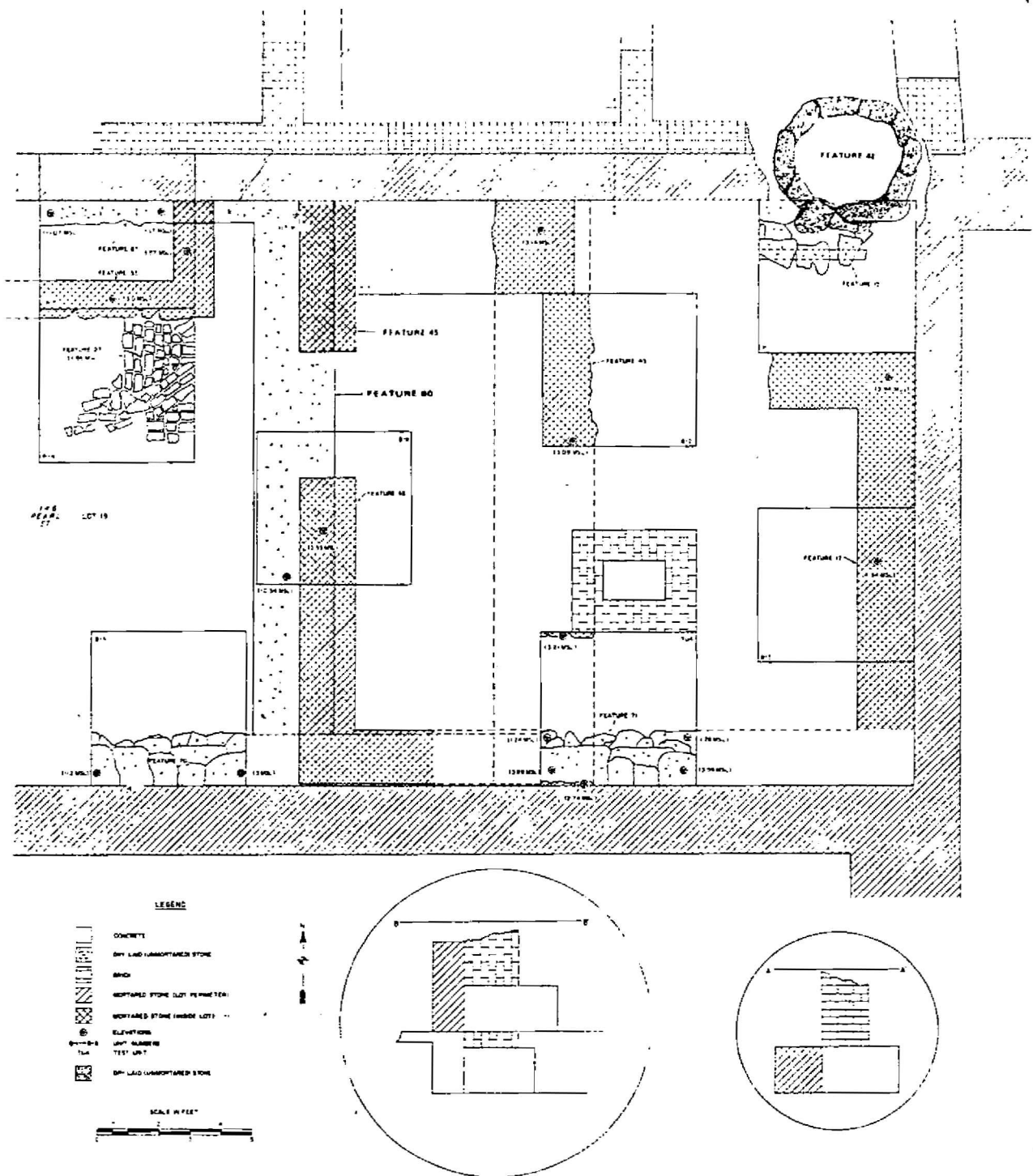
The goals of the data retrieval program for Lot 19 therefore, consisted of: (1) identifying the possible features exposed during the testing phase, (2) characterizing the deposits beneath the wood floor and above the landfill deposits, and (3) clarifying the nature of the lower stone wall located within Test Unit 4 and its relationship to a similar wall in Lot 26 at 110 Water Street. These objectives were accomplished through the removal of the remaining demolition rubble within the rear of the lot, opening up an 18 x 40 foot area. The cleared area was divided into quadrants, with two 5 x 5 foot units placed within each quadrant. A total of eight units was excavated during data retrieval. Test Unit 4, excavated during testing, served as the ninth unit in the sample (Figure VI.3).

This strategy provided a thirty-one percent (31%) sample of the yard area and sufficiently exposed the stone wall, wood flooring, and most cultural deposits. All units were advanced to the top of landfill. One unit was extended to the base of landfill, in order to sample more fully landfill deposits in this area of the block.

3. Data Retrieval Results

Four major archaeological contexts were present in Lot 19: river bottom, landfill, commercial/residential deposits, and modern demolition rubble. The top of river bottom was encountered at a

FIGURE VI.3:
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 19/146 Pearl Street



depth of -3.99 M.S.L. in Unit B-3 (Figure VI.4). The stratum consisted of a dark gray silty sand with gravel and contained no artifactual material. It should be noted that these riverbottom soils were sampled through backhoe excavation. At -3.99 M.S.L., Unit B-3 was too deep for hand excavation.

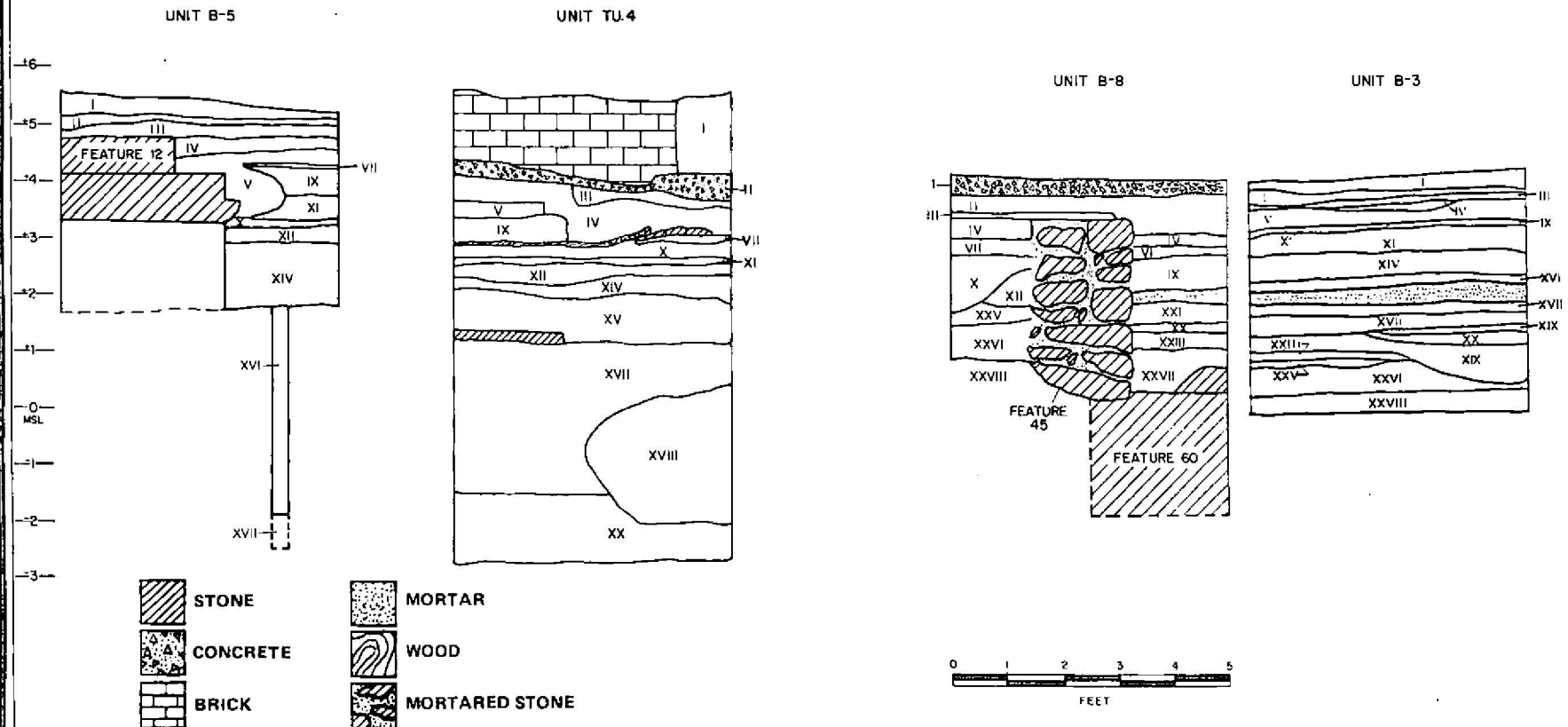
The second archaeological context was associated with landfilling activities within the lot. These landfill deposits consisted of three distinct strata, or depositional units. The lowermost stratum was encountered at -3.99 feet M.S.L. in Unit B-1, -1.73 feet M.S.L. in Unit B-5 and 0.87 feet M.S.L. in Unit B-4 (Figures VI.4 and 5). The stratum consisted of a very dark grey silt with sand and clay, and was interpreted as representing the first landfill episode. The other two landfill strata were above this primary landfill deposit, but were located in two distinct areas. One was to the east of Features 45 and 60 (Figures VI.3, 4, and 5) and consisted of a strong brown to reddish brown sand, underlying a series of thin silt deposits. Cultural material recovered from this deposit included leather, wood, bone, nutshell fragments, flint, glass, metal, and ceramics. The landfill to the west of Features 45 and 60 consisted of brown to dark brown sand (Figures VI.3, 4, and 5), also with a series of silt deposits directly above it. Artifactual material was comparable to what was found in the eastern area. These two distinct areas, separated by what was believed to be a fill retaining wall (see below), may have represented different phases of landfill activity.

The third archaeological context corresponded with the occupation of Lot 19 and consisted of several depositional units. One of these was made up of three dry-laid stone walls (Features 60, 67, and 70), as well as several associated strata in Units B-3, B-4, B-7, and Test Unit 4. Feature 67, encountered along the northern lot line, bonded with a north/south-oriented wall (Feature 60) midway in the lot, forming a right angle (Figure VI.3). This north/south-oriented wall appeared to continue southward and join with another east/west-oriented wall (Feature 70) located in Unit B-3, along the southern lot line (Figure VI.3). All three walls are located beneath the mid-nineteenth-century lot walls.

At 7 Hanover Square, it was observed that stone walls were built during landmaking activities in order to hold back the fill within a water lot. Once the lot was filled in, these same walls could then be utilized as foundations for a house (Pickman, personal communication 1984). Features 60 and 67, and possibly 70, appeared to have served this dual function. All three walls extended into landfill and had no builder's trenches. Also, Features 67 and 70 follow the original water lot grant lines.

A house was on Lot 19 early as 1708/9 (Tax records, 1708/9). By at least 1789 the structure served both as a druggist's shop and residence. From 1830 to the 1850s, the property was the site of a series of stores. A four-story building was erected on the lot between 1850 and 1860 and appears to have been used for com-

44-18



LEGEND TO FIGURE VI.4

UNIT B-3

- III - 10YR 4/3 Brown/dark brown sand with brick and mortar fragments
- V - 7.5YR 5/4 Brown sand
- VIII - 10YR 4/4 Dark yellowish brown sand with deteriorated brick and mortar
- X - 10YR 5/6 Yellowish brown sand with brick and mortar rubble
- XI - 7.5YR 4/4 Brown/dark brown sand
- XIV - 10YR 3/4 Dark yellowish brown sand
- XV - 10YR 3/1 Very dark grey sand with silt
- XVI - Mottled 10YR 5/2 greyish brown, and 5YR 5/3 reddish brown sand with charcoal
- XVII - 10YR 7/3-7/4 Very pale brown silt with sand
- XVIII - 5YR 4/2 Dark reddish grey sand with clay
- XIX - 7.5YR 4/4 Brown/dark brown sand
- XX - 10YR 5/3 Brown silt with clay
- XXII - 7.5YR 4/2 Brown/dark brown sand with mortar
- XXIII - 10YR 3/2 Very dark greyish brown silt with sand and clay
- XXIV - 10YR 7/3 Very pale brown sand
- XXV - 2.5Y 4/4 Olive brown silt with clay
- XXVIII - 10YR 4/3 Brown/dark brown silt with sand

UNIT B-8

- I - Concrete floor
- II - 10YR 3/3 Dark brown sand with rubble
- III - 10YR 5/6 Yellowish brown sand with brick and mortar
- IV - 10YR 3/3 Dark brown sand with silt and some clay
- VI - 10YR 4/3 Brown/dark brown silt with mortar and brick
- VII - 10YR 4/3 Brown/dark brown silt with some sand
- IX - 10YR 4/3 Brown/dark brown sand with silt and some clay
- X - 10YR 4/3 Brown/dark brown to 10YR 4/6 dark yellowish brown silt
- XII - 10YR 3/3 Dark brown silt with clay
- XIV - Mortar
- XX - 10YR 4/2 Dark greyish brown silt with sand and charcoal
- XXI - 7.5YR 4/4 Brown/dark brown to 10YR 3/3 dark brown sand silt and clay mix
- XXIII - 10YR 5/2 Greyish brown silt with clay
- XXV - 10YR 3/4 Dark yellowish brown silt with clay
- XXVI - 10YR 4/3 Brown/dark brown to 5YR 4/4 reddish brown sand with clay and silt
- XXVII - 2.5Y 4/4 Olive brown silt with charcoal, brick and mortar fragments
- XXVIII - 5YR 4/4 Reddish brown sand

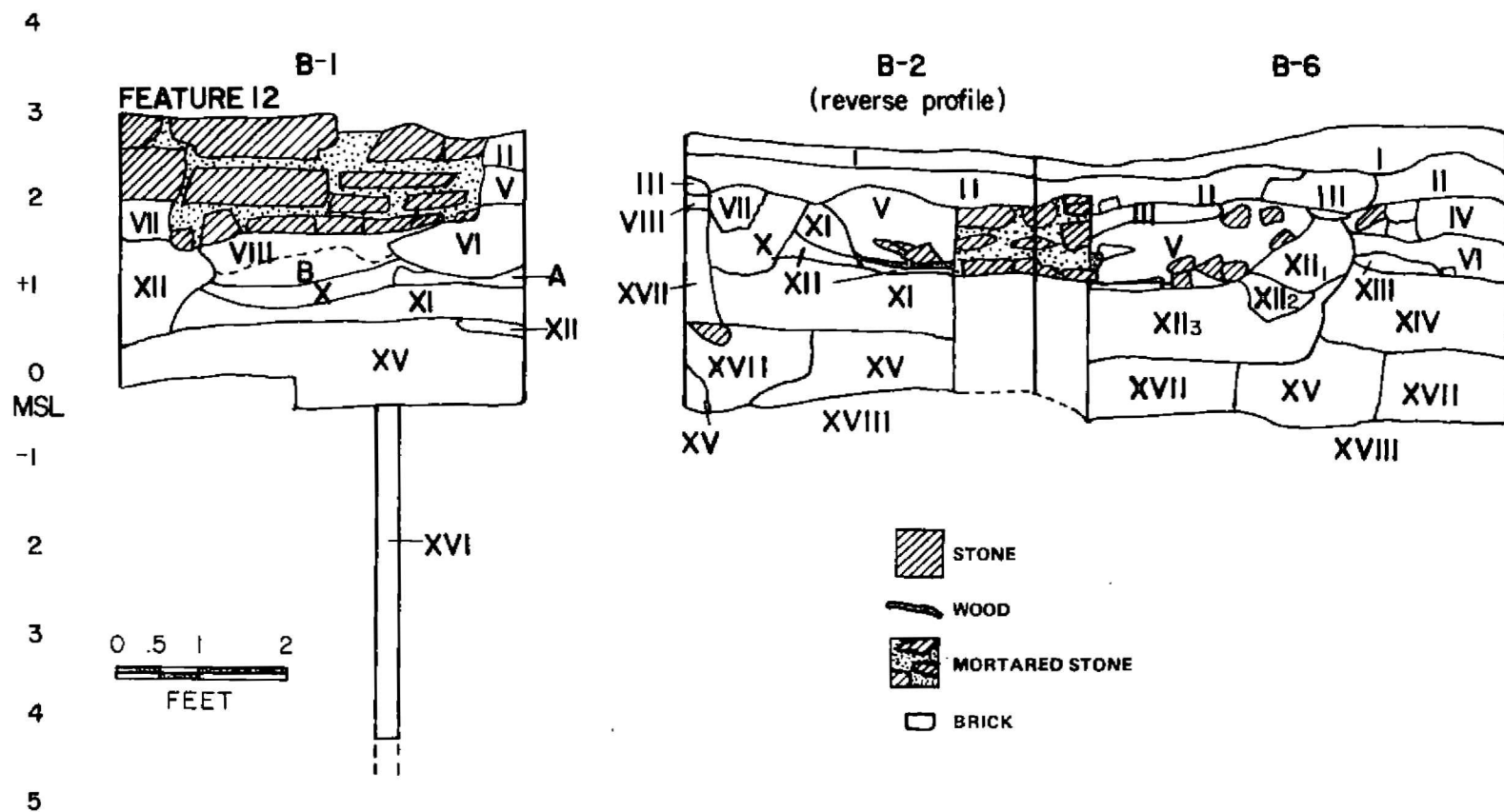
TEST UNIT 4

- I - 10YR 3/4 Dark yellowish brown sand with rubble
- II - Concrete floor
- III - 10YR 3/2 Very dark greyish brown silty sand
- IV - 10YR 3/4 Dark yellowish brown clayey/sandy silt
- V - 10YR 2/2 Very dark brown sandy/clayey silt with coal and charcoal
- VII - Wood planking
- IX - 10YR 3/2 Very dark greyish brown sandy/clayey silt with charcoal and iron oxide
- X - 10YR 3/4 Dark yellowish brown sandy/clayey silt
- XII - 10YR 4/2 Dark greyish brown sand with silt
- XIV - 2.5Y 4/4 Olive brown sandy silt mottled with 10YR 5/4 yellowish brown clay
- XV - 7.5YR 4/6 Strong brown sand with gravel and rocks
- XVII - 5YR 4/3 Reddish brown silt with sand
- XVIII - 7.5YR 3/4 Dark brown sand with clay and silt
- XX - 10YR 2/2 Very dark brown clay/silt

UNIT B-5

- I - 10YR 5/3 Brown coarse sand with decomposed mortar
- II - 5YR 4/4 Reddish brown coarse sand
- III - 10YR 2/1 Black coarse sand with silt
- IV - 10YR 3/4-3/6 Dark yellowish brown coarse sand
- V - 10YR 3/4 Dark yellowish brown sand mottled with 10YR 5/6 yellowish brown sand and charcoal
- VII - 10YR 3/1 Very dark grey sand and silt with charcoal throughout
- IX - 10YR 3/3 Dark brown sand and silt
- X - 7.5 YR 5/4 Brown sand and clay
- XII - 10YR 4/6 Dark yellowish brown sand and silt
- XIV - Mottled 7.5YR 5/6 strong brown sand, 10YR 4/2 dark greyish brown and 10YR 2/2 very dark brown clay
- XVI - 7.5YR 4/4 Brown/dark brown sand
- XVII - 10YR 3/1 Very dark grey silt with sand and clay

FIGURE VI.5:
Composite Profile of Lot 19,
146 Pearl Street
South View
Units B-1, B-2 and B-6



LEGEND TO FIGURE VI.5

UNIT B-1

- II - 10YR 3/3 Dark brown silty sand
- V - 10YR 3/4 Dark yellowish brown sand with clay
- VI - 10YR 3/6 Dark yellowish brown sand
- VII - 10YR 3/3 Dark brown sand with silt
- VIII - 10YR 4/3 Brown/dark brown sand with silt mottled with
10YR 5/3 brown and 5YR 4/4 reddish brown sand pockets
- X - 10YR 3/4 Dark yellowish brown sand with silt
- XI - 10YR 5/3 Brown sand
- XII - 10YR 3/3 Dark brown sand with silt
- XIII - 7.5YR 3/4 Dark brown sand with silt
- XV - 5YR 4/6 Yellowish red sand with silt mottled with 10YR
3/4 dark yellowish brown clay
- XVI - 7.5YR 4/6 Strong brown sand
- XVII - 10YR 3/1 Very dark grey sandy silt with clay
- A - 7.5YR 4/4 Brown/dark brown sand with silt
- B - 10YR 3/3 Dark brown sand with silt and charcoal

UNIT B-2

- I - Concrete floor
- II - 10YR 3/3 Dark brown sand
- III - 10YR 5/3 Brown clay with rubble and sand
- V - 10YR 4/4 Dark yellowish brown sand with 10YR 6/6
brownish yellow clay
- VII - 10YR 7/2 Light grey ash and charcoal
- X - 10YR 4/4 Dark yellowish brown sand with clay mottling and
ash
- XI - 10YR 3/3 Dark brown sand with clay mottling
- XV - 7.5YR 5/6 Strong brown sand with 10YR 5/3 brown clay
mottling
- XVII - 10YR 3/3 Dark brown sand with clay mottling (Feature 18)
- XVIII - 7.5YR 4/6 Strong brown sand

UNIT B-6

- I - Concrete floor
- II - 10YR 3/3 Dark brown sand with 10YR 3/6 dark yellowish
brown sand
- III - 10YR 6/6 Brownish yellow sand with mortar
- IV - 10YR 3/4 Dark yellowish brown sand
- V - 10YR 4/4 Dark yellowish brown sand and rubble
- VI - 10YR 3/3 Dark brown very fine sand
- VIII - 10YR 4/4 Dark yellowish brown compact sand
- XII₁ - 10YR 5/4 Yellowish brown fine sand
- XII₂ - 7.5YR 3/4 Dark brown sand
- XII₃ - 10YR 5/8 Yellowish brown sand with clay

XIII - 10YR 3/6 Dark yellowish brown very fine sand
XIV - 10YR 3/3 Dark brown fine sand
XV - 10YR 3/3 Dark brown sand with clay mottling
XVII - 10YR 4/3 Brown/dark brown sand with clay mottling
XVIII - 7.5YR 4/6 Strong brown sand

mercial purposes. This building remained until it was demolished in 1983. Features 60, 67, and 70 may have been the foundation walls of the residential/commercial structure that occupied the lot between 1708/9 and 1850/1860. The remains of the subsequent four-story building may be represented by the lot/building walls that overlaid these three lower stone walls.

The area west of Feature 60 was probably the interior of the residential/commercial structure, with the area to the east serving as the backyard. This interpretation was supported by the occurrence of several refuse pits (Features 32, 34, and 37,) and a privy/well (Feature 48) east of Feature 60 (Figure VI.3, 5, and 6). In addition, the depositional units to the west of Feature 60 were different from those to the east.

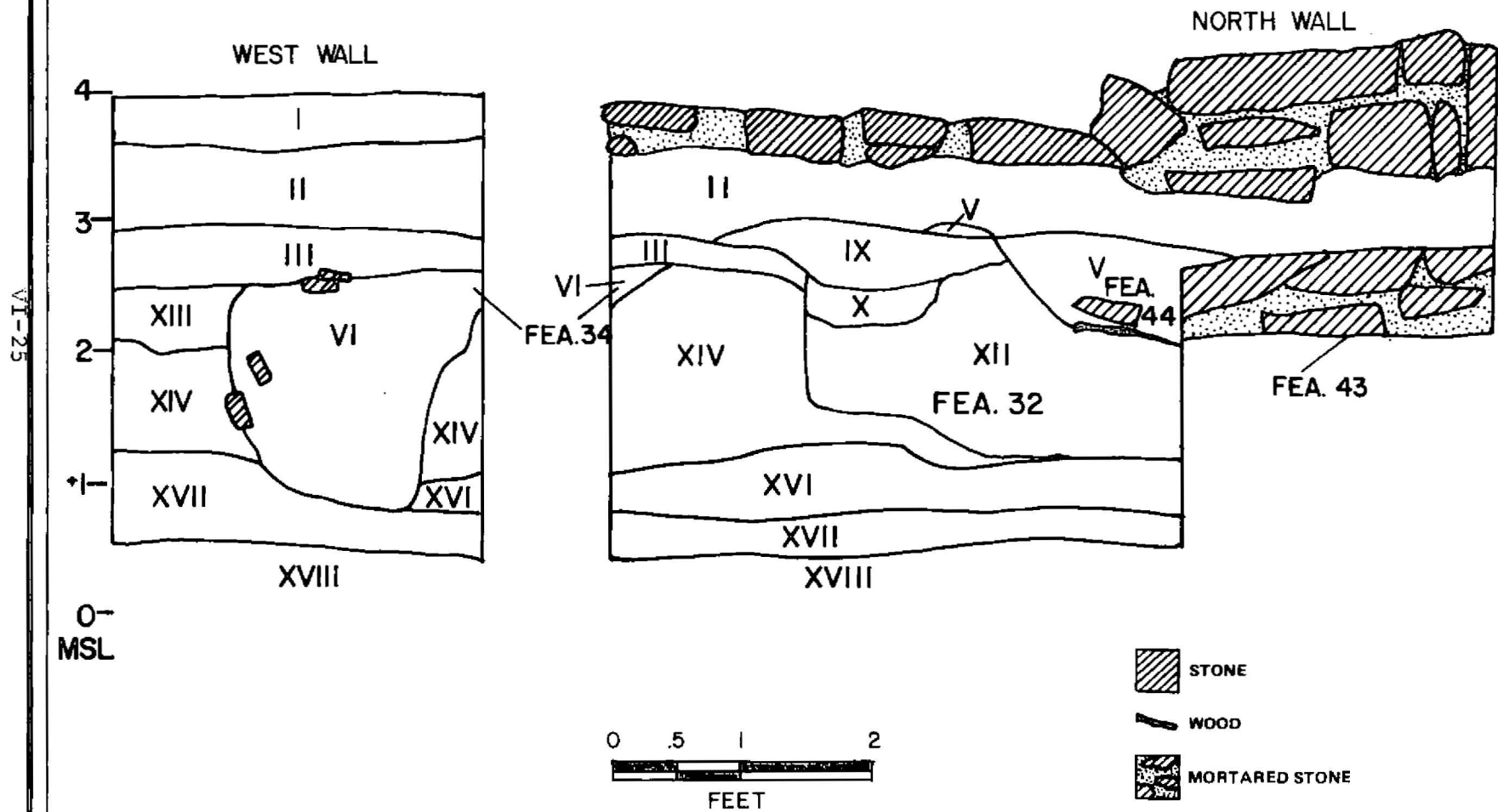
Feature 37 was a rectangular shaped pit situated along the northern edge of Unit B-6 (Figure VI.5). It was not possible to date Feature 37. Nevertheless, ceramic date ranges were established for Features 32 (mid-eighteenth to early nineteenth centuries) and 34 (early to mid-eighteenth century), both of which overlaid Feature 37. Therefore, Feature 37 appeared to date no later than the early eighteenth century.

Feature 34 was a basin-shaped pit encountered at a depth of 2.79 to 0.99 feet M.S.L (Figure VI.6). The material recovered from the feature produced a ceramic date range of early to mid-eighteenth century, slightly earlier than that for Feature 32, which truncates it. An aboriginal net-sinker was recovered from the feature in addition to historic artifacts.

Feature 32 represented the latest depositional unit of the three refuse pits in the backyard area of Lot 19. The feature appeared to be about nine by five feet (Figures VI.5 and 6), and was fairly deep, measuring 3.09 to 1.29 feet M.S.L., directly overlying the second landfill depositional unit. The fill in Feature 32 consisted of lenses of ash and charcoal in the upper levels, grey sand with clay mottling in the lower. The ash and charcoal probably represented fireplace sweepings discarded along with domestic refuse. The ceramics recovered from Feature 32 produced a date range of 1740 to 1800.

Feature 48, a stone privy/well three feet in diameter, was located just west of the junction of three lot walls, directly below the wall footings (Figure VI.3). Consequently, the upper portion of the feature was truncated. The feature appeared to have first been used as a well and then later a privy. The first 3.5 feet within the feature contained a refuse deposit with both eighteenth- and nineteenth-century materials. The next 5.5 feet consisted of "nightsoils," containing a very large quantity of artifactual material ranging in date from 1780 to 1820 (Figure VI.7). Directly beneath the nightsoil was a deposit of lime of varying thickness (.63 to 1.0 feet). The top of a wooden bucket was encountered within the lime deposit and extended into the

FIGURE VI.6:
Unit B-6, Lot 19
146 Pearl Street
West & North Wall Profile

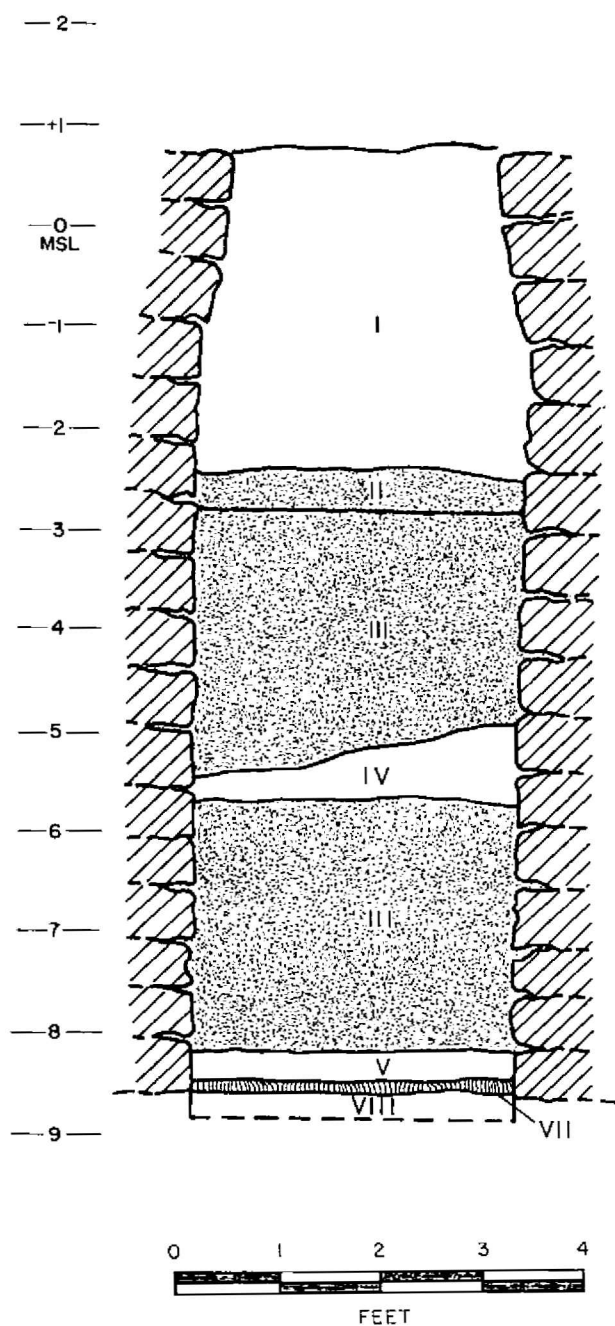


LEGEND TO FIGURE VI.6

UNIT B-6

- I - Concrete floor
- II - 10YR 3/3 Dark brown sand with 10YR 3/6 dark yellowish brown sand
- III - 10YR 6/6 Brownish yellow sand with mortar
- V - 10YR 4/4 Dark yellowish brown sand and rubble
- VI - 10YR 3/3 Dark brown very fine sand
- IX - 10YR 5/6 Yellowish brown very fine sand with ash and charcoal
- X - 7.5YR 4/6 Strong brown coarse sand with ash and charcoal
- XII - 7.5YR 3/4 Dark brown sand mottled with 10YR 5/8 yellowish brown clay
- XIII - 10YR 3/6 Dark yellowish brown very fine sand
- XIV - 10YR 3/3 Dark brown fine sand
- XVI - 10YR 4/6 Dark yellowish brown coarse sand
- XVII - 10YR 4/3 Brown/dark brown sand with clay mottling
- XVIII - 7.5YR 4/6 Strong brown sand

FIGURE VI.7:
Profile of Feature 48 in Lot 19
146 Pearl Street
West View



LEGEND

- I IOYR 4/3 Brown/dark brown silt.
- II IOYR 3/2 Very dark grayish brown sand with clay and silt.
- III IOYR 3/2 Very dark grayish brown.
- IV IOYR 3/1 Very dark gray sand.
- V Lime.
- VII Wood ring.
- VIII IOYR 3/3 Dark brown sand, silt and clay mix.



next stratum, which consisted of a thin (0.2 feet) dark brown sand, silt, and clay deposit. At the interface of this deposit and the lime, directly below the base of the stone wall of the privy/well, was a wooden ring or curb preform. A wooden curb was also found at the base of the brick well (Feature 52) in Lot 16/140 Pearl Street. Ceramics recovered from the dark brown sand, silt and clay deposit at the base of the privy/well ranged in date from the mid- to late eighteenth century. Based on these date ranges, Feature 48 appeared to be contemporaneous with the house/shop that occupied the lot from 1750 to around 1800.

The wooden curbs found in Feature 48 and Feature 52 would have been used during construction of these wells. First, the curb would have been placed on the ground surface. Then, several courses of brick would be built on top of the curb. The ground inside and beneath the curb would be dug out, allowing the structure to sink. This process would continue until the well shaft was completed (see Noel Hume 1969a for a more complete discussion of this process). The unstable and wet landfill matrix into which the wells were dug suggested that this process was used, as opposed to first digging out a shaft, and lining it with brick or stone from the bottom up. The latter technique would be extremely dangerous.

These wells could not have been used for drinking water. Since the block is so close to the river, the water from the wells would have been brackish and would not have been potable. The wells may have provided water for special activities within the block, such as metallurgical work (e.g., a silversmith). Water from these wells could also have been used for firefighting (Diana Wall, personal communication 1985).

Feature 45 was a north/south-oriented mortared stone wall, directly on top of Feature 60. The northern end of the wall (in Unit B-8) was dressed, and showed no signs of having been truncated. This suggested that the wall may have ended at a doorway (Figure VI.3). At its southern end, the wall turned a right angle and ran eastward along the southern lot wall (Figure VI.3). The eastward extension of Feature 45 was not encountered in the excavation of Test Unit 4. This may have been due to the truncation or removal of the wall during the various building phases detected within the unit (e.g., the construction of Feature 43). Also, it did not appear that an "ell"-shaped wall (Feature 12) along the southern lot boundary was a continuation of Feature 45.

Feature 45 and a mortared wall above Feature 67 (i.e., Feature 35, Figure VI.3) may have been the remains of structural walls of an early house. Several observations support this interpretation. First, since the walls lay directly above landfill, which was deposited between 1694 and 1702, they postdate 1702. Second, a brick floor (Feature 27) was encountered within the confines of these walls (Figure VI.3). Finally, the deposits to the east of Feature 45 (See above discussion) suggested a backyard area.

Another depositional unit associated with the commercial/residential occupation of the lot was represented by Feature 43 (Figures VI.3 and 6). This feature was a second north/south-oriented stone wall with an associated builder's trench (Feature 44). This mortared stone wall ran along the east wall of Unit B-6 and the west wall of Unit B-2 (Figure VI.3). It also occurred in Test Unit 4, where the remnants of its base were extant in the north and south walls of the unit, at approximately the same elevation as that in Units B-6 and B-2. Feature 43 was encountered almost immediately beneath the twentieth-century concrete floor. The upper courses of the wall appeared to have been removed by the construction of the floor. In addition, the north end of the wall was truncated by the construction of the north lot wall. This was evident in that the two walls did not mend and that the builder's trench (Feature 44) for Feature 43 was truncated by the shallow north lot wall (Figures VI.5 and 6).

The most common ceramics in the builder's trench (Feature 44) were creamwares and pearlwares, yielding a 1760 to 1830 date range. The most frequent artifact in the feature, however, was glass from medicinal bottles and vials. Therefore, the builder's trench, and the associated wall (Feature 43) date to at least 1789, the earliest documented occupation of a chemist/druggist on this lot. The fill from Feature 44 also contained decomposed wooden planks, encountered just above the base of the trench and directly below the wall (Feature 43; Figure VI.5). The planks were probably used as spread footers for the wall, suggesting that the surrounding soil was soft and soggy and unable to support the wall's weight. Remnants of this planking were also encountered in Test Unit 4, directly below the remnants of the wall. As noted earlier, these planks were originally interpreted (during Phase II) as a wood flooring.

Sometime between 1850 and 1860, the lot contained a four-story building. It was subsequently expanded, between 1890 and 1900, to cover the entire lot. Historical documentation indicated that the four-story structure measured 21.1 x 57 feet on a lot 21.1 by 64 feet (See Appendix C, Section 1). This would leave an area measuring 21.1 x 7 feet within the lot. Feature 43 may have served as the rear foundation wall for this structure, since it was located approximately ten feet from the present day rear lot wall. Also, material recovered from the uppermost strata of the excavation units located west of Feature 43 ranged in date from the mid- to late nineteenth century, while the material east of the wall dated to the late nineteenth to early twentieth century.

As noted above, sometime between 1890 and 1900, the building was expanded to cover the entire lot. Feature 12 appeared to be associated with this final expansion (Figure VI.3). The feature consisted of a mortared stone wall oriented north/south, adjacent to the rear lot wall of Lot 25/112 Water Street. The wall extended from the south lot wall approximately three-quarters of the way across the lot, where it turned a right angle toward the west.

The feature continued only for a few more feet, where it seemed to have been truncated by subsequent construction activities. Material recovered from the deposits associated with Feature 12 appeared to range in date from the late nineteenth to early twentieth centuries, suggesting its association with the later expansion of the four-story building.

The final archaeological context within the lot, i.e. demolition rubble, was not encountered in any of the excavation units opened during data retrieval. All modern demolition debris had been removed from Lot 19 by machine prior to unit excavation.

D. LOT 18 AT 144 PEARL STREET

1. Historic Overview

Number 144 Pearl Street was originally contained within the bounds of Water Lot Grant 4, granted on December 7, 1696, to Christina Veenvos, widow of Daniel Veenvos. The property was subdivided almost immediately, and the area corresponding to Lot 18 (144 Pearl Street) and Lot 26 (110 Water Street) came into the possession of Dr. Henricus Selyns in May of 1699. At that time, there was a house on Pearl Street and a wharf on Water Street. In 1702, Christina Veenvos reported two houses on the property, which extended the full length of the block. Both were occupied by tenants at this time. Lots 18 and 26 were held as a single ownership unit until 1732 and at least one was occupied by a tenant.

By 1789, ownership of the properties on Pearl and Water Streets had been divided. A tenant, Richard Kep, occupied 27 Hanover Square (now 144 Pearl Street). Kep, an upholsterer, and Cooper, a hatter, leased the property in 1791. Three years later, Jotham Post, a physician, lived at 144 Pearl Street, which was also occupied by Joel and Jotham Post, a druggist firm. In 1808, David Dunham, an auctioneer, was headquartered at 144 Pearl Street; and, in 1813, he kept a store, possibly a warehouse, at this location. The property was used for warehousing purposes thereafter.

The rear area of the lot at 144 Pearl Street, based on documentary evidence, was open during at least the early nineteenth century. Subsequently, the entire lot was covered by a building with a basement. The depth of the basement was not known. However, given the nature of the building that occupied the lot (i.e., 4 stories), a deep basement (i.e., more than ten feet) would not be present. Therefore, the lot was assigned a ranking of moderate archaeological potential; and given the occurrence of an open yard area, it was slated for archaeological testing. This was to consist of placing a test unit within the rear of the lot.

2. Testing Results and Data Retrieval Strategy

Testing began with the removal of rubble and demolition debris by machine. The area was then cleared with shovels, exposing flat grey slate stones in the southeast corner of the lot. Clearing also uncovered both the north and east walls of the lot. A 5 x 5 foot excavation unit (Test Unit 5) was placed against the north lot wall. The unit was located between 7.3 feet and 12.3 feet from the northeast lot corner (See Figure V.1).

Excavation of Test Unit 5 revealed a mixed nineteenth- and twentieth-century deposit overlying a builder's trench for the east lot wall. This wall was probably the mid-nineteenth century rear wall of the building which occupied the entire lot. This uppermost deposit also overlaid several strata of demolition debris on the west side of the unit. The demolition debris in turn, was above what appeared to be a burnt wood floor (Feature 2). Feature 2 was truncated by the builder's trenches for the east and north stone lot walls. Underlying both the builder's trenches and Feature 2 was a dark brown clayey silt containing brick, mortar, bone, ceramics and glass. The deepest level of this stratum produced a large concentration of delftware ceramics (110 sherds). This deposit produced a mean ceramic date of 1730. Underlying the clayey silt were various deposits of sand, ranging in color from dark greyish brown to reddish brown. These deposits contained coral, beads, leather, wood and aboriginal ceramics, suggesting a landfill context.

Testing of Lot 18 also included investigation of Feature 6, a possible cistern, located in the southeast portion of the lot. The feature, which was capped with a piece of grey slate, was excavated to .3 feet (+3.09 feet M.S.L.), at which point two large rocks impeded further investigation. It was then probed and appeared not to continue below this depth. Soil removed from the feature consisted of a black silt with sand. This stratum contained glass, metal, ceramics (porcelain and redwares), bone fragments, eggshell, and a button. There were no diagnostic materials to date the deposit.

The potentially significant contexts within Lot 18/144 Pearl Street included the possible cistern (Feature 6), the burnt flooring (Feature 2), and the artifact bearing soils below the burnt floor. The goal of data retrieval efforts in this lot was to define the extent and configuration of the burnt floor and the early eighteenth-century deposits beneath it. This was to be accomplished through the removal, by machine, of all demolition rubble within the yard area. The yard was to be divided into quadrants, and minimally two 5 x 5 foot excavation units placed in each quadrant. One unit would be placed over Feature 6 for excavation of the feature and surrounding soils. The test unit would be considered as part of the overall sample. These units would provide a 31 percent sample of the area to be cleared. All but two of these units were to be advanced to the top of the landfill.

As discussed above, the data retrieval strategy initially called for dividing the lot into quadrants, and placing two units into each. This strategy was maintained whenever possible. However, as work proceeded, it became necessary to shift the location of several units as well as add additional units. Table VI.3 lists all excavation units and gives the rationale for the deviation from the original data retrieval strategy proposed for the lot. Unless otherwise stated, excavation units measured 5 x 5 feet.

Increasing the number of excavation units by 6 brought the total number of units in Lot 18 to 13. This yielded a 57.9 percent sample of the area cleared in Lot 18 (Figure VI.8).

3. Data Retrieval Results

Excavations in Lot 18/144 Pearl Street uncovered both residential and commercial deposits and features dating from the eighteenth through twentieth centuries. Further, the lot could be broken down into three distinct activity areas: one related to the interior of a possible eighteenth-century structure; the second, to a rear yard that was subsequently covered by an extension, or "ell," to the eighteenth-century structure; and thirdly, a possible eighteenth- and nineteenth-century rear yard.

Three archaeological contexts appeared to be represented within the eighteenth-century structure. The earliest stratum related to landmaking and consisted of one depositional unit. The second centered around the construction of the structure (cellar and foundations), and included a cobble floor (Feature 30) and a wall (Feature 41; Figures VI.8 and 9). Three depositional units were defined within this context. The third context appeared to be associated with the destruction of the structure by fire, and contained only one depositional unit. The last archaeological context was the demolition rubble above the remains of the fire. This rubble contained four separate depositional units.

Sitting upon landfill were two fill deposits (each a depositional unit) that appeared to have served as a bedding or footing for the foundation/cellar walls of the eighteenth-century structure and for the cobble floor of the cellar. This floor was at least 15 feet east/west by 16 feet north/south, and contained five unlined trenches, oriented north/south and sloping to the south (Figure VI.9). These trenches, which were spaced two to three feet apart, may have functioned as drains in the cellar (Plate VI.3).

Feature 41, a stone wall, probably represented the eastern extent, or rear wall of the cellar/foundation. The base of the wall abutted the cobble floor at 1.0 feet M.S.L. The north end of Feature 41 was bonded to the lower section of the north lot wall, and appeared to have been truncated by the upper section of this wall (Figure VI.9). This upper section functioned as both the exterior wall to the main building fronting on Pearl Street

TABLE VI.3

RATIONALE FOR PLACEMENT OF EXCAVATION
UNITS DURING DATA RETRIEVAL

LOT 18 at 144 PEARL STREET

<u>Unit #</u>	<u>Rationale for Unit Placement</u>
C-1 and extension	As originally proposed, overlying Feature 6, in north/east quadrant of lot. Also, to investigate Feature 46.
C-2	Placed over a cobble floor (Feature 17), partially exposed during Phase III lot clearing.
C-3	As originally proposed, unit placed in south/west quadrant of yard.
C-4	Measuring 2.5 feet by 5 feet, placed to determine the eastern extent of a cobble floor (Feature 17).
C-5	As originally proposed, unit placed in north/west quadrant of yard.
C-6	Measuring 2.5 feet by 5 feet, placed to determine western extent of a brick wall (Feature 19), and to determine relationship of Feature 19 to north/south-oriented stone wall (Feature 41).
C-7	Placed to define southern and eastern extent of cobble floor (Feature 17), as well as to determine the relationship between Feature 17 and the east and south stone lot walls. Unit also located within south/east quadrant of yard area.
C-8	Measuring 16.7 feet north/south by 10 feet east/west, abutting a north/south oriented stone wall (Feature 41). Placed to define extent and relationship of Feature 41, a cobble floor (Feature 30) and charred deposit uncovered in Units C-3 and C-5.

TABLE VI.3 CONTINUED

C-9	Area cleared in order to better understand stratigraphy in Units C-6 and C-2.
C-10	Placed to determine relationship between east/west-oriented brick wall (Feature 19) to rear stone lot wall, as well as overall relationship to two cobble floors (Features 17 and 25).
C-11	Placed to investigate a disturbed area in Units C-2 and C-7 (Feature 54), as well as the extent of Feature 17.
C-13	Placed to investigate a wooden barrel (Feature 58) and a wood box (Feature 62).

FIGURE VI.8:
144 Pearl Street
Opening Plan View
Lot 18

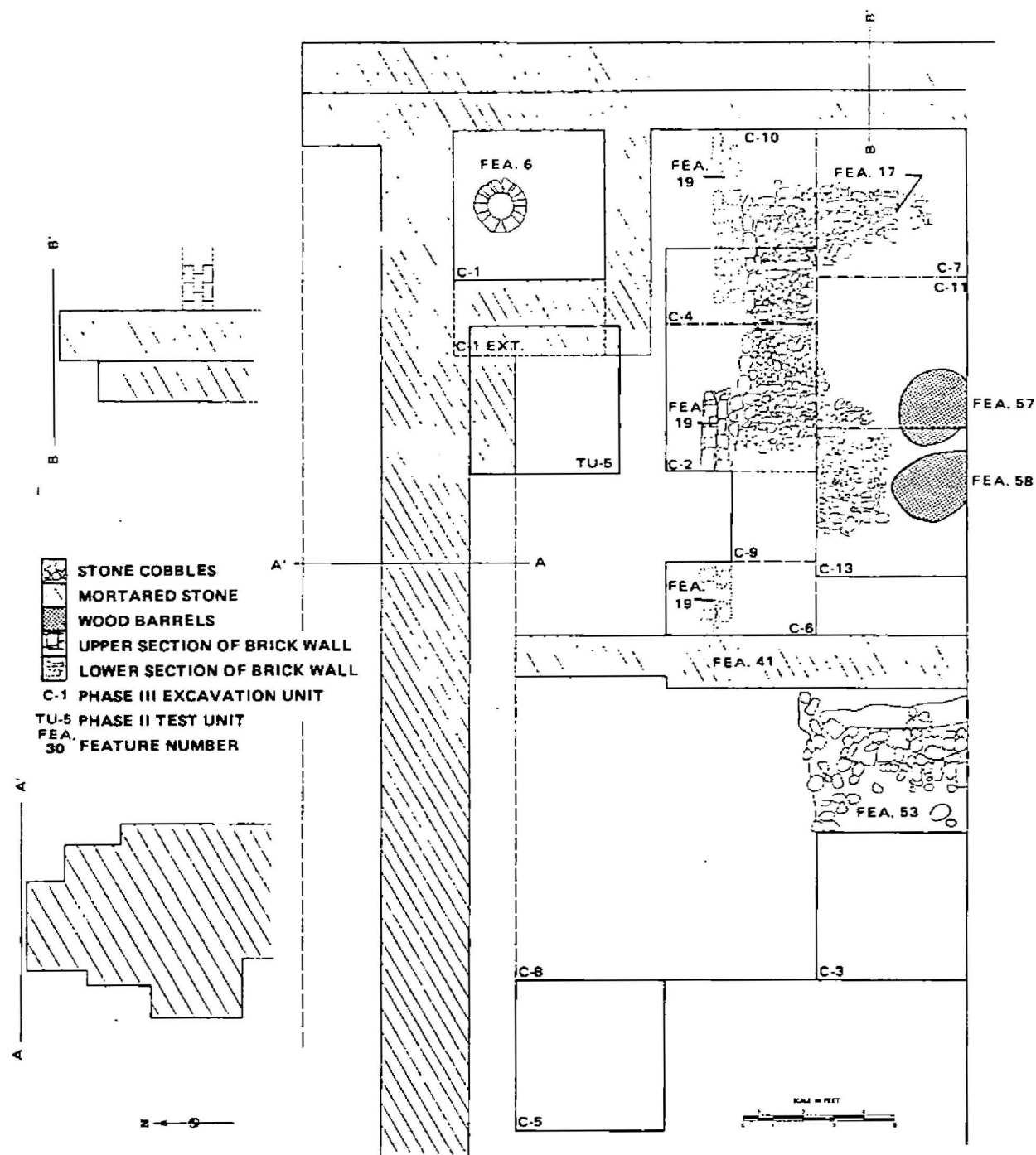
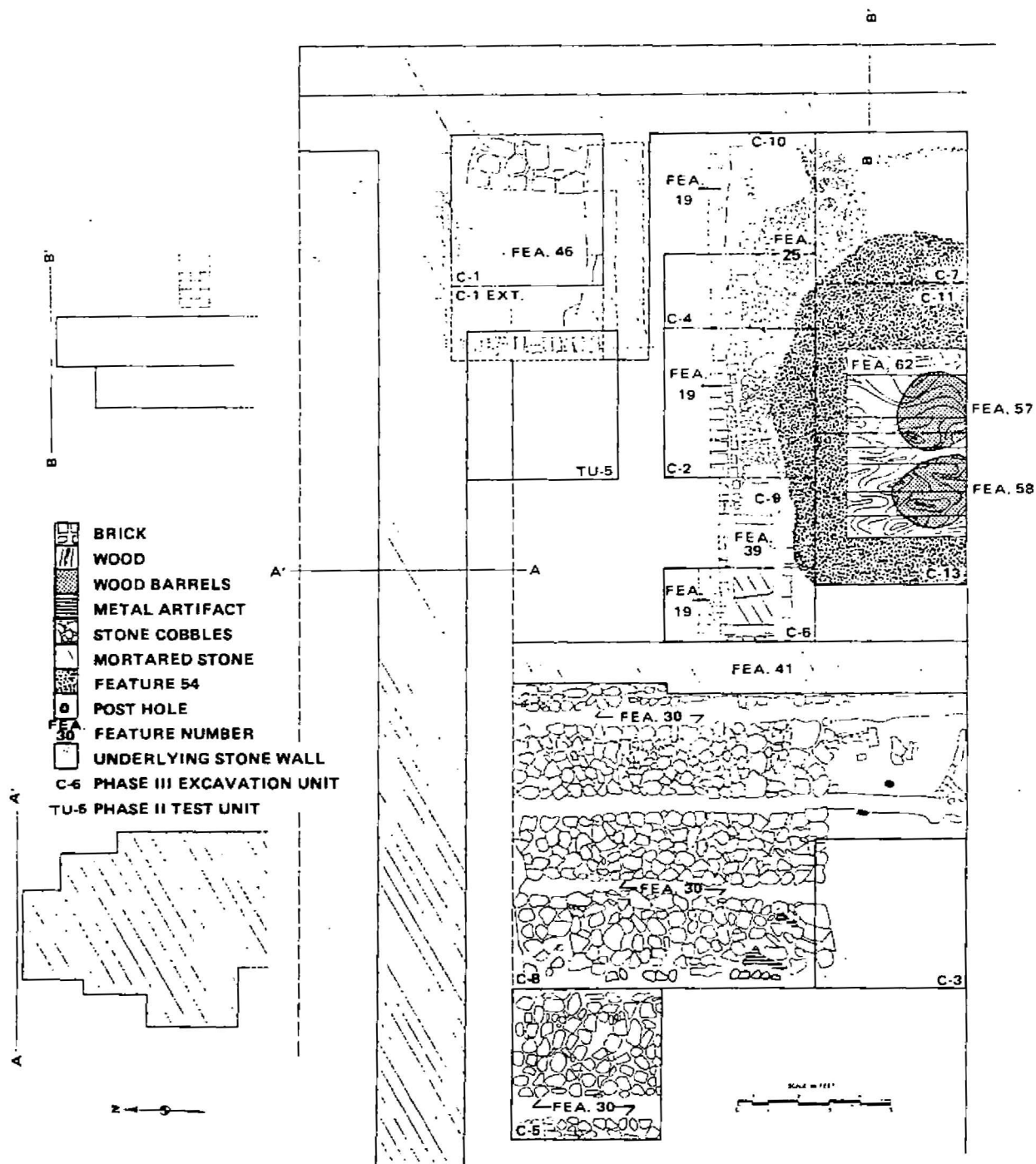


FIGURE VI.9:
144 Pearl Street
Lot 18
Planview of Features 19, 25,
30, 39, 41, 46, 54, 57, 58



and as the north wall of the rear extension, or "ell" of this building (See below) (Figure VI.9). Stratigraphically, this upper wall represented a later construction episode within the lot.

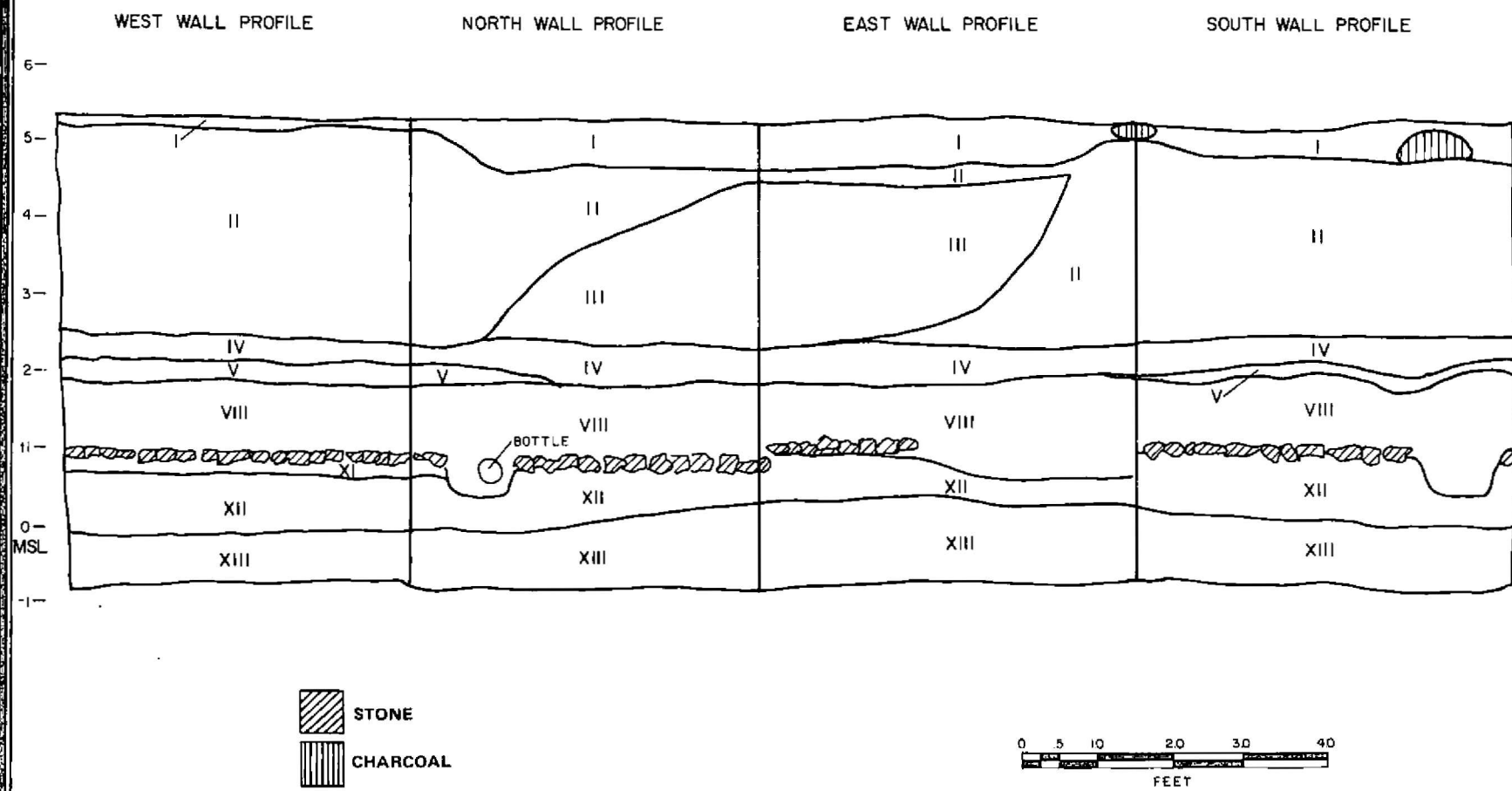
Above the cellar's cobble floor, at 1.85 feet M.S.L., was a depositional unit containing large amounts of charcoal and partially burned wood (Figure VI.10). This deposit appeared to be associated with a fire on the block. The partially burned wood debris was probably the remains of the upper stories of the structure that had collapsed into the basement. The depositional units above the burnt material were associated with the destruction of the building on the lot, after the fire. It was not known if one or all of these four strata were linked to demolition of a structure damaged by the fire, or represented much later demolition activities. The date of these demolition deposits was not apparent during field efforts. However, they appeared to have been deposited as two demolition or dumping events (Figure VI.10). These deposits varied in color, texture, and amount of demolition debris. They ranged from dark yellowish brown silt with brick and mortar to a light reddish brown coarse sand, with brick and mortar.

The northeast third of Lot 18 experienced a complex depositional history. The earliest group of strata, excavated in Test Unit 5, were associated with landfilling activities. These strata included reddish brown and grey brown clayey silts, reddish brown sands, and red sandy silt. Intruding into these deposits is Feature 46. The feature, constructed of brick and stone walls, measured 7.0 feet east/west by 5.2 feet north/south (Figure VI.9). The west brick wall of Feature 46 abutted its north and south mortared stone walls. The easternmost wall was also constructed of mortared stone. This rectangular feature contained domestic refuse in a matrix of very dark grey, brown silt. It appeared that Feature 46 had been truncated by construction of the "ell" to the main lot building (See below), during which some refuse deposits from within the feature, along with parts of its west brick wall, were spread across this section of the lot. The function of Feature 46 was not evident during field investigations.

Abutting the south wall of Feature 46, was an east/west-oriented brick wall (Feature 19). This brick wall also abutted Feature 41, the rear or east wall of the cellar (Figure VI.8). Feature 19 was truncated by a later building episode at the east lot boundary (Figure VI.8). The construction of Feature 19 probably represented the south wall of the "ell" extension to the main structure fronting on Pearl Street. Between 7.7 to 10.6 feet east of Feature 41, there was a break in the wall (Figure VI.8). This may have been the location of a doorway to the "ell." This interpretation is supported by the occurrence of a cobble surface (Feature 17) south of this break in the wall. A metal door hinge was also recovered in the extension of Unit C-2, on the surface of the cobble floor.

FIGURE VI.10:
Unit Profiles of Excavation Unit C-5, Lot 18
144 Pearl Street

VI-38



LEGEND TO FIGURE VI.10

UNIT C-5

- I - 10YR 4/4 Dark yellowish brown silt with sand
- II - 10YR 5/8 Yellowish brown powdered mortar with brick rubble
- III - 2.5YR 5/4 Reddish brown silt with powdered mortar
- IV - 7.5YR 4/4 Strong brown coarse sand
- V - 7.5YR 4/4 Brown to dark brown coarse sand and 7.5YR 4/6 strong brown coarse sand
- VI - 10YR 7/1-5/1 Light grey to grey fine quartz sand mottled with 7.5YR 3/4 dark brown silt and sand with very dark grey 10YR 3/1 silt
- VII - Mortar and crushed brick
- VIII - 10YR 2/2 Very dark brown silt with trace sand and charcoal
- IX - 10YR 2/2 Very dark brown sand with clay
- X - Cobble surface
- XI - 7.5YR 4/6 Strong brown coarse sand
- XII - 10YR 4/4 Dark yellowish brown silt
- XIII - 10YR 4/6-7.5YR 4/6 Strong brown sand

Figure VI.9 shows the relationship of Feature 19, the east/west-oriented brick wall, to Feature 46. Based on the relationship of the two feature walls, it seemed highly improbable that they were used concurrently. Rather, Feature 46 was probably a backyard feature before any structure had been built in Lot 18 east of Feature 41, the rear or east wall of the cellar. Subsequently Feature 19 was built as part of the extension to the house, destroying the upper portions of Feature 46.

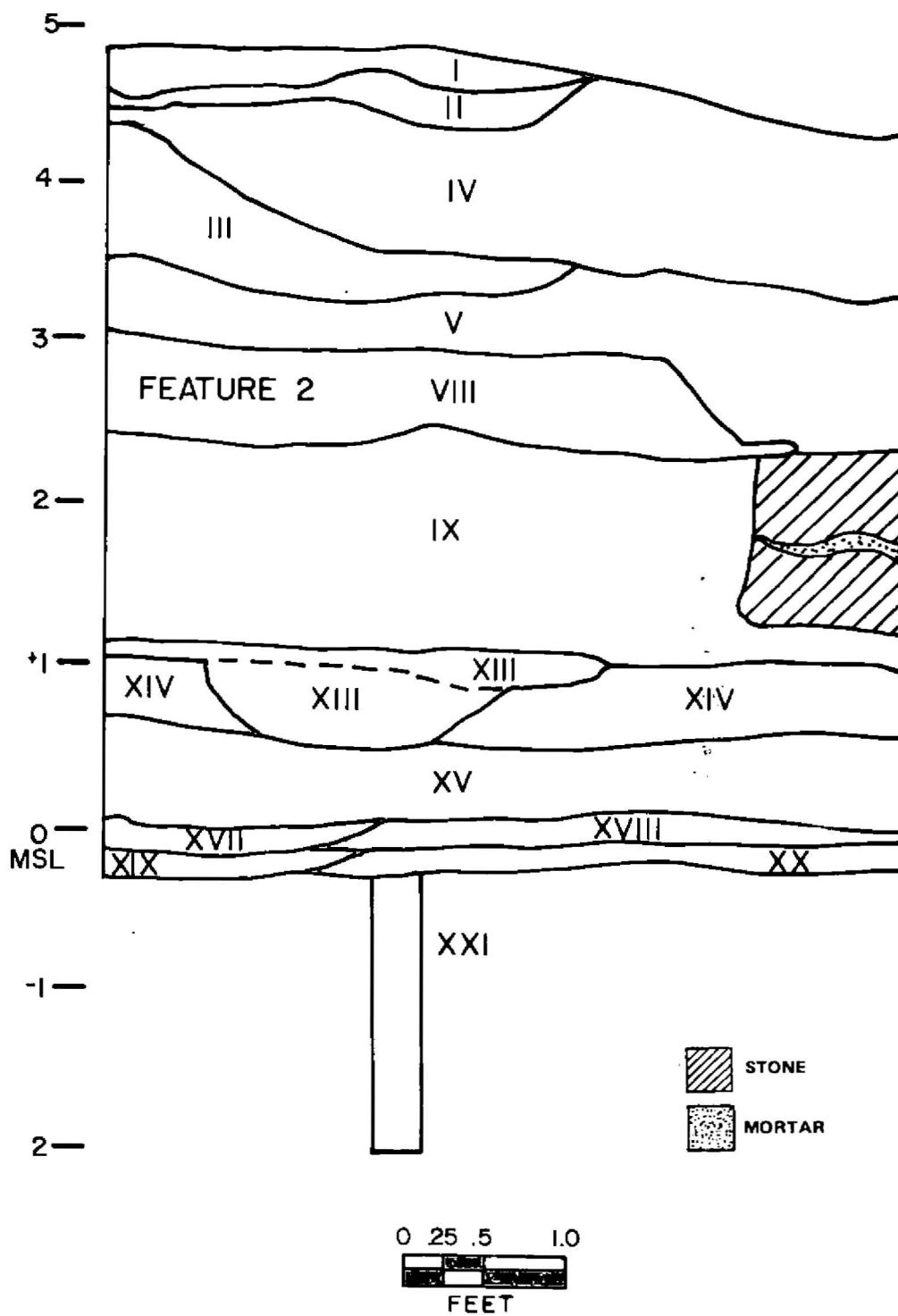
Feature 2, a charcoal deposit, overlay the remains of Feature 46 which were spread across this area of the lot (Figure VI.11). This deposit, probably from a fire, is similar to the burnt deposit within the cellar. Feature 2 contained a large quantity of charred wood, and probably represented the remains of a burned floor and/or collapsed upper stories from the "ell" extension. This deposit was overlain by three strata of demolition rubble associated with the destruction of a building on the lot, possibly after the fire.

During the nineteenth century, a four-story structure occupied virtually all of the lot. Field investigations have shown that, at this time, the building did not extend to the northeast corner of the lot. In this corner was Feature 6, a circular brick structure (Figure VI.8). Two five-foot-long stone walls formed the west and south sides of Feature 6 (Figure VI.8). The builder's trench to the west wall, in addition to the trench associated with the rear east lot wall, both contained late nineteenth- to twentieth-century artifactual material.

Feature 6 was capped by a cut stone slab measuring 2.4 by 2.2 by .25 feet thick. A hole .1-foot wide had been bored through the center of the slab. A circular area, approximately .5 feet in diameter and surrounding the hole, was cut out of the slab and sloped toward the centrally located hole. The brick feature, which measured 2.4 feet in diameter, was constructed of eight courses of unmortared brick laid in a header pattern. Its interior was filled with a black sandy soil, mortar, rubble, and few artifacts.

The southeast portion of Lot 18 appeared to be the only undisturbed portion of the original rear yard. Apparently, there was minimal impact from the construction of the four-story building which covered almost all of the lot by at least mid-century. This undisturbed area was bounded by the east cellar wall (Feature 41), Feature 19, and the south and east lot walls, (Figure VI.9). Landfill deposits, consisting of various brown silts, clays, and sands, in addition to a shell layer, represented the earliest strata within this yard area. Feature 19, the south wall of the "ell" and its builder's trench, extended into these landfill deposits, to a depth of -0.70 feet M.S.L. Feature 39, a brick enclosure with a schist base, was adjacent to the brick wall, at the west end of the yard area. This feature abutted the east cellar wall (Feature 41), and appeared to have

FIGURE VI.11:
Test Unit 5, Lot 18
144 Pearl Street
West Wall Profile



LEGEND TO FIGURE VI.11

TEST UNIT 5

- I - 10YR 3/4 Dark yellowish brown sand mottled with 10YR 3/2 very dark greyish brown with rubble
- II - 10YR 4/3 Very dark brown sandy silt with rock fill
- III - 5YR 4/4 Reddish brown sandy silt with rubble
- V - 10YR 4/3 Dark brown sandy silt with brick and mortar
- VIII - Feature 2 - 10YR 2/1 Black clayey silt and charcoal
- X - 10YR 3/4 Dark grey brown clayey silt with charcoal
- XII - 10YR 4/2 Dark brown sandy silt with mortar
- XIII - 10YR 4/2 Dark greyish brown sand
- XIV - 5YR 4/3 Reddish brown sand with mica
- XV - 10YR 5/6 Yellowish brown hard packed clay
- XVII - 5YR 4/4 Reddish brown sand with mica flecks
- XVIII - 2.5YR 3/2 Very dark greyish brown sand with mica flecks
- XIX - 2.5YR 5/2 Grey brown clayey silt
- XX - 2.5YR 3/2 Red sandy silt
- XXI - Auger - 2.5YR 5/2 Grey brown clayey silt

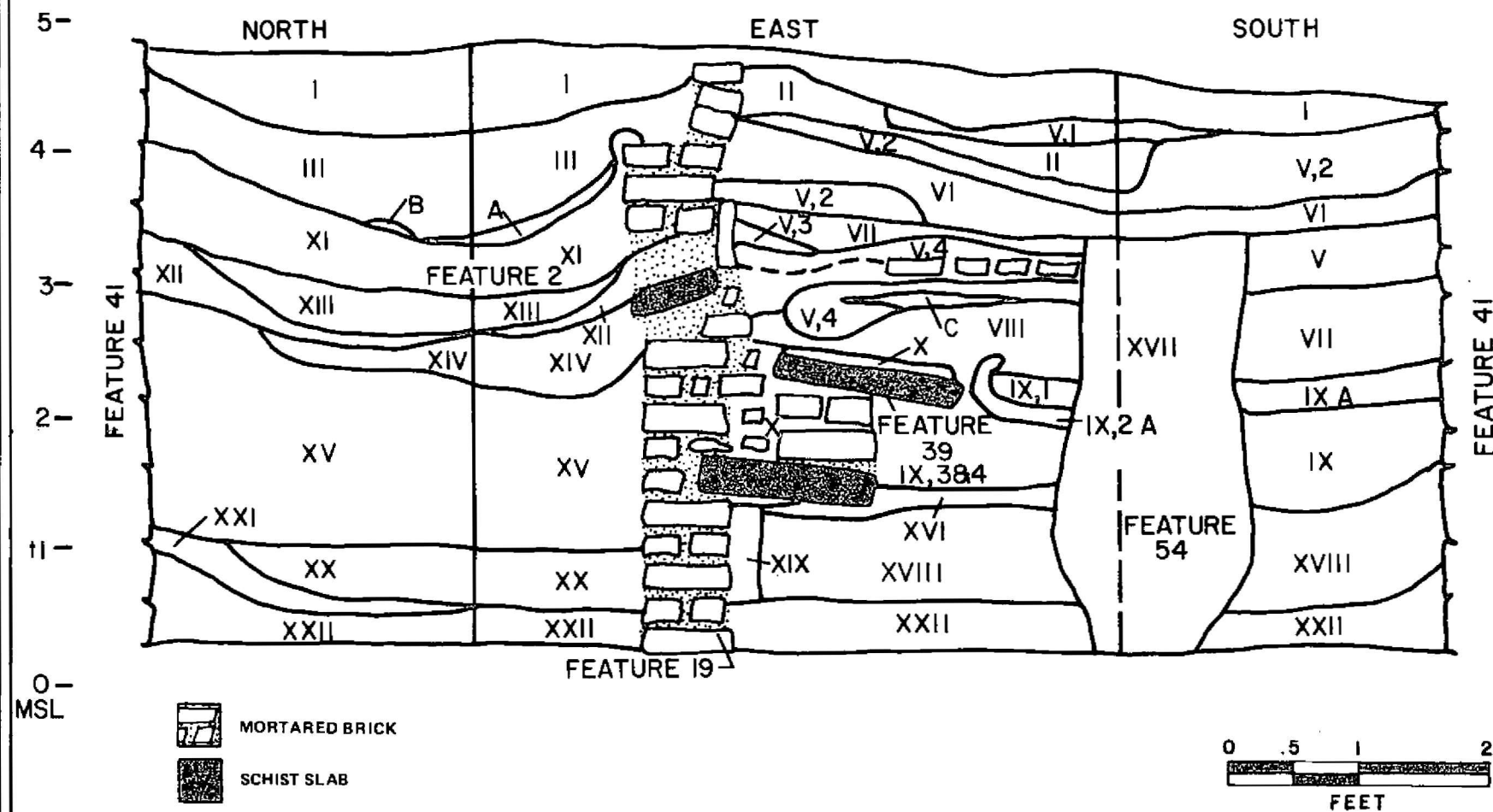
been built in conjunction with Feature 19. All that remained of the feature were two courses of brick on its west and south sides, and one course of brick along its east side, all mortared to the schist base. The schist slabs rested on and were mortared to two courses of brick, which were also mortared with Feature 19 (Figures VI.9 and 12). To the south of Feature 39, is a deposit of brick rubble, probably wall fall associated with the feature. This feature may have been a cistern that was truncated by later construction. This interpretation was based on the mortared walls and the feature's location in the rear of the lot, but adjacent to the main building that would have faced Pearl Street.

Also within this area were two cobble surfaces (Features 24 and 25) overlying a footing of fill soils (Figures VI.9, 13 and 14). These two surfaces were not quite level with each other, but did appear to represent a single cobble pavement. Interestingly, this surface was at the same level as the large burnt wood deposit (Feature 2) within the "ell" addition. This suggested that the burnt deposit may have once been a floor of the addition, used at the same time as the cobble pavement in the open yard. The cobble surface had been truncated by the eastern lot wall (Figure VI.9), as well as by Feature 54, a large pit located in the southwest portion of the yard area (Figures VI.9 and 14). The feature extended into landfill to a depth of -0.40 feet M.S.L. During excavation of the base of Feature 54, a wooden structure (Feature 62) was exposed (Figure VI.14). Feature 62 was similar in construction to Feature 1 in Lot 20/148 Pearl Street, and Feature 61 in Lot 26/110 Water Street (See below). The wooden structure consisted of planks, oriented north/south, nailed (with rose head nails) to underlying square support beams. There were also remnants of upright wood boards on the feature's east, west and south sides. Feature 54 was interpreted as the builder's trench for Feature 62.

The function of Feature 62 was not evident during fieldwork. However, the occurrence of these structures in several lots and in similar locations within lots (near the rear of a building) suggested a common use. A cistern was suggested for Feature 1 (See Lot 20, 148 Pearl Street discussion). A similar use was hypothesized for Feature 64. Curiously, the Barclays Bank Site lacks the stone-lined cisterns found in lots at both the Telco Block and 175 Water Street Sites (See Rockman et al. 1983, Geismar 1983). These wood features may represent an earlier form of cistern construction within the city, given that they predate those on the other two blocks.

During continued investigation of this area of the lot, two wooden barrels (Features 57 and 58) and their associated builder's trenches, were found intruding into Feature 54. Feature 58 contained large quantities of ceramic and glass pharmaceutical artifacts, while Feature 57 appeared to contain domestic refuse. If Feature 58 was associated with the chemist/druggist occupation of 144 Pearl Street, then the fill in the barrel (Plate VI.4)

FIGURE VI.12:
Unit C-6, Lot 18
144 Pearl Street
North, East and South Profiles

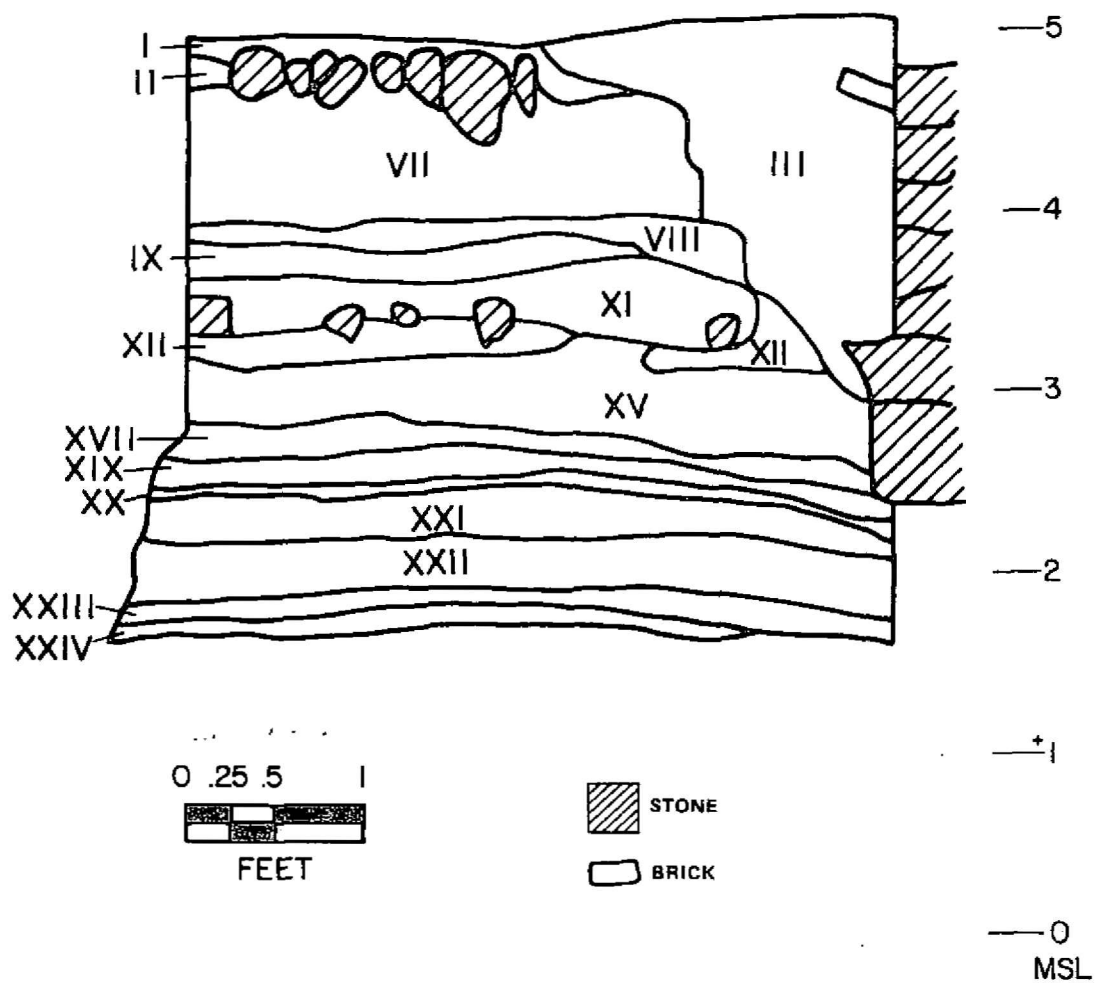


LEGEND TO FIGURE VI.12

UNIT C-6

- I - 7.5YR 4/4 Brown/dark brown silt with sand, mortar and brick
- II - 10YR 3/2 Very dark greyish brown silt with mortar charcoal fragments
- III - 10YR 3/3 Dark brown fine sand with silty sand mottled with ash and charcoal
- V - 10YR 3/4 Dark yellowish brown sandy silt with yellowish brown 10YR 5/6 silt with charcoal
- VI - 10YR 3/3 Dark brown sandy silt with charcoal
- VII - 10YR 3/6 Dark yellowish brown coarse sand
- VIII - 10YR 4/3 Brown/dark brown fine silt mottled with clay
- IX - 10YR 5/6 Yellowish brown sand and silt
- X - 10YR 4/4 Dark yellowish brown silt with mortar
- XI - Feature 2 - 10YR 2/1 black charcoal layer
- XII - 10YR 2/2 Very dark brown silt with sand and charcoal
- XIII - 10YR 4/3 Brown to dark brown silt
- XIV - Trench around barrels 10YR 3/2 very dark greyish brown fine silt
- XV - 10YR 3/2 Very dark greyish brown fine sand
- XVI - Mortar and coral
- XVII - Feature 54 - 10YR 3/3 dark brown silt
- XVIII - 7.5YR 4/4-4/6 Brown to dark brown fine sand
- XIX - 10YR 5/3 Brown silt with sand
- XX - 10YR 4/3-5/3 Brown to dark brown silty sand
- XXI - 10YR 8/1 White to 10YR 6/1 light grey/grey (shell layer)
- XXII - 10YR 3/3 Dark brown clay with 10YR 6/6 brownish yellow fine sand
- A - Mortar and brick fragment concentration
- B - Coral
- C - Yellow silt

FIGURE VI.13:
Unit C-7, Lot 18
144 Pearl Street
North Profile

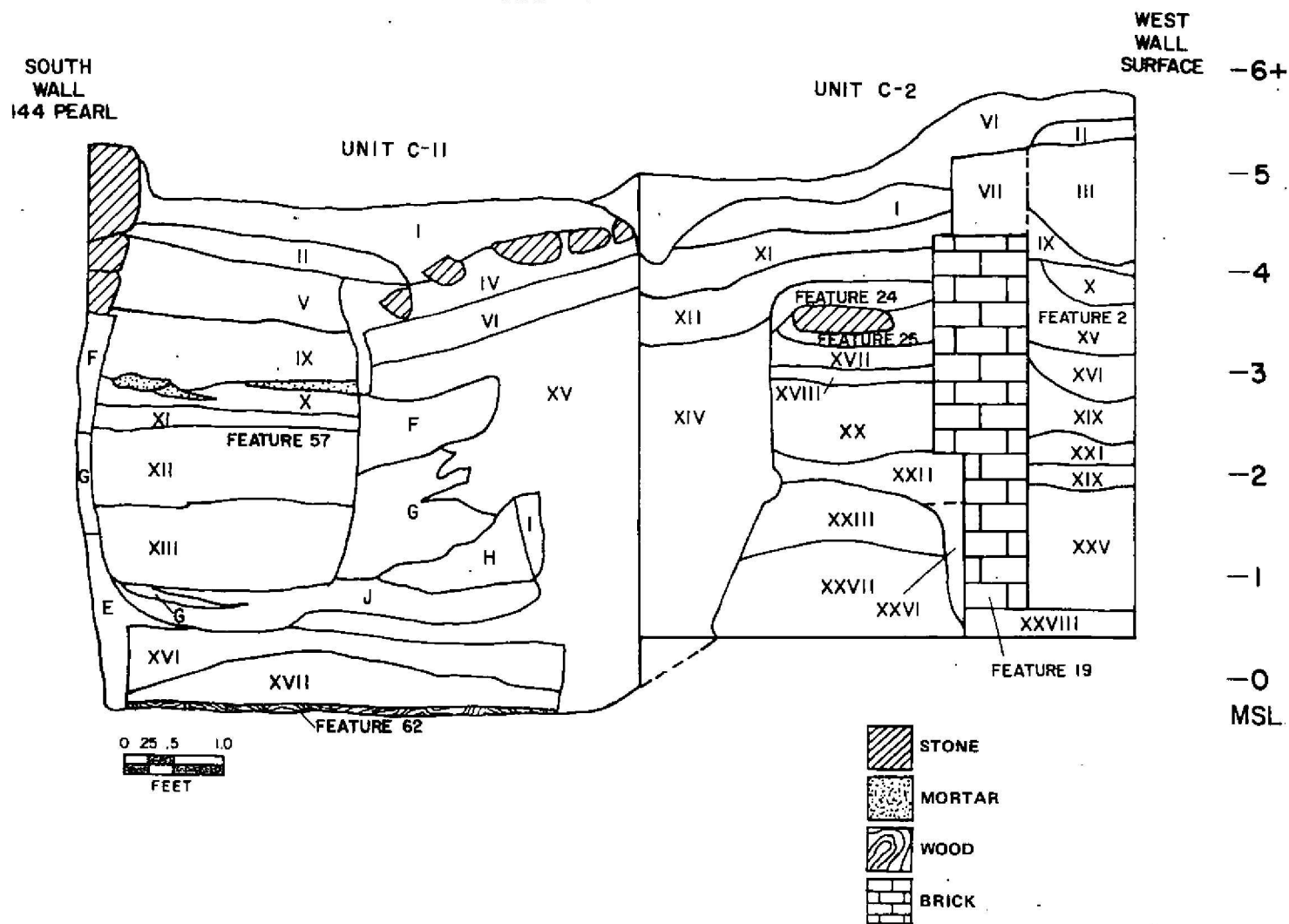


LEGEND TO FIGURE VI.13

UNIT C-7

- I - 10YR 4/3 Brown/dark brown silt mottled with 10YR 5/8 yellow brown silty sand
- II - 10YR 4/3 Brown/dark brown silt with sand
- III - 10YR 4/4 Dark yellowish brown silt
- VII - 2.5Y 5/6 Light olive brown fine sand
- VIII - 10YR 4/4 Dark yellowish brown silt
- IX - 10YR 3/3 Dark brown coarse silt
- XI - 10YR 3/3 Dark brown sand with silt
- XII - 10YR 5/2 Grey brown sand with silt
- XV - 10YR 5/4 Yellowish brown fine silt with clay mottling
- XVII - 10YR 7/1 Light grey fine silt
- XIX - 10YR 5/3 Brown silt mottled with grey to orange yellow fine silt
- XX - 10YR 5/3 Dark grey coarse silt
- XXI - 5YR 4/4 Reddish brown fine sand
- XXII - 10YR 3/3 Dark brown silt mottled with 5YR 4/4 reddish brown sand
- XXIII - 7.5YR 4/2 Brown/dark brown fine silt and sand
- XXIV - 10YR 4/4 Dark yellowish brown with 10YR 8/1 white silt

FIGURE VI.14:
 Composite Profile of Lot 18,
 144 Pearl Street
 West View
 Units C-11 & C-2



LEGEND TO FIGURE VI.14

UNIT C-2

- I - 10YR 3/3 Dark brown coarse sand and silt
- II - 10YR 4/3 Dark brown sandy silt with clay, brick and mortar
- III - 10YR 5/8 Yellowish brown sand with mortar and brick
- VI - 10YR 3/2 Brown sandy silt with brick and mortar
- IX - 10YR 3/3 Dark brown with 10YR 4/4 dark yellowish brown clay to silt
- X - 10YR 5/2 Grey brown fine sand with silt
- XI - 7.5YR 4/4 Brown/dark brown sandy silt with decayed mortar
- XII - 10YR 3/3 Dark brown sandy silt with quartz
- XIV - 7.5YR 5/8 Strong brown silt
- XV - 10YR 2/1 Black charcoal
- XVI - 10YR 4/3 Brown/dark brown silt mottled with 10YR 3/2 very dark greyish brown silt
- XVII - 7.5YR 6/0 Grey ash with charcoal
- XVIII - 7.5YR 4/6 Strong brown sandy silt
- XIX - 10YR 4/1 Dark grey fine silt with charcoal
- XX - 7.5YR 4/4 Brown fine sand
- XXI - 10YR 2/1 Black fine silt
- XXII - 7.5YR 4/6 Strong brown fine sand
- XXIII - 7.5YR 4/6 Strong brown fine sand
- XXV - 10YR 4/4 Dark yellowish brown coarse silt
- XXVI - 7.5YR 3/4 Dark brown fine sand with mortar
- XXVII - 10YR 2/2 Very dark brown clay mottled with 10YR 5/8 yellowish brown clay
- XXVIII - 5YR 3/3 Dark reddish brown silt
- Feature 24 - First cobble layer
- Feature 25 - Second cobble layer

UNIT C-11

- I - 10YR 2/2 Very dark brown silt with sand; brick, mortar and charcoal fragments
- II - 10YR 2/1 Black charcoal
- IV - 2.5YR 4/4 Reddish brown very fine sand
- V - 10YR 3/3 Dark brown silt with sand
- VI - 7.5YR 4/6 Strong brown to brown sand
- IX - 10YR 3/3 Dark brown sand alternating with brick and mortar
- X - 2.5YR 6/6 Light yellowish brown fine sand
- XI - 10YR 4/3 Brown to dark brown silt with sand
- XII - 10YR 4/3 Brown to dark brown sandy silt with 10YR 6/6 brownish yellow clay
- XII - 10YR 3/2 Very dark greyish brown silt
- XV - 10YR 3/3 Dark brown silt with sand

- XVI - 10YR 5/8 Yellowish brown silt, mottled with 10YR 5/3 brown silt
- XVII - 10YR 3/2 Very dark grey brown fine silt with sand

Unexcavated Strata, removed during backhoe cleaning

- E - 10YR 4/3 Brown to dark brown silt with trace sand
- F - 10YR 5/6 Yellowish brown fine silt
- G - 10YR 5/4 Yellowish brown clay
- H - 10YR 3/4 Dark yellowish brown coarse sand with silt
- I - 10YR 4/3 Brown to dark brown clay with trace sand
- J - 10YR 6/6-5/6 Brownish yellow to yellowish brown clay, mottled with 10YR 3/3 dark brown fine silt



PLATE VI.4 Feature 58, Barrel. Lot 18 at 144 Pearl Street.



PLATE VI.5 Feature 13, Yellow brick cistern. Lot 25 at 112 Water Street.

probably dated no later than 1800, at which time the lot contained a dry goods store (See Appendix C, Section 2).

Overlying the barrels' trenches, were three distinct fill deposits approximately 0.7 feet thick. Feature 17, another cobble pavement, was embedded into these deposits (Figure VI.14). This cobble surface sloped southward, away from Feature 19, following the contour of the underlying fill deposits and toward the rims of the two barrel features (Figure VI.8).

As noted earlier, the construction of the four-story building which encompassed most of the lot, had little impact on the yard deposits and features in the southeast section of the lot. The effects of this construction were seen, however, in the truncation of the eastern end of Feature 19 and the two cobble surfaces (Features 17 and 25) by the rear lot wall, which also probably served as a foundation wall to this four-story structure.

E. LOT 16 AT 140 PEARL STREET

1. Historic Overview

Lot 16 was contained within the bounds of Water Lot Grant 4, awarded to Christina Veenbos on October 7, 1696. Within a period of months, the grant was subdivided and sold off to John Abeel, a merchant in the city. By 1702 Abeel was reported to have a house on the lot, rented to Elias Neau. (Tax records, Book 1, 1702). The house probably was located on the Pearl Street frontage. By the 1780s, developments were located along both Pearl and Water Streets. By 1789, Cornelius Clopper owned and occupied a house along Pearl Street, while a tenant, John Reed, a bookseller and book binder, lived and worked on the Water Street frontage (Tax assessments 1789:3; New York City Directory 1790:83). This pattern of residential/store fronts continued through the early 1800s. By 1813, the Pearl Street section was converted to a store or warehouse, although the Water Street lot was still owned by craftsmen.

Records from the 1860s provided the first documentation of the dimensions of buildings occupying the lot. The 1860 tax assessments indicated that two four-story buildings were present, covering the lot which measured 20.5 x 101.1 feet. By 1880, the records indicated that only a single six-story building covered Lot 16. The last major change to occur in this section of the block was the incorporation in 1930 of Lot 16 with Lot 15. A six-story building stood within this consolidated property, which measured 40 x 101.1 feet.

2. Testing Results and Data Retrieval Strategy

The Phase II testing of Lot 16/140 Pearl Street consisted of one deep test trench excavated in the front portion of the lot, approximately 10 feet east of and parallel to Pearl Street. In

addition, a north/south backhoe trench was placed approximately midway between Pearl and Water Streets (Figure VI.1). The deep test was excavated to at least 22 feet below grade. Approximately eight strata were identified within the trench. These were characterized as modern demolition debris overlying landfill. The landfill deposits extended to a greater depth than in any other area tested within the block. In addition, the area was bounded by two deep walls, delineating the north and south boundaries of Lot 16. Given the depth of both the walls and the landfill it was hypothesized that the area may have been used as a slip, that is, an area of open water between the walls, extending to what is now Water Street.

The north/south backhoe trench midway between Pearl and Water Streets encountered at least four strata as well as two north/south trending walls. The strata included demolition debris and occupation deposits. Two of the strata, encountered above the walls, appeared to be intact yard deposits.

The first goal of the data retrieval effort within Lot 16/140 Pearl Street was to determine the function of the deep walls and their association with dockage and landfiling activities on the block. A second goal was to determine the nature of the deposits exposed in the north/south backhoe trench directly east of the deep test. In order to accomplish these goals, all demolition rubble from the area between the deep test and the area of the backhoe trench was to be cleared. Once cleared, it was to be divided into quadrants, with one 5 x 5 foot unit placed in each. A total of 4 units would provide a 16 percent sample of this area.

Once the demolition debris was cleared from the center of the lot, several unexpected walls and cultural deposits were encountered, which necessitated modifying the proposed sampling strategy. A deep, interior east-west running stone wall was uncovered inside the lot, positioned some seven feet north of the extant southern lot wall (Figure VI.15). A second series of walls, forming a 9 x 7 foot rectangle was found abutting against the easternmost wall in the cleared area. As a result, a total of five 5 x 5 foot units (Figure VI.15) were placed within the lot: two south of the interior stone wall (Units D-3, D-4), two in the northern section (D-5, D-6), and one unit inside of the rectangle (Unit D-2). The five excavation units provided a 63.13 percent sample of the final cleared area.

3. Data Retrieval Results

There were two parallel walls on the west side of the excavated area (this does not include the area of 140 Pearl Street investigated by Deep Test 1). The easternmost of the two walls extended to 1.00 feet M.S.L., and sat upon landfill. The westernmost of the two walls, however, extended to just above or on river bottom. The latter wall was clearly a fill-retaining structure. The

100 WATER ST

FEATURE 32

LEGEND

□ UNMORTARED STONE

■ MORTARED STONE

■ WOOD

■ BRICK

● ELEVATIONS

10'-0" 20'-0" 30'-0" 40'-0" 50'-0"

SCALE IN FEET

WOOD PILLARS
(ELEVATIONS VARY FROM +30 TO +300 MSL)

12.00 MSL

landfill deposits adjacent to the deep wall, and below the easternmost-west wall, consisted of a red sand. This red sand fill was found in many of the lots within the project area (e.g., Lots 18, 25, and 26).

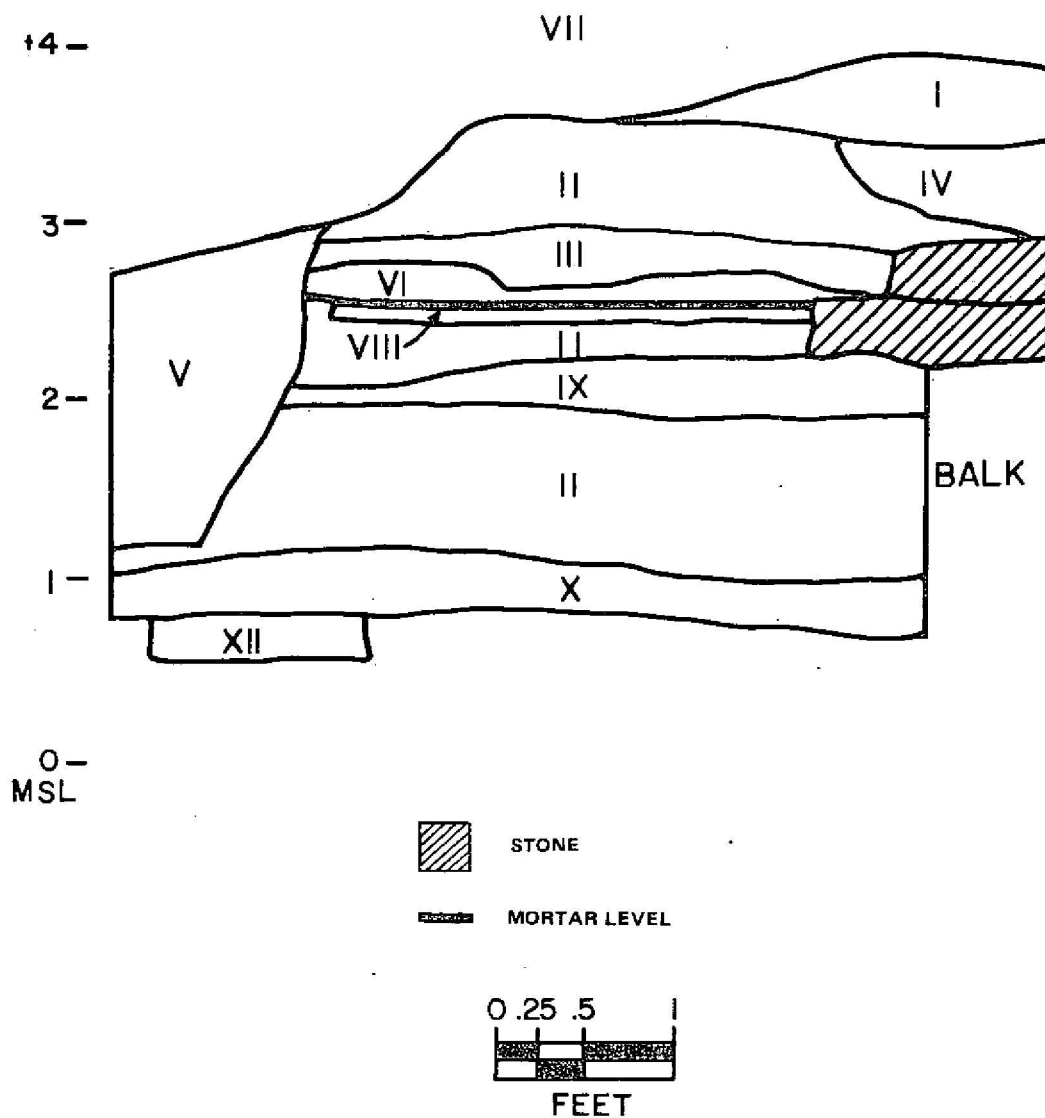
When it was first uncovered, the function of the deep interior east-west stone wall was unclear. Curiously, there was a discrepancy between the width of the subdivided lots which comprised the water lot grant (i.e., a total of 61.0 feet; see Appendix C, Section 1) and the recorded boundaries of the water lot (i.e., 55.3 feet). As shown in Figure VI.15, the distance between the interior stone wall and the extant southern lot wall was about 7.0 feet, accounting for the discrepancy. This east/west wall, therefore, may have been a fill retaining wall, and later a foundation wall, within the original 55.3 foot wide water lot. The south lot wall represented the expansion of the grant when it was subsequently subdivided.

The occupational deposits within the lot consisted of refuse overlaid by layers of relatively sterile soil, acting as a covering or cap over the refuse. These occupational strata showed a high degree of variability. For example, Units D-3 and D-4, both positioned on the south side of the interior east/west stone wall (Figure VI.15), were separated only by an arbitrarily placed 6-inch balk wall; yet, the upper two feet of deposits on either side of the balk do not correspond with each other. There was one deposit that did occur within all units, except in D-2. On both sides of the interior stone wall was a thin mortar/shell layer (Figure VI.16). It was not entirely clear whether this was in fact one deposit, since its composition (i.e., proportion of shell to mortar) seemed to change among units. This type of layer, which is found in other lots (e.g., Lot 19), may have served as a capping over refuse deposited in this area.

Evidence for later (i.e., nineteenth century) occupations within the lot were observed in Unit D-2 and the extant lot walls. In fact, the complex of upper walls in the lot may represent two later building episodes. The first was the construction of the north and south walls, followed by the easternmost wall and rectangular structure (Figure VI.15). Both the northern lot wall and a section of the easternmost wall appear to have been added to a deep stone wall (Figure VI.17). However, the section of the easternmost wall between the southern lot wall and the rectangular structure did not sit on the older wall. The above-mentioned building configuration appears to have been in place by at least 1860 (See Appendix C, Sections 1 and 2). A section of the northern wall truncated a brick well (discussed below) which contained an artifact deposit with a TPQ of 1820, suggesting that the wall would have been built no earlier than 1820.

The rectangular structure, exposed in Unit D-2, represented one of the final building episodes within the excavation area. The walls of the rectangular addition were made of stone built on

FIGURE VI.16:
Wall Profile of Excavation Unit D-6, Lot 16,
140 Pearl Street
North View

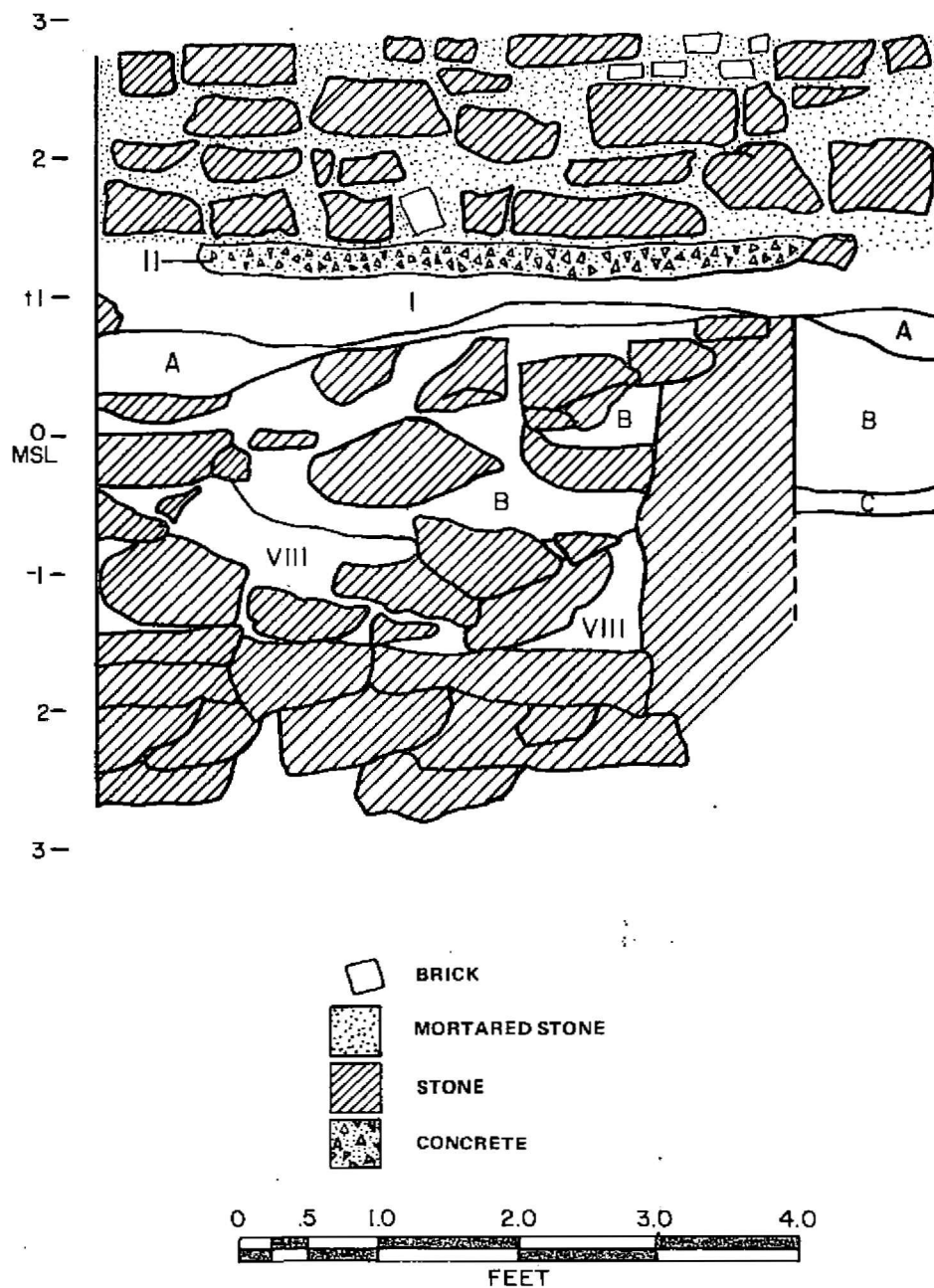


LEGEND TO FIGURE VI.16

UNIT D-6

- I - Brick and mortar rubble
- II - 7.5YR 3/4 Strong brown sand
- III - 7.5YR 3/4 Dark brown sand
- IV - 7.5YR 3/4 Dark brown sand with brick and mortar rubble
- V - 10YR 4/2 Dark greyish brown sand, brick and mortar rubble
- VI - 10YR 5/6 Yellowish brown coarse sand
- VII - Mortar
- VIII - 7.5YR 4/6 Strong brown sand
- IX - 7.5YR 3/2 Mottled dark brown sand and 10YR 3/3 yellow brown clay
- X - 10YR 4/4 Dark yellowish brown sand with grey brown 10YR 3/2 silt
- XII - 10YR 3/2 Dark greyish brown silty muck

FIGURE VI.17.
Wall Profile of Excavation Unit D-2, Lot 16,
140 Pearl Street
East View



LEGEND TO FIGURE VI.17

UNIT D-2

- I - Brick and mortar rubble
- II - Concrete
- VIII - 7.5YR 4/6 Strong brown sand
- A - 10YR 4/3 Brown/dark brown silty clay
- B - 10YR 4/6 Dark yellowish brown clay
- C - Red sand

concrete (Figure VI.17). Strata inside the rectangular area were mostly fill deposits (2.0 feet deep) that overlay a concrete slab. Artifacts from the fill date to around the turn of the twentieth century. The function of this structure, which appears to be modern, was not clear. It may have served as an air shaft to the twentieth-century building that fronted on 106 Water Street.

It should be noted that the results of the data retrieval effort in this area of the block did not correspond with the tentative observations made at the end of the Phase II testing. The more detailed excavations conducted during Phase III showed that the posited dockage area did not exist. The deepest walls within the lot were the westernmost wall, the east-west trending wall, portions of the easternmost wall, and the southern and northern lot walls in the area of Deep Test 1 (Figure VI.15). The north/south lot walls east of the westernmost wall did not extend deeply below the surface. As noted above, the north wall only extended down to the top of the truncated well.

No controlled excavations units were planned for the area east of 140 Pearl Street. However, the western area of 106 and 104 Water Street was machine excavated to search for other landfill features. In the process of removing the demolition debris in this area, the above-mentioned red-brick well was discovered underneath the lot wall between 106/108 Water Street (Figure VI.15). Unfortunately, some six feet of the southern portion of the well was broken away by the backhoe.

The well, constructed of dry-laid, wedge-shaped bricks, had an inside diameter of 3.0 feet and an outside diameter of 4.15 feet. The feature extended 12 feet to river bottom, and its lower section rested on a wooden curb as did Feature 48 in Lot 19/146 Pearl Street. Three strata were observed in the well, although it should be noted that much of the hand excavation took place when the water table was high, causing slumping and mixing of some levels. As a result, only diagnostic artifacts were retrieved from the unstable feature. The first stratum was a fill of dark brown sandy silt, which extended to a depth of 3.70 feet below the top of the well. The second deposit contained a wooden water-pipe with a center bore hole drilled almost to the base of the log. Nine inches from the base were two 3/4-inch diameter holes bored completely through the wood at 90 degree angles to the center bore. The wooden pipe was 7.2 feet long with the upper 2 feet (which was 10 inches in diameter) carved into an octagonal shape. The upper portion was also beveled to a point, probably to allow it to be joined to another section of pipe. This wooden pipe, which may not have been directly associated with the well, but thrown in as fill, extended into the third stratum in the feature.

The third stratum contained another wooden object, 1.2 feet high and 9 inches in diameter. The top section had two one-inch

diameter holes bored in it, with one containing a broken peg. Between the two holes was a groove or notch cut 1 3/4 inches deep and 3 inches wide. Since the two wood objects were not found on top of or attached to each other, this second wood item could have been deposited with the fill in the third stratum.

Machine excavation in the western portion of 104 Water Street exposed a deep fill retaining wall perpendicular to the south lot wall of 140 Pearl and 106 Water Streets (Figure VI.15). To the east of this deep wall were several wood pilings. The function of these pilings was unknown. However, during archaeological monitoring of excavations for the office tower's cellar and foundations, many groupings of similar pilings were observed beneath structural walls. These pilings appeared to have served as supports for foundations placed on the wet, unstable landfill soils.

F. LOT 26 AT 110 WATER STREET

1. Historic Overview

Number 110 Water Street was originally contained within the bounds of Water Lot Grant 4, granted on December 7, 1696, to Christina Veenvos. The property was quickly subdivided, and the area corresponding to Lots 18 (144 Pearl Street) and 26 (110 Water Street) came into possession of Dr. Henricus Selyns (or Selwyns) in May of 1699 (See Appendix C, Section 2). At that time a house was located on Pearl Street, with a wharf on Water Street. The property evidently reverted to Veenvos's ownership since she appeared in the 1702 tax list as the landowner. Veenvos reported two houses on the property, both occupied by tenants. Lots 18 and 26 were held as a single unit until at least 1732. Unfortunately, little was known about the property between 1732 and 1789, when it was subdivided into two lots.

A series of tenants occupied the property from 1791 to 1794, including a shoemaker and a merchant. A tobacconist resided on the property between 1808 and 1813; and over the next 47 years, the lot was the location of a series of stores. From 1860 until 1982, when demolition occurred, the lot was covered by a five-story building which apparently did not contain a basement. Also, the rear of the lot remained open from 1852 to 1982 (See Appendix C, Section 1).

2. Testing Results and Data Retrieval Strategy

Testing began with the mechanical removal of all twentieth-century demolition rubble from an area approximately 12 x 18 feet at rear of the lot (See Figure V.1). A brick pavement, five courses thick, was encountered several feet below the rubble. The depth of this pavement clearly demonstrated that the last building to occupy Lot 26 had a basement. As noted above, no basement was noted in the cartographic data.

The cellar floor was then mechanically removed and all of the remaining brick and mortar rubble was hand-cleared. During hand-clearing, a deposit with pearlware, creamware, stoneware, and delftware ceramics as well as shell, bone, tile, and glass was exposed across this yard area. Clearing also revealed the top of a north/south oriented wall approximately 8.5 feet east of the rear lot wall. In addition, an area of rough split wood timbers was uncovered in the southwest corner of the lot.

One 5 x 5 foot excavation unit (Test Unit 6) was placed within the cleared area. The unit was located in the southwest corner of the lot so that the unit's east wall abutted the north/south oriented stone wall located during preliminary clearing (See Figure V.1). Excavations of Test Unit 6 revealed a mixed nineteenth- and twentieth-century deposit overlying a single layer of horizontal timbers in the west half of the unit. The timbers were removed only from the southwest quarter of the unit, with the remainder left intact for more detailed investigation. Below these timbers were two more strata, which may have represented fill deposits dating to the mid-eighteenth to early nineteenth century.

Underlying the fill deposits were various strata of silt, ranging in consistency and color from a dark reddish brown sandy silt to a greyish brown clayey silt. These deposits contained cord, leather, peach and cherry pits, prehistoric flakes, and one sherd of aboriginal pottery, all suggesting a landfill context.

In addition to Test Unit 6, a backhoe test trench was placed in front of the lot, approximately ten feet west of and parallel to Water Street. The trench was bisected by the 110/112 lot wall (See Figure V.1). The upper six feet of deposits on both sides of the lot wall consisted entirely of recent demolition rubble. In the lot at 110 Water Street, these deposits overlay a brick and mortar floor. Four discernable strata were identified beneath the floor, with the last two comprising landfill deposits. The majority of artifacts, like those from Test Unit 6, dated from the mid-eighteenth to early nineteenth centuries.

The goals of data retrieval within Lot 26/110 Water Street consisted of: (1) identifying the nature of the structural elements and artifactual deposits, and (2) clarifying the relationship between structural elements and deposits in Lot 19/146 Pearl Street and Lot 26/110 Water Street (See Lot 19 discussion). This was to be accomplished through the removal of all modern demolition rubble within a 20 x 35 foot area. The cleared section was then to be gridded off into nine 5 x 5 foot units, producing a checkerboard pattern. The unit excavated during testing would serve as the tenth unit in the overall lot sample. This would provide a thirty-two percent (32%) sample of the cleared area, and would sufficiently expose any features and early artifactual deposits. All but two of the units were to be advanced to the top of landfill. The remaining two were to go through landfill, to

river bottom, in order to obtain a larger sample of aboriginal material.

This overall strategy was maintained whenever possible. However, as fieldwork proceeded, it became necessary to shift the location of several of the units and eliminate others as well. The placement of the backhoe trench at the front of the lot, during Phase II testing, reduced the proposed area slated for investigation. As a result, a total of five 5 x 5 foot excavation units were placed in the lot: three to the west of the interior lot wall (Feature 42), with the remaining two east of this wall (Figure VI.18). Excavation of these units, including Test Unit 6, provided a thirty percent (30%) sample of the total area (476 square feet). Only one unit was hand-excavated through landfill to river bottom. In addition, the area north of Unit E-3 and Unit E-4 and between two structural walls (Features 66 and 68) was shovel-scraped to the top of Feature 31.

3. Data Retrieval Results

The units excavated in Lot 26/110 Water Street revealed relatively the same stratigraphic sequence. The lowest and earliest stratum in the lot was encountered in Unit E-4, where the top of river bottom was reached at a depth of -7.36 feet M.S.L. The stratum consisted of a dark grey silty sand with gravel (Figure VI.19). This was the only hand-excavated unit in the lot, as well as the site, that reached the top of river bottom. Above this lowest deposit was landfill, consisting of the three distinct depositional units. The lower of these consisted of a dark grey to very dark grey clay that extended from the top of river bottom to -.54 feet M.S.L. (Figure VI.19). Cultural material recovered from this deposit included aboriginal ceramics, wood and leather fragments, shell, (oyster and oyster drills), peach and cherry pits, historic ceramics (predominantly seventeenth-century earthenwares), shell beads and large amounts of faunal remains. This depositional unit was interpreted as the first landfill activity within the lot, based on the material recovered and the organic nature of the matrix.

The remaining two landfill deposits represented the second and final episodes of the landfilling within the lot. Above the dark grey organic clay was a reddish brown sandy silt (Figure VI.19) that contained the same artifactual material as in the lowermost landfill deposit, but with a lower frequency. The uppermost stratum of landfill consisted of a red sand with silt. The frequency in material recovered from this deposit was the lowest of the three depositional units comprising the landfill. The relative sterility of the uppermost red sand layer and its occurrence only within possible foundation walls (Features 66 and 68) of a house suggested that the sand served as a cap over the original landfill, reducing the odor from the decomposing organic material.

Features 31, 40, 66, and 68, as well as several strata in Units E-3 and E-4 represented the earliest building episodes within the

FIGURE VI.18.
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 26/110 Water Street

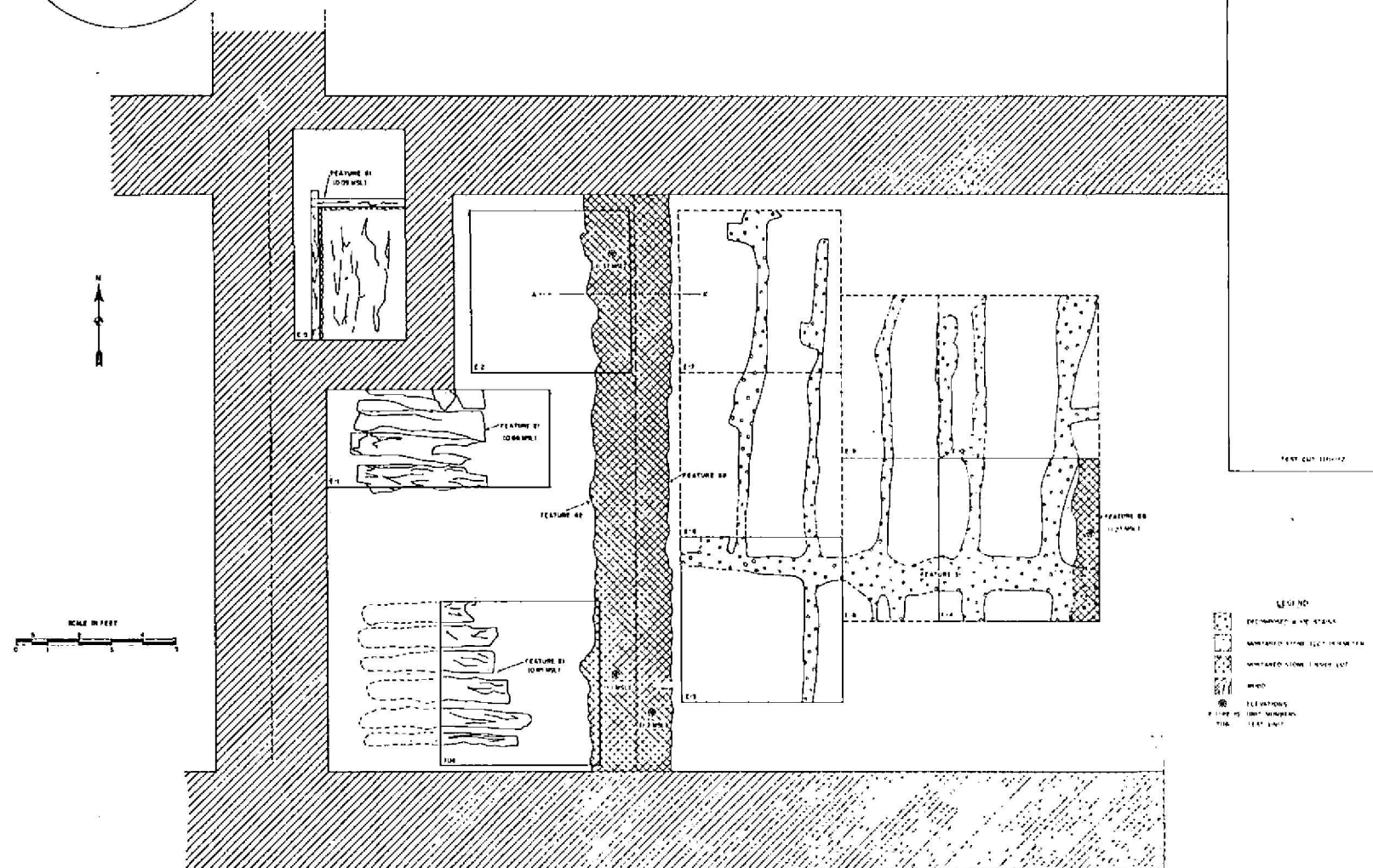
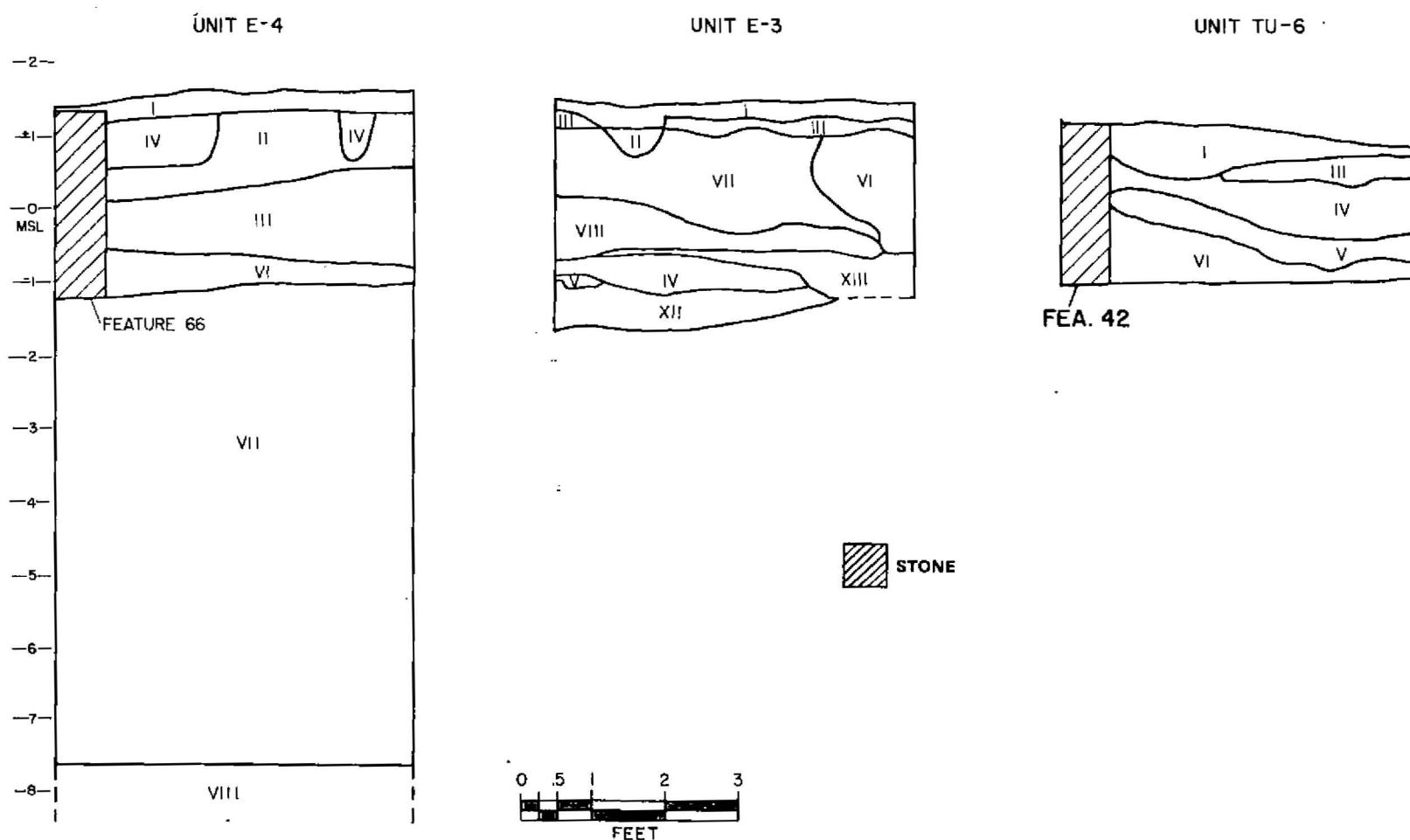


FIGURE VI.19.
Composite Profile of Lot 26,
110 Water Street
Units E-4, E-3 & TU-6
South View



LEGEND TO FIGURE VI.19

UNIT E-4

- I - 5YR 4/4 Reddish brown with 10YR 6/8 brownish yellow sand
- II - 10YR 3/2 Very dark greyish brown silt with 10YR 5/8 yellowish brown clay
- III - 2.5YR 4/6 Red silt
- IV - 10YR 2/2 Very dark brown clay with 5YR 4/4 reddish brown clay coarse sand
- VI - 5YR 4/3 Reddish brown silt with clay mottles
- VII - 10YR 4/1 Dark grey clay with silt
- VIII - 10YR 4/1 Dark grey sand/silt

UNIT E-3

- I - 5YR 4/4 Reddish brown 10YR 6/8 brownish yellow sand, silt and clay mix
- II - 7.5YR 3/2 Dark brown sand and silt
- III - 5YR 6/4 Light reddish brown, 7.5YR 6/8 reddish yellow and 10YR 2/2 very dark brown clay and silt
- IV - 2.5YR 4/6 Red sand with some clay
- V - 5YR 4/2 Dark reddish grey silt
- VI - 10YR 5/6 Yellowish brown with 10YR 4/2 dark greyish brown clay and 2.5YR 4/4 reddish brown silt
- VII - 10YR 5/6 Yellowish brown silt and clay
- VIII - 10YR 3/2 Very greyish dark brown clay with silt
- XII - 5YR 4/6 Yellowish red and 7.5YR 5/6 strong brown sand with 10YR 6/8 brownish yellow and 10YR 4/2 dark greyish brown clay
- XIII - 10YR 3/1 Very dark grey clay

TEST UNIT 6

- I - 10YR 2/2 Very dark brown clayey, silt and sand with pockets of decomposed mortar
- III - 10YR 4/6 Dark yellowish brown hard packed clayey silt mottled with black and 5YR 3/4 dark reddish brown sand
- IV - 10YR 4/6 Dark yellowish brown clayey silt with black and brown mottling
- V - 5YR 3/3 - 5YR 3/2 dark reddish brown sandy/silt
- VI - 10YR 4/1 Dark grey to 10YR 3/1 very dark grey very fine silt and coarse clay

lot. The two interior stone walls (Features 66 and 68) ran north/south across the lot and consisted of dry laid stone extending into landfill -.7 to -.9 feet M.S.L. (Figure VI.18). The western north/south wall (Feature 68) had an associated builder's trench (Feature 40) on its eastern side. No builder's trench was observed in association with the easternmost wall (Feature 66), although one could be present on its eastern side, which was not excavated.

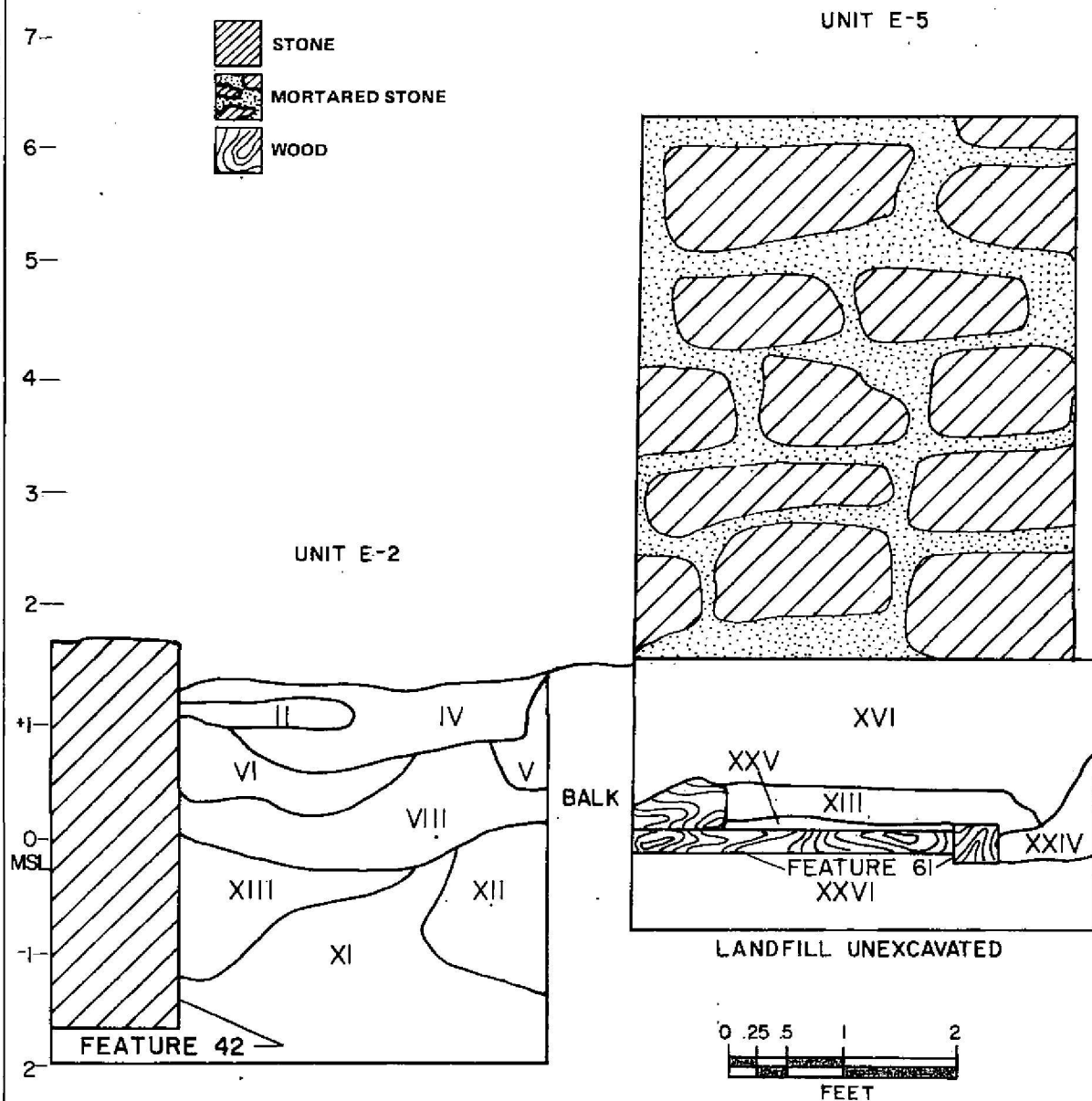
A series of north/south- and east/west-oriented, dark brown discolorations (Feature 31) were exposed between the two interior walls (Figure VI.18). These discolorations appeared to be the remnants of decomposed wood. In fact, fragments of wood and nails were among the material recovered from this feature. Given the location, configuration and artifact content of Feature 31, it was suggested that the discolorations were the remnants of floor support beams. Taken together, Features 31, 66, and 68 appeared to be the remains of a house/cellar measuring approximately 20 x 12.5 feet.

Feature 61 and several strata in Unit E-5 were associated with the second building episode in the lot. The feature appeared to be the base of a wood structure, located at 0.11 feet M.S.L. (Figures VI.18 and 20), identical to Feature 1 exposed in Test Unit 3 in Lot 20/148 Pearl Street. This structure, like Feature 1, was constructed of floorboards, 0.1 foot thick by 1.0 foot wide, lying across wooden support beams and held in place with hand wrought nails. The side walls consisted of upright boards approximately 0.1 foot thick by a foot wide, and were fitted together, horizontally, by tongue and groove construction. Each in turn was grooved in order to fit into the floorboards and held in place by a 0.3 x 0.3 foot exterior wood beam. The beams intersected at corners with mortise and tenon joints. The height of the structure was unknown because it was truncated by later construction. It appeared that the builder's trench for Feature 61 was excavated into the sand capping the landfill deposits (Figure VI.20). Feature 61 was probably a cistern, like similar wood structures within the block.

A series of split oak logs (Features 21 and 69) were exposed along the rear lot wall, south of Feature 61 (Figure VI.18). The logs were oriented east/west and were located just below the surface of Unit E-1 and Test Unit 6, in association with a very dark, greyish brown clayey silt. Very few artifacts were recovered from this matrix. The logs abutted neither the rear lot wall, Feature 42, nor the southern lot wall (Figure VI.18). Features 21 and 69 were in all likelihood one and the same feature, since they both were at the same elevation and of the same material and construction. The function of this structure was not evident during field investigations.

One of the latest construction episodes within Lot 26 appeared to be represented by the westernmost interior stone wall (Feature 42)

FIGURE VI.20:
Composite Profile of Lot 26,
110 Water Street
Units E-2 & E-5
South View



LEGEND TO FIGURE VI.20

UNIT E-2

- II - 5YR 3/2 Dark reddish brown sand
- IV - 7.5YR 5/4 Brown sand with mortar and brick
- V - 5YR 3/2 Dark reddish brown sand
- VI - 10YR 4/4 Dark yellowish brown sand and silt
- VII - 10YR 3/3 Dark brown sand/silt
- XI - 5YR 4/4 Reddish brown silt mottled with 10YR 3/3 dark brown and 10YR 4/6 yellowish brown pockets of clay
- XII - 10YR 3/2 Dark greyish brown silt mottled with 10YR 4/4 dark yellowish brown and 7.5YR 4/4 brown dark brown sand and clay
- XIII - 10YR 4/6 Dark yellowish brown sand with clay

UNIT E-5

- XIII - 10YR 3/2 Very dark greyish brown sand and silt
- XVI - 10YR 3/3 Dark brown sand and silt mottled with charcoal and decomposed mortar
- XXIV - 10YR 3/4 Dark yellowish brown silt and sand with 10YR 5/6 yellowish brown clay
- XXV - 10YR 2/1 Black sand with fine silt
- XXVI - 10YR 3/4 Dark yellowish brown clay

and several strata in Unit E-2. This wall abutted Feature 68 and consisted of dry-laid stone. No associated builder's trench was found. Feature 42 may have been part of an addition to the back of the house/cellar represented by Features 31, 66, and 68 (Figure VI.18). The final building episode within the lot was represented by the mid-nineteenth century lot walls, and the rectangular structure built over the area of Feature 61. This rectangular structure may have served as an air shaft for a later building on the lot.

G. LOT 25 AT 112 WATER STREET

1. Historic Overview

Number 112 Water Street was contained within the bounds of Water Lot Grant 3, granted to Peter Adolph, a merchant, on October 12, 1694. The property did not appear to have been developed until 1709, when Adolph's widow reported a house on the property. It was not clear whether this house fronted on Pearl or Water Streets, since the original grant extended the entire width of the block. By 1721, however, Andrew Fresneau had developed both frontages, since that year he reported "2 houses and Estate."

There was no documentation on the occupancy of the property until 1789. At that time, Amos Underhill rented the lot to tobacconist Benjamin Miller, who also occupied the property in 1791. The lot was rented to Joseph Juhne in 1794; by 1808, it had been leased to still another tenant, who may have had a "tobacco manufactory" at this location. By 1813, George Miller had his tobacco shop at this address, but resided at 109 Water Street. By 1820, 112 Water Street had been sold and converted to a warehouse or store. The first reference to the actual dimensions of a structure on the lot was in 1860, when D. Coles was assessed for a four-story building which measured 20 x 40 feet on a lot measuring 20.3 by 41.4 feet (Appendix C, Section 2).

In 1974, 112 Water Street was included as part of a restaurant, comprising 106 to 110 Water Street. A Department of Buildings document entitled "Proposed Addition to Existing Restaurant at 1st Floor," dated April 1974, indicated that 112 Water Street had a cellar covering the entire property. However, no depth below grade was indicated. The presence of a basement was confirmed by the 1982 Sanborn Map. The building at 112 Water Street was demolished in 1982.

2. Testing Results and Data Retrieval Strategy

The Phase II testing consisted of a backhoe trench bisecting the 112/114 Water Street lot wall. The trench was situated approximately 10 feet west of, and parallel to, Water Street. The upper six feet of the trench consisted of recent demolition rubble overlying a thin concrete floor. Four distinct strata were beneath the floor. All were identified as fills and landfill sands and silts.

Artifacts below the concrete floor dated from the late nineteenth and twentieth centuries, and included whiteware, linoleum, and plastic, with a few materials from the late seventeenth century (i.e., delftware). Since the test trench did not reveal intact structural remains, nor significant cultural deposits as compared to those in other lots, no hand-excavated units were proposed for Lot 25. However, the area was to be carefully machine excavated to the top of landfill to ascertain the relationship between the very early structural walls found in 146 Pearl Street and 110 Water Street during testing. Given their orientation, it seemed probable that the walls might join in 112 Water Street.

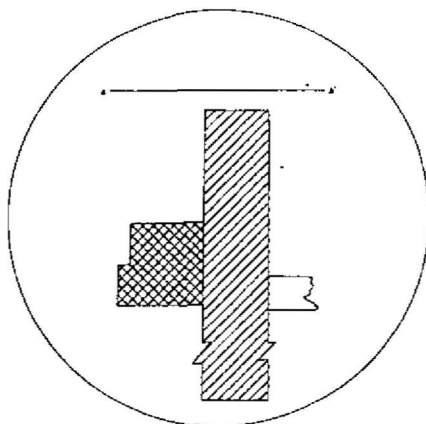
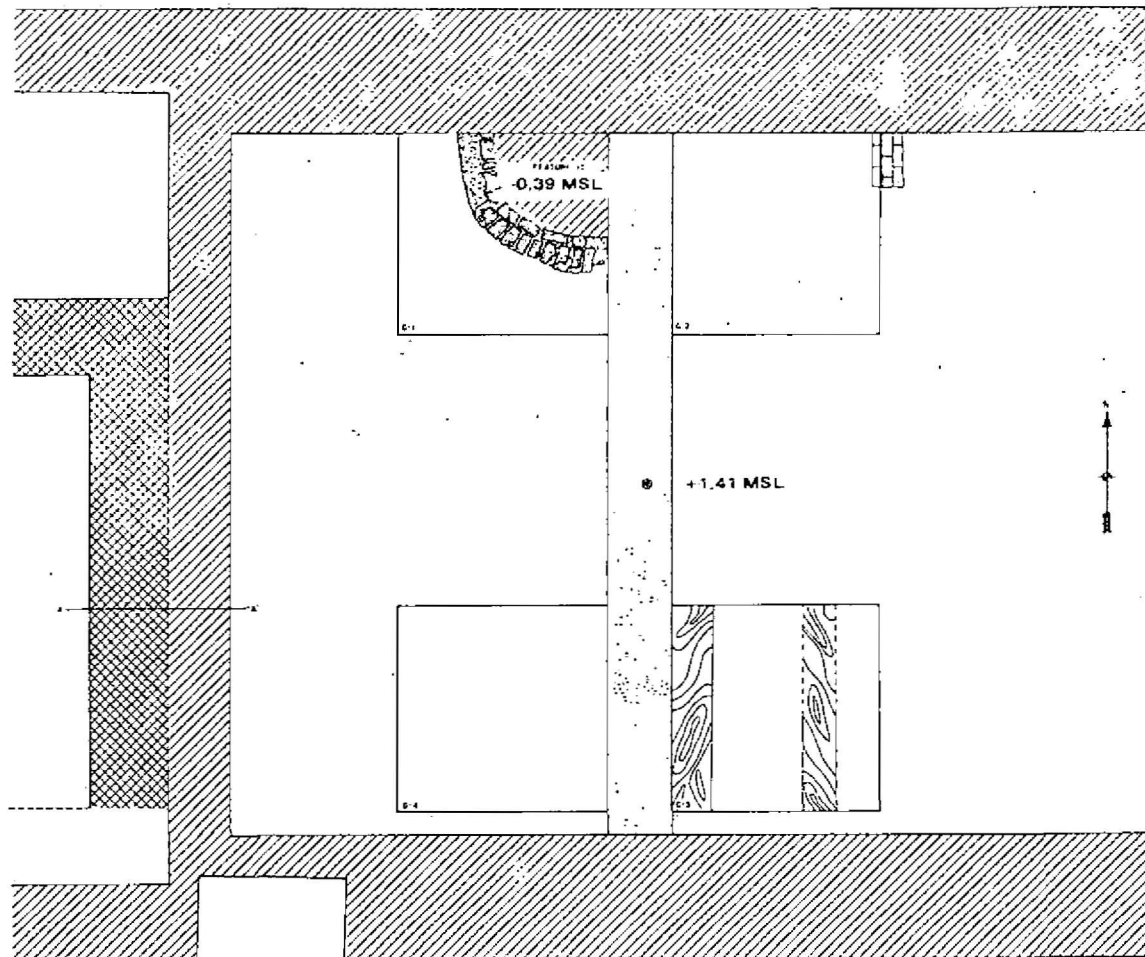
Demolition debris in Lot 25 was removed by machine, exposing the rear (western) lot wall, the north and south lot walls, and a concrete basement floor (some six to eight feet below grade). An area approximately 17 x 25 feet was then cleared eastward from the rear wall and the concrete floor was broken up and removed. Several features were exposed during this process. The first was a low, north/south stone wall, located eight feet east of the rear lot wall. This wall divided the cleared area into roughly equal eastern and western sections. The second feature was a quartered-circle, yellow brick wall. It was positioned in the northeast corner of the western section, abutting the northern lot wall and the north/south wall. Numerous artifacts were found on the surface immediately below the concrete floor, in addition to fragments of burnt planks in the eastern section of the lot.

The presence of the low north/south stone wall and the yellow brick feature, in addition to the high artifact density below the basement floor, changed the excavation strategy. The major focus of the investigation was now to: 1) clarify the relationships of the inner lot wall to the lot's building episodes, and 2) define the function and date of the yellow brick feature. To accomplish these objectives, a total of four 5 x 5 foot excavation units were placed in the lot. These four units provided a 15.8 percent sample of the total lot area, and a 23.5 percentage of the 17 x 25 foot cleared area. Two units were located on either side of the interior wall where it intersected with the northern lot wall. The remaining two were along the southern lot wall, at the juncture with the low interior stone wall. Unit G-1 was positioned around the yellow brick feature. Initially, only the northeast quadrant of the southern two 5 x 5 foot units was excavated to determine if the deposits warranted further investigation. In both cases the deposits exposed in the units justified excavation of an entire unit, especially in regard to ascertaining the different types of deposits present on either side of the low north/south wall.

3. Data Retrieval Results

None of the four excavation units contained exactly the same stratigraphic sequence (Figure VI.21). This was due to: 1) the division of the lot, by the interior stone wall into two distinct

FIGURE VI.21:
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 25/112 Water Street



- LEGEND
- DRAIN
 - CONCRETE
 - DRY LAID (UNMORTARED) STONE
 - MORTARED STONE (1/2\"/>

SCALE IN FEET

areas, 2) the presence of two or more intersecting walls in each unit, and 3) variability in the depositional episodes within any given section of the lot. However, a common feature of most strata across the lot was their relative shallowness (i.e., about one to two feet above landfill deposits).

There were eleven strata designated in Unit G-2, but only five in Unit G-3. This difference was ascribed to the three walls that were discovered in G-2. These walls included the northern lot wall and a second wall below it. The third was perpendicular to and bisected by the uppermost section of the north lot wall (Figures VI.21 and VI.22). A large flat section of slate had been used as a footing stone for the northern lot wall; and placement of the slate and a possible builder's trench for the north wall truncated the lower portion of the north/south wall.

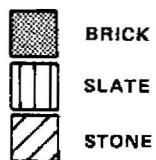
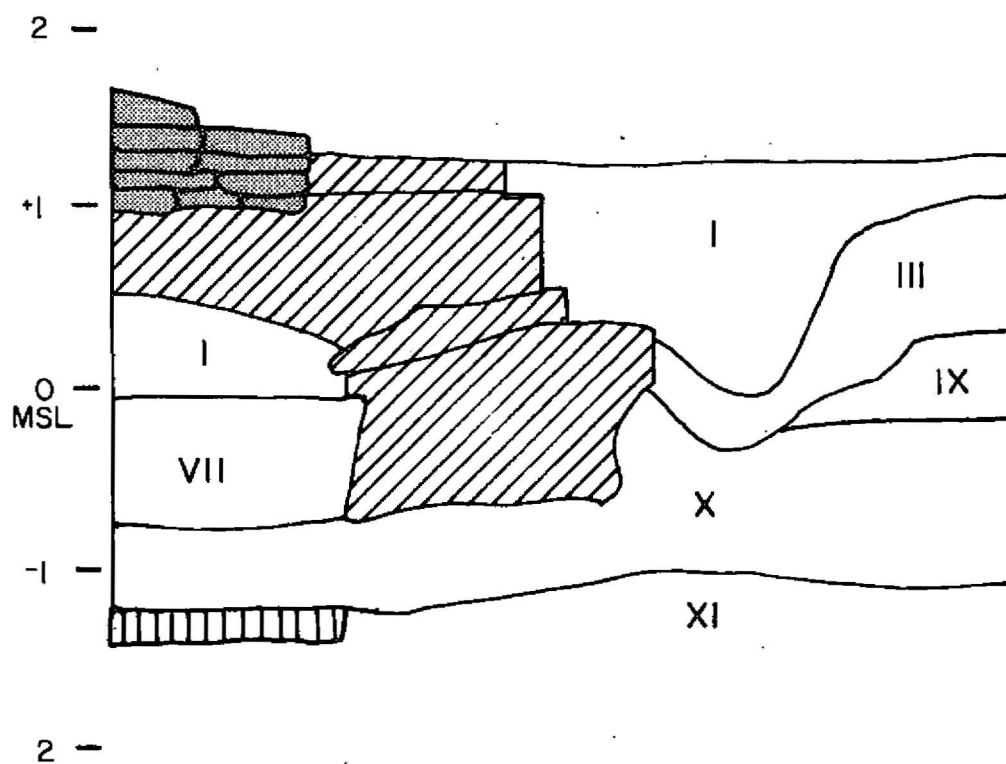
The lowest stratum in Unit G-3 was a red sand which corresponded with the final landfilling episode in the lot. Above this layer was a dark brown sandy deposit, the bottom of which contained numerous pieces of shell. At the top of this deposit were several decayed boards, perpendicular to the south lot wall. The uppermost stratum in the unit was a thin, dark sandy soil containing numerous pieces of bone, shell and charcoal, along with fragments of melted glass.

In Unit G-4, along the southern lot wall, there were five strata (Figures VI.23 and VI.24). Again, the lowermost deposit was the red sand (i.e., landfill). Above landfill were several strata of mottled sand, silts and clays; one of which contained a layer of shell sloping down to the east. The uppermost stratum in the unit consisted of red brick rubble. Both the low interior wall and the southern lot wall had builder's trenches. The base of these walls was not encountered during excavation.

The unit placed around the yellow brick structure (Feature 13), contained ten strata: six outside the feature and four inside (Figure VI.25; note that not all strata appear on the unit profiles). Structurally, Feature 13 (Figure VI.21 and Plate VI.5) consisted of a quartered circle of double yellow brick. Each end of the feature was mortared to a wall. The inner radius was 2.50 feet and the outer wall radius was 3.50 feet. At its highest point, the feature was 2.10 feet high with the bottom at -0.39 feet M.S.L. Both the feature walls and base were mortared, suggesting use as a cistern. The four strata inside the feature consisted of sandy or clayey deposits; however, each contained similar types of ceramic artifacts.

The presence of the boards in the eastern, but not in the western section of the lot, indicated that the two-foot-thick interior stone wall was at one time the rear foundation of a building fronting on Water Street (Figure VI.21). The boards may have served as supports for a cellar floor.

FIGURE VI 22.
Profile of Unit G-2, Lot 25
112 Water Street
East View

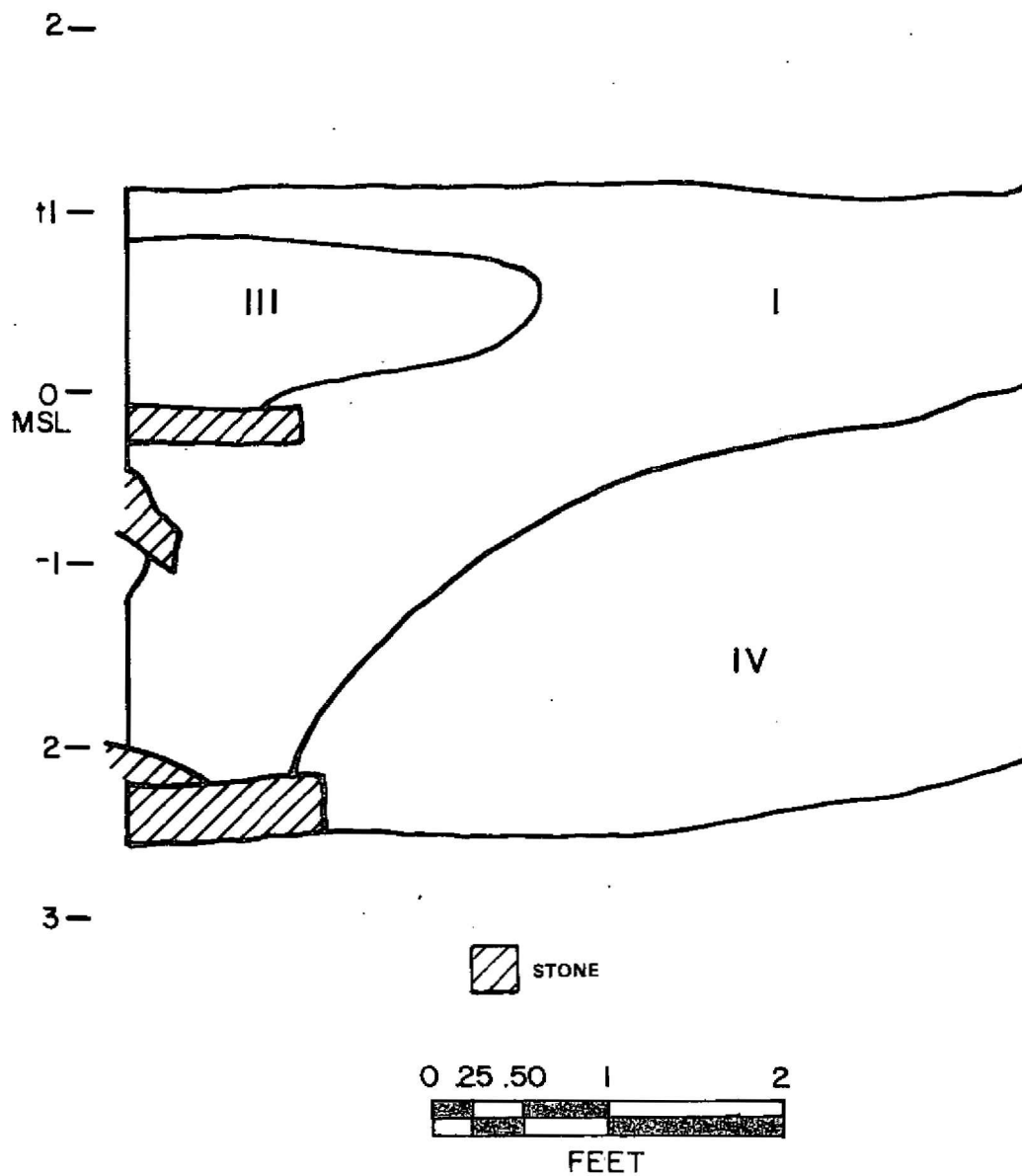


LEGEND TO FIGURE VI.22

UNIT G-2

- I - 10YR 2/2 Very dark brown silty sand
- III - 10YR 3/2 Very dark greyish brown sand and silt
- VIII - 10YR 2/2 Very dark brown silt with some sand
- IX - 10YR 4/6 Dark yellowish brown sand
- X - 10YR 3/3 Dark brown clay, silt and sand
- XI - 7.5YR 4/6 Strong brown sand

FIGURE VI.23:
Wall Profile of Unit G-4, Lot 25
112 Water Street
West View

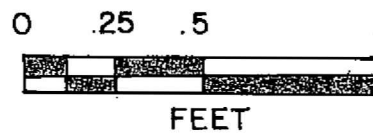
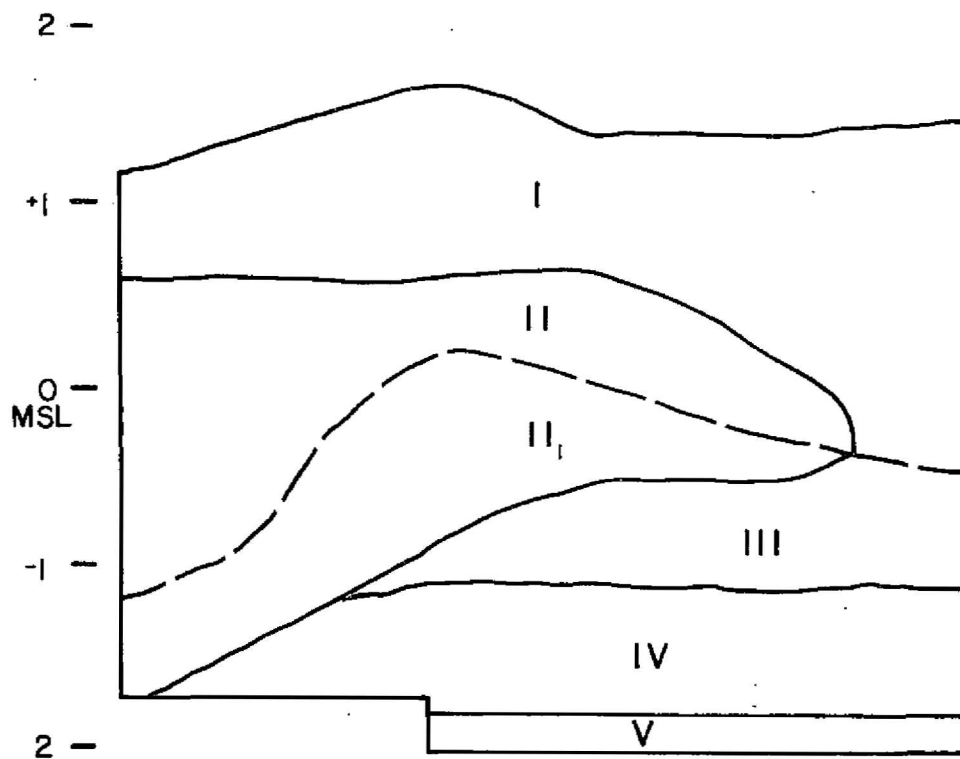


LEGEND TO FIGURE VI.23

UNIT G-4

- I - 10YR 5/6 Yellowish brown sand mottled with 10YR 3/2 very dark greyish brown silt and 10YR 2/1 black clay
- III - 5YR 3/4 Dark reddish brown sand
- IV - 5YR 4/3 Reddish brown sand

FIGURE VI.24:
Wall Profile of Northeast Quadrant
Unit G-4, Lot 25
112 Water Street
South View

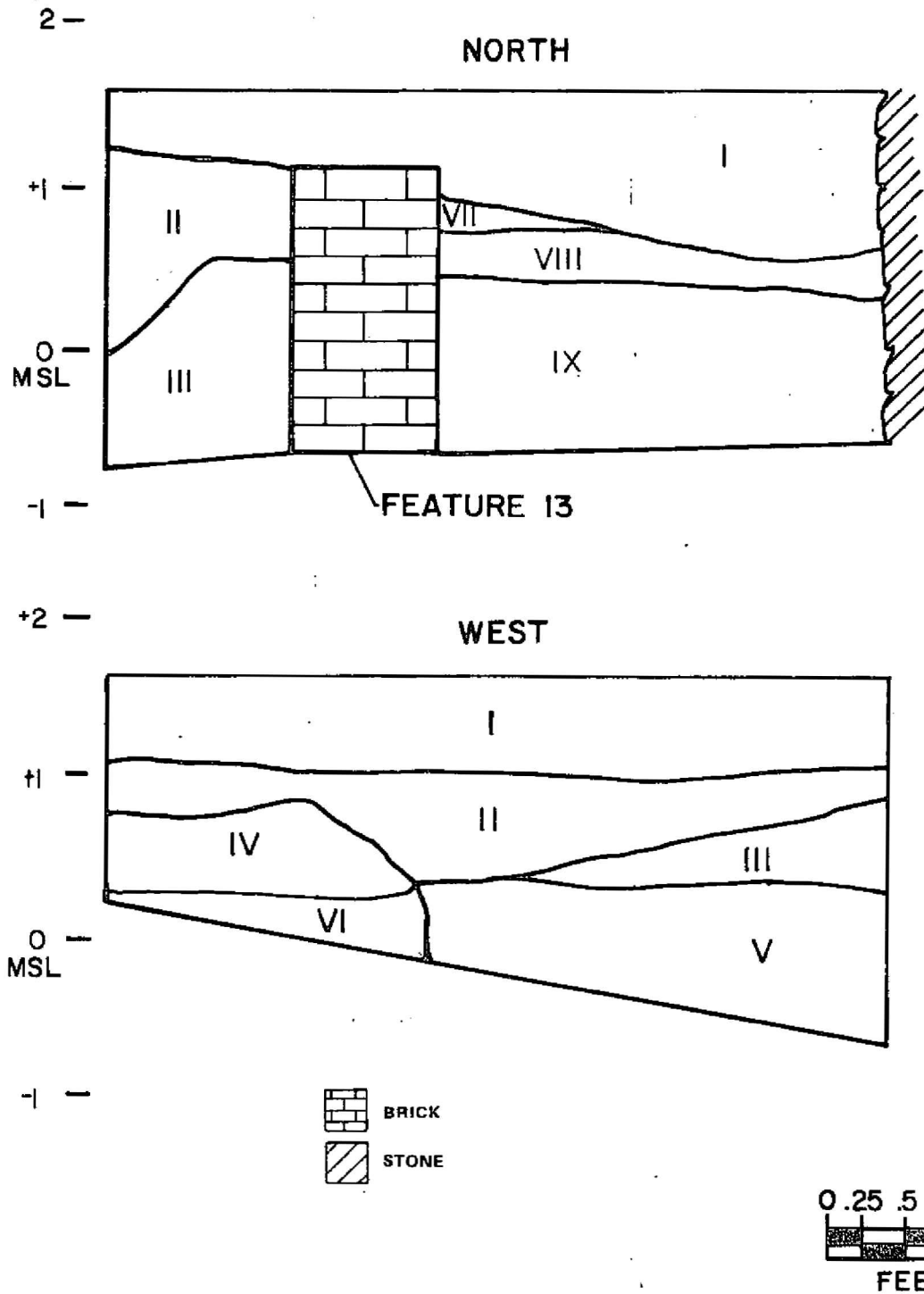


LEGEND TO FIGURE VI.24

UNIT G-4

- I - 7.5YR 4/2 Dark brown silty clay
- II - 5YR 3/3 Dark reddish brown sand with clays, silts and rubble
- II₁ - 5YR 3/3 Dark reddish brown silty clay
- III - 5YR 3/4 Dark reddish brown sand
- IV - 10YR 4/3 Dark brown silt
- V - 5YR 4/6 Yellowish red sand

FIGURE VI.25:
Wall Profiles of Excavation Unit G-1, Lot 25,
112 Water Street
North and West View



LEGEND TO FIGURE VI.25

UNIT G-1

- I - 10YR 3/3 Dark brown sand with silts and clays
- II - 5Y 5/3 Olive sand and silt and 10YR 3/3 dark brown silt and clay
- III - 10YR 3/2 Very dark greyish brown silt
- IV - 10YR 4/1 Dark grey and 10YR 5/6 yellowish brown silt and sand
- V - 7.5YR 3/4 Dark brown silt
- VI - 10YR 3/6 Dark yellowish brown sand
- VII - 10YR 4/2 Dark greyish brown sand/silt
- VIII - 10YR 3/3 Dark brown sand with clay, brick and stone
- IX - 5YR 5/1 Grey to 5YR 5/2 reddish grey sand/silt with clay and ash

It was hypothesized that Feature 13 was once a fully circular, yellow brick cistern, constructed in Lot 25 when the property was the backyard to the structure fronting on Pearl Street. The feature was subsequently truncated by the rear foundation wall of the house built along Water Street. However, the feature continued to be used as a cistern, but with diminished capacity. It was not known when this building fronting on Water Street was expanded to encompass almost the entire property, thus truncating and covering the archaeological deposits and features. However, at least by 1860 a 20 x 40 foot building was extant on the 20.3 x 41.4 foot lot.

As noted earlier, one of the original objectives of Phase III work in Lot 25/112 Water Street was to determine whether the deep walls found during testing in Lots 19/146 Pearl Street and 26/110 Water Street were part of the same early structure. A deep wall similar to those found in these two lots was observed within Units G-3 and G-4. An actual bonding of all these deep walls was not observed. Given the overall pattern of these deep stone walls across the block, the deep walls found during testing of Lots 19 and 26, and those in Units G-3 and 4 probably represent fill retaining walls for Water Lot Grants 3 and the northern section of Water Lot Grant 4 (See Appendix C, Section 1).

H. LOT 24 AT 114 WATER STREET

1. Historical Overview

Lot 24/114 Water Street was originally contained within Water Lot Grant 2, awarded to Robert Sinclair on October 2, 1694. Less than a month later, Sinclair sold one-half interest to Henry Kormer. This interest corresponded to Lots 20 and 24. Sinclair and Kormer are then reported to have built a wharf at the low water mark of the grant.

The 1702 tax records indicated that Kormer had established "2 houses" on his property (Appendix C, Section 2). By 1721, Lot 24 had been sold to Bartholomew Skatts, a noted silver- and goldsmith. At this time there was a house and lot fronting on Water Street. Hugh Gaines, printer, stationer and bookseller, purchased all of the property in 1772. Despite problems during the Revolutionary period, Gaines appeared to have retained control of the property until his death in 1807. After his death, the next recorded owner was Robert Cochran, a grocer. From 1820 to 1860, a number of owners appeared to have used the parcel as a store front.

Historical documentation from the 1860s provided the first record of the building dimensions in Lot 24. The tax records indicated that Lorillard and Spencer owned a four-story building at 114 Water Street, which measured 21 x 38 feet on a lot 21 x 44.9 feet (Appendix C, Section 2). These dimensions remained

constant until 1900, when the lot was covered by a four-story building, measuring 21 x 44.9 feet. Sometime between 1931 and 1954, Lot 24 was incorporated into Lot 23. This consolidated parcel measured 42.10 x 62.4 feet.

2. Testing Results and Data Retrieval Strategy

The Phase II testing of Lot 24 began with the removal of all demolition debris from the rear of the lot. The west, north and south lot walls were exposed, as was an interior steel reinforced concrete wall, situated five feet north of and parallel to the south lot wall. Removal of the debris between the later two walls exposed a narrow, intact brick floor, hypothesized to be a section of an alleyway. Another interior concrete wall, perpendicular to the first concrete wall was also exposed. A concrete floor lay between the two concrete walls (Figure VI.1).

The concrete floor was removed and a 5 x 5 foot test unit (No. 1) was placed between the two concrete walls. The unit exposed four strata, all of which appeared to correspond to the upper deposits of landfill. In addition to the test excavation unit, a backhoe test trench was placed ten feet west of, and parallel to, Water Street (Figure VI.1). The trenching uncovered an elevator shaft at the 114/116 Water Street lot boundary, which necessitated shifting the trench to the south. A second north/south trending wall was also exposed, which intersected with the southernmost, interior east/west concrete wall (Figure VI.1). Six strata were identified in the trench profile. The upper three were comprised of demolition debris and a builder's trench for the concrete wall. Below these deposits was a brick floor, which in turn overlaid a dark brown/yellowish brown sandy layer. Preliminary analysis of the ceramics recovered from this stratum yielded an MCD of 1799. The two bottom strata were sandy and clayey silt deposits probably associated with landfill.

Testing within Lot 24 produced few occupational deposits above landfill, as compared to other lots in the project area. Most of the area within the lot had been destroyed by the construction of the interior concrete walls. There was, however, a possible, intact occupation deposit beneath the narrow brick floor, or alleyway. Further work was recommended on this deposit. The goals of the data retrieval effort, therefore, consisted of identifying the nature of the alleyway and the underlying deposits.

Two 5 x 5 foot excavation units were placed in Lot 24. Unit F-1 was positioned at the western end of the alleyway, bounded on three sides by walls, while Unit F-2 was situated twelve feet farther east (Figure VI.1). It should be noted that three units were originally proposed for this area, but the first two provided a sufficient sample of the alleyway area. In fact, the resulting frequency of material in the two units was much lower than expected.

3. Data Retrieval Results

As previously stated, one of the major concerns in investigating Lot 24 was to identify the function of the space between the southern lot wall and the interior concrete wall, i.e., the possible alleyway (Figure VI.26). Excavations in this area suggested that the space was a remnant of a basement floor which was subsequently truncated by a twentieth-century building episode. This assessment was based on a comparison of data from the Phase II and III work. The test trench and Phase III excavation units (Units F-1 and F-2; Figure VI.26) both contained a brick floor. In the eastern profile of the backhoe trench, the floor extended up to the 114/116 Water Street lot boundary. It would appear that the interior concrete walls (Figure VI.26) were part of an "ell"-shaped basement that only partially filled the 114 Water Street lot and then extended into 116 Water Street. Thus, the brick floor occurred east and south of the "ell", rather than as a narrow strip along the southern lot wall, as was originally hypothesized, which gave rise to the original designation of an "alleyway."

This flooring remnant comprised several building episodes. The uppermost layer contained several courses of mortared brick, which overlay a flat piece of slate, that in turn overlay a thin layer of rubble. Beneath the rubble was a series of large schist rocks. The entire floor varied from 1.5 to 2.2 feet thick (Figure VI.27).

In addition to the flooring, the excavation units exposed two features. Feature 14, in Unit F-1, was a remnant of a wooden structure (Figure VI.27). The feature was constructed of 1 x 12 inch horizontal wood planks nailed to wooden upright posts at the corners. Only a small portion (1.3 x 1.1 feet) was exposed in the southwest corner of the unit. Due to the problems of a high water table, wall slumping, and the presence of large overhanging rocks, it was not possible to excavate the inside of the feature below -3.0 feet M.S.L. Therefore, the interior was augered to a depth of -6.0 feet M.S.L., but without hitting an identifiable bottom (if one existed). Fill within the feature ranged from a mottled, dark greyish to yellowish brown clay with reddish brown sand pockets, to an underlying very dark greyish brown clay. This contrasted with the surrounding dark yellowish brown landfill sands outside of the feature. The primary difference between the internal and external deposits seemed to argue for a different filling episode for each. The function of this feature was not evident during the field investigation.

The feature exposed in Unit F-2 (Feature 50) consisted of a 1.2 x 1.8 foot pit, containing two clay matrices with hundreds of pieces of oxidized metal. Feature 50 was probably used for trash disposal (Figure VI.28). The pit truncated several of the landfill deposits, indicating that the feature was dug after the final landfiling episode, but before the area was covered by the brick floor.

FIGURE VI.26:
Barclays Bank Site
Structural and Feature Plan View Detail For
Lot 23/116 Water Street and Lot 24/114 Water Street

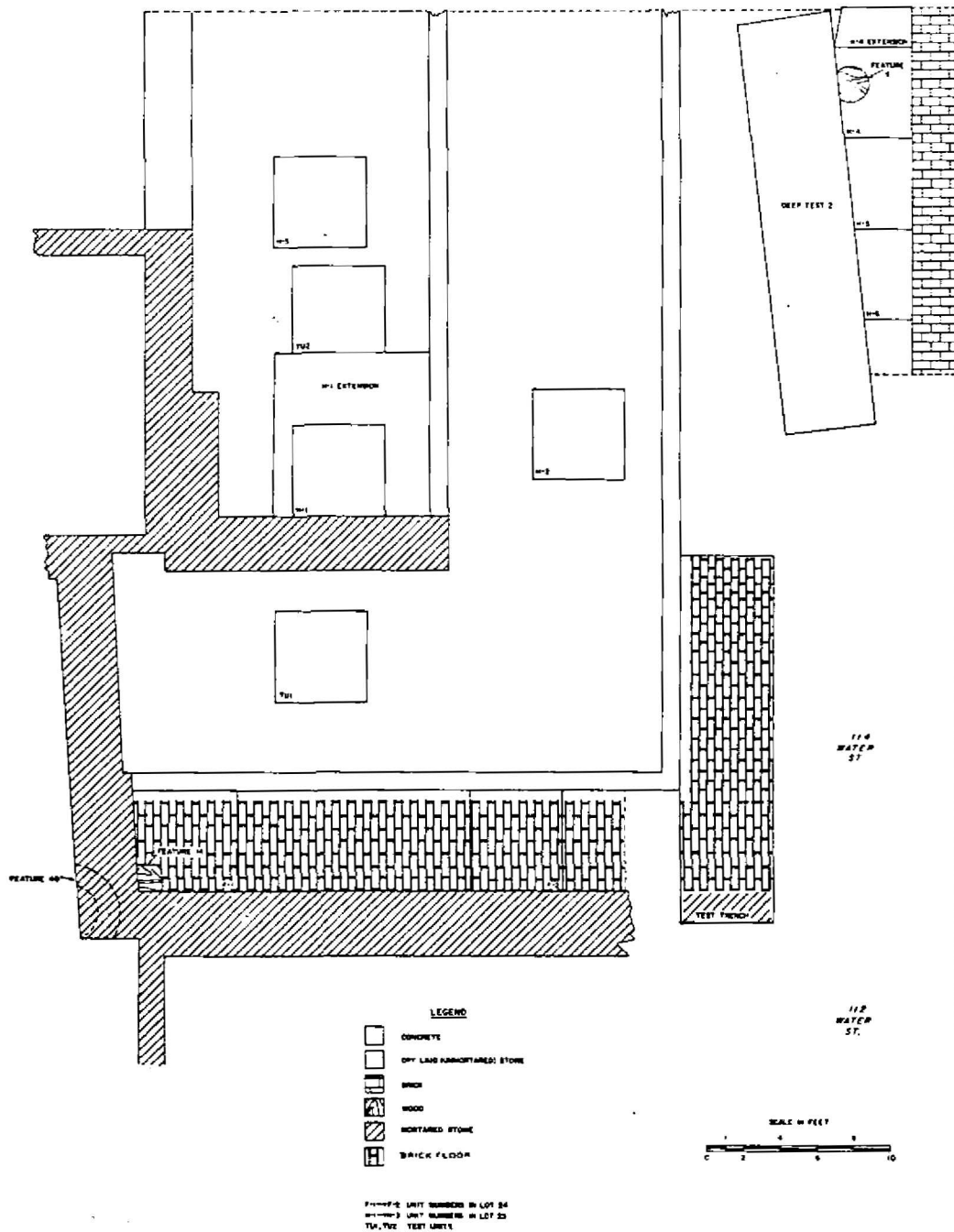
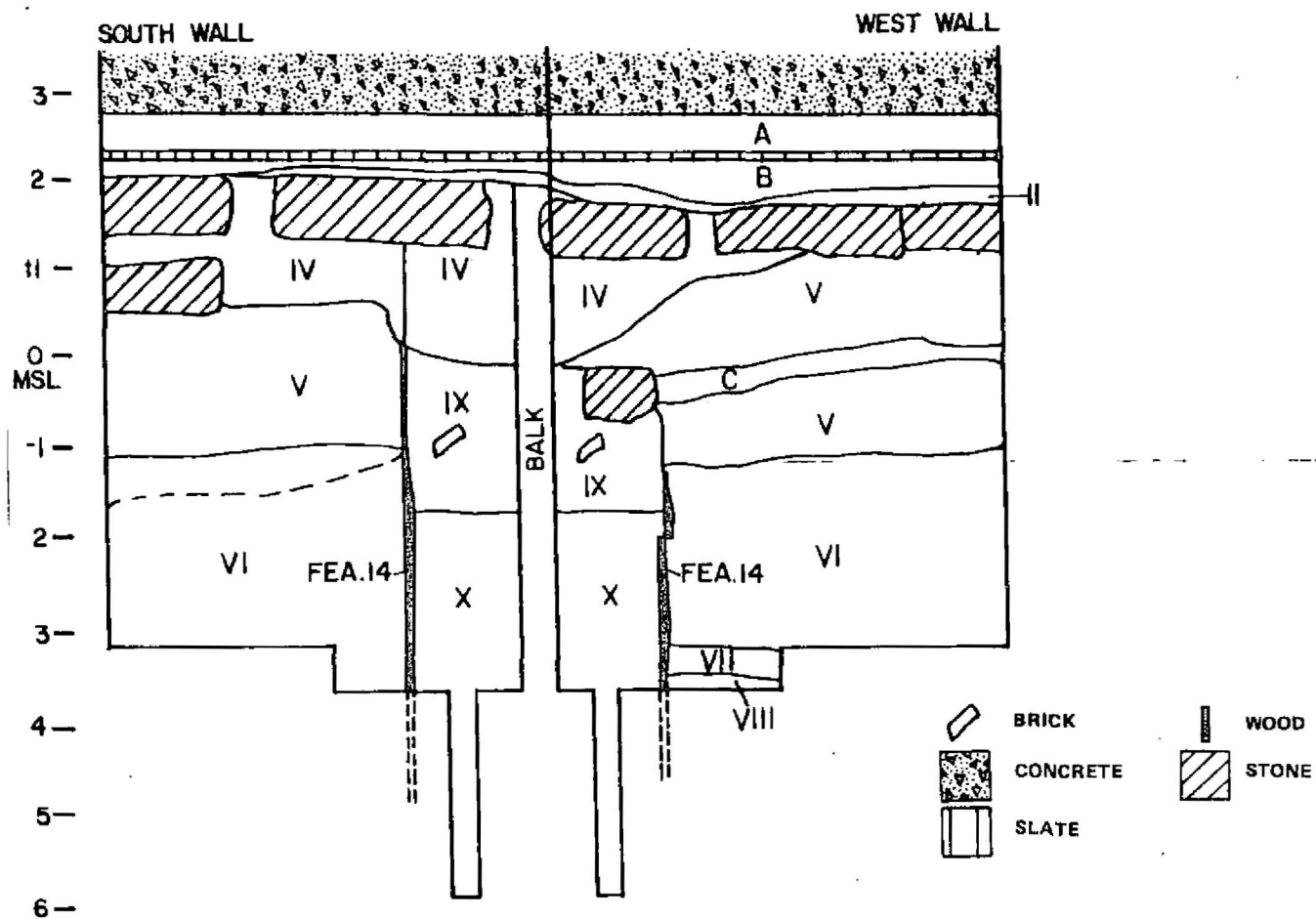


FIGURE VI.27:
Wall Profiles of Unit F-1, Lot 24
114 Water Street
South and West Views

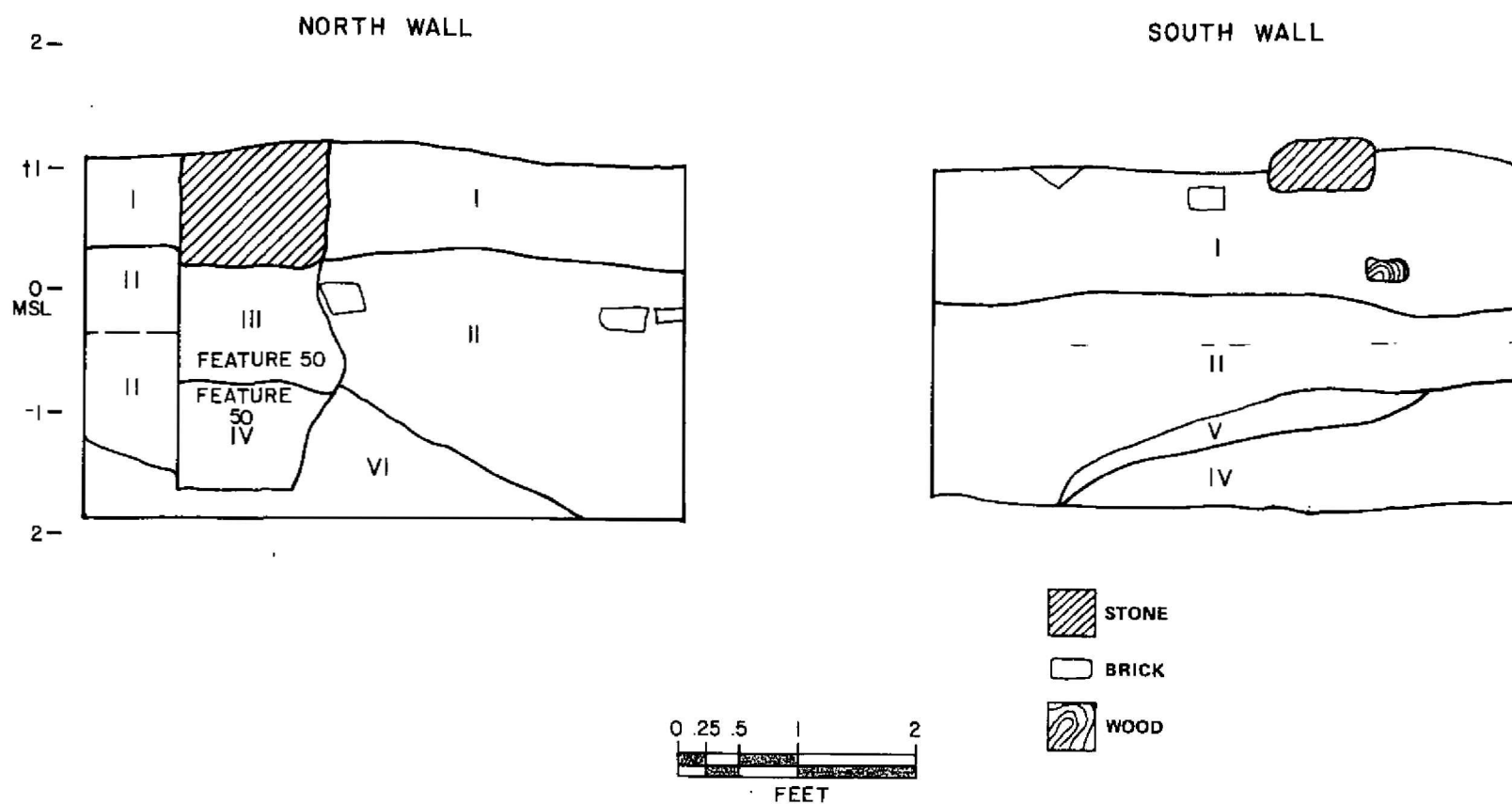


LEGEND TO FIGURE VI.27

UNIT F-1

- II - 10YR 6/2 Light brownish grey sand with decomposed mortar
 - IV - 7.5YR 4/6 Strong brown silty sand
 - V - 10YR 3/6 Dark yellowish brown sand
 - VI - 10YR 4/6 Dark yellowish brown sand with clay inclusions
 - VII - 10YR 4/2 Dark greyish brown clayey silt
 - VIII - 10YR 4/2 Dark greyish brown sand
 - IX - 10YR 4/2 Dark greyish brown clay with 10YR 5/4 yellowish brown clay and 5YR 5/4 reddish brown sand
 - X - 10YR 3/2 Very dark greyish brown clay
-
- A = Mortared brick floor
 - B = Mortar and brick rubble
 - C = Clay band

FIGURE VI.28:
Wall Profiles of Excavation Unit F-2, Lot 24
114 Water Street
North and South View



LEGEND TO FIGURE VI.28

UNIT F-2

- I - 10YR 4/2 Dark greyish brown to 10YR 4/3 brown/dark brown clay with charcoal and iron fragments and 7.5YR 4/2 brown/dark brown sand
- II - 7.5YR 4/4 Brown/dark brown sand with clay
- III - 2.5Y 4/2 Dark greyish brown clay with charcoal
- IV - 2.5Y N3 Very dark grey clay with sand
- V - 10YR 6/3 Mottled pale brown to 10YR 3/2 very dark greyish brown sand and silt
- VI - 10YR 3/2 Very dark greyish brown silty clay

I. LOT 23 AT 116 WATER STREET

1. Historic Overview

This property originated from two separate water lot grants. Water Lot Grant 1 was awarded to John Theobald, a merchant, in 1694. This grant eventually was to become Lot 22 and the northern half of Lot 23. The southern section of Lot 23 was part of Water Lot Grant 2, awarded to Robert Sinclair in 1694. Sinclair then sold a one-half interest to Henry Kormer. Sinclair's property corresponded to Lot 21 and the southern section of Lot 23, while Kormer had Lots 20 and 24.

After Theobald's death, the property in Water Lot Grant 1 was subdivided into three sections, as his widow was assessed for three houses in 1732. William Brownjohn, a physician and apothecary, obtained all of Theobald's property by 1751. Previously, in 1746, he also purchased a portion of Lot 24 from Sinclair. At this time, the properties were not consolidated into a single unit, as the executors of Brownjohn's estate sold the southern portion of Lot 23 to Hugh Gaines, sometime between 1791 and 1794.

The northern portion of Lot 23 was purchased by James Seton in 1802, who in turn sold one-half interest to Martin Hoffman, a merchant in the city. Hoffman subsequently ran a store/auction house at the corner lot, and eventually obtained control of the southern section by 1820. From this date onward, 116 Water Street (the southern portion of Lot 23) was assessed with No. 67 (then 87) Wall Street.

The precise use of the incorporated property was unclear until the 1860s. By 1867, the Lloyds map shows two stores occupying the lot. The western building was Davis Morris and Co., and the other was the Hazard Powder Co., manufacturers of gunpowder. These stores covered all of Lot 23.

The consolidated area of Lot 23 in 1860 was 42.1 x 41.3 feet (Appendix C, Section 2). It was occupied by a variety of stores throughout most of the 1800s and into the 1900s. By the middle of the 1900s, the Atlas of the City of New York showed that Lot 23 had been expanded southward to include Lot 24 (Appendix C, Section 2). The 1982 Sanborn map of the block indicated that Lot 23 (including 114 Water Street) contained a one-story building, as opposed to earlier four- and five-story buildings. This one-story building was demolished in 1982.

2. Testing Results and Data Retrieval Strategy

The Phase II testing began with the removal of all modern demolition debris, by machine from the western section of Lot 23. Two stone walls were exposed (which were assumed to be the west and south lot walls), as well as an interior, steel reinforced concrete wall, oriented north/south (Figure VI.1).

A 5 x 5 foot test excavation unit (No. 2) was placed five feet east of the west lot wall and eight feet north of the southern lot wall. A total of fifteen strata were found in the test excavation, most of which were either rubble fill or landfill deposits. The uppermost stratum contained a mixed artifact content, dating from the eighteenth through twentieth centuries: brick, linoleum, glass, and plastic; and creamware, handpainted pearlware, transfer printed pearlware, delftware and slip decorated redware ceramics, as well as prehistoric ceramics. Below this stratum was a deposit that may have been associated with a truncated north/south-oriented wall exposed in the east side of the unit. Landfill soils contained prehistoric ceramic sherds and lithic debitage, and a few Euro-American artifacts.

A deep test backhoe trench (Deep Test 2) was excavated in the northeast section of the lot, approximately ten feet west of and parallel to Water Street (Figure VI.1). The trench exposed demolition debris and displaced refuse deposits overlaying a tiled floor. Beneath this floor were several layers of silt and sand. Some of these strata contained creamware and pearlware ceramics, suggesting a post-landfill context. The lowermost strata in the trench consisted of organic matter, and probably represented river bottom. The trench also exposed a barrel (Feature 8) at -0.30 feet M.S.L. to -2.20 feet M.S.L. Fill in the upper section of the barrel contained coal, coal ash, and cinders, below which were several whole bottles and bottle fragments.

Based on the testing results, the goals for data retrieval within Lot 23 were to: 1) define the function of the barrel feature and its association with the deposits exposed in the northeast corner of the lot, 2) define the nature of the eighteenth-century deposits discovered in the tested portions of the lot, 3) provide additional data on the origin of the landfill within the block, and 4) examine the deposition of aboriginal materials in the landfill deposits. These goals were to be accomplished by first removing all demolition debris and extant basement floors from the lot. Then a total of six 5 x 5 foot units were to be placed around Feature 8, with three additional units positioned in the remaining sections of the lot.

Demolition debris was removed from a 25 x 40 foot area, as the first step in data retrieval. As shown in Figure VI.1, two interior north/south-oriented concrete walls were exposed. The westernmost of these walls intersected with a stone wall at the 114/116 Water Street lot boundary. The second wall, fourteen feet east of the first, was also oriented north/south, but extended further south, at which point it turned at a right angle and ran westward ten feet, forming an "ell"-shaped basement in Lots 23 and 24.

Two excavation units (H-1 and H-3) were placed between the western lot wall and the first interior concrete wall. Unit H-2

was positioned between the two concrete walls (Figure VI.26). Three more excavation units were located around Feature 8 (Units H-4, H-5, H-6).

Originally, Units H-4 through H-6 were to be advanced to the top of river bottom. However, this was not possible, due to several factors. The unexpected discovery of an eastern lot wall, during clearing, reduced the size of the excavation units, being bounded on one side by this wall and on the other by the filled-in deep test. Also, as excavation of the units proceeded, large footing stones, stone piers and a structural wall were encountered. These features jutted into the excavation units, off the east lot wall, reducing the working space to a few square feet in each unit. When combined with the potential danger of undermining the Water Street sidewalk, excavation to river bottom was abandoned.

3. Data Retrieval Results

Several distinct building episodes were identified within the lot. The latest construction was represented by the two interior concrete walls (Figure VI.26). The space between these walls was probably a basement since this area was covered with a concrete floor and was excavated deeply into landfill. The steel reinforcement in the walls, and the fact that one of the walls extended into 114 Water Street, suggested an early to mid-twentieth-century construction date. No nineteenth- or eighteenth-century occupation deposits were extant in this area of the lot (i.e., Unit H-2 and Test Unit 1); only landfill.

Units H-1 and H-3 did not contain rear yard deposits. Several rubble fill layers and portions of a brick wall and floor were found, overlying a stone floor comprised of large schist and granite rocks capped by a compact layer of mortar (probably as a method of waterproofing). Artifactual material recovered above the floor dated to the twentieth century. Below the stone flooring was landfill. These deposits contained the same frequency of aboriginal artifacts as were found in other landfill soils within the project area.

Units 4, 5, and 6 exposed structural remains that may have been associated with a building or buildings that fronted on Wall Street, or possibly Water Street when it was the site of a wharf. These remains consisted of a complex of walls and piers. A wall bordered the eastern side of Units H-4, 5, and 6. Its lower section was constructed of fieldstone while the upper section was red brick (Plate VI.6). Several large stone piers (Figure VI.29 and Plate VI.6) and a red brick interior wall appeared to be connected with this wall, or represent later constructions adjacent to the wall. Most of the artifactual material recovered from the three units appeared to be associated with either builder's trenches or disturbances linked to this complex of walls and piers. The only intact area appeared to be around the barrel (Feature 8).

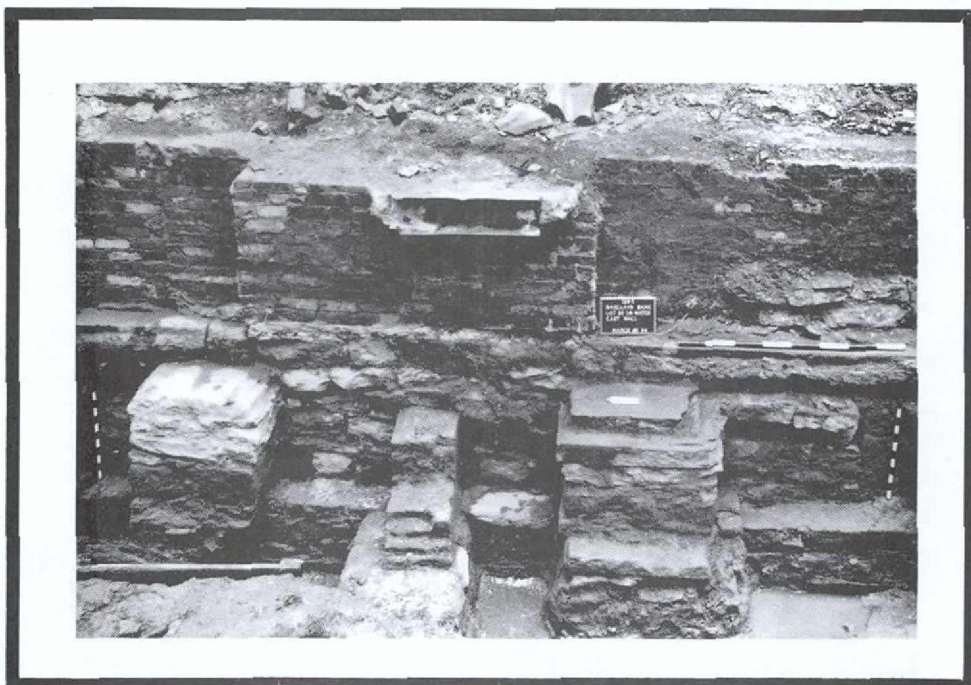
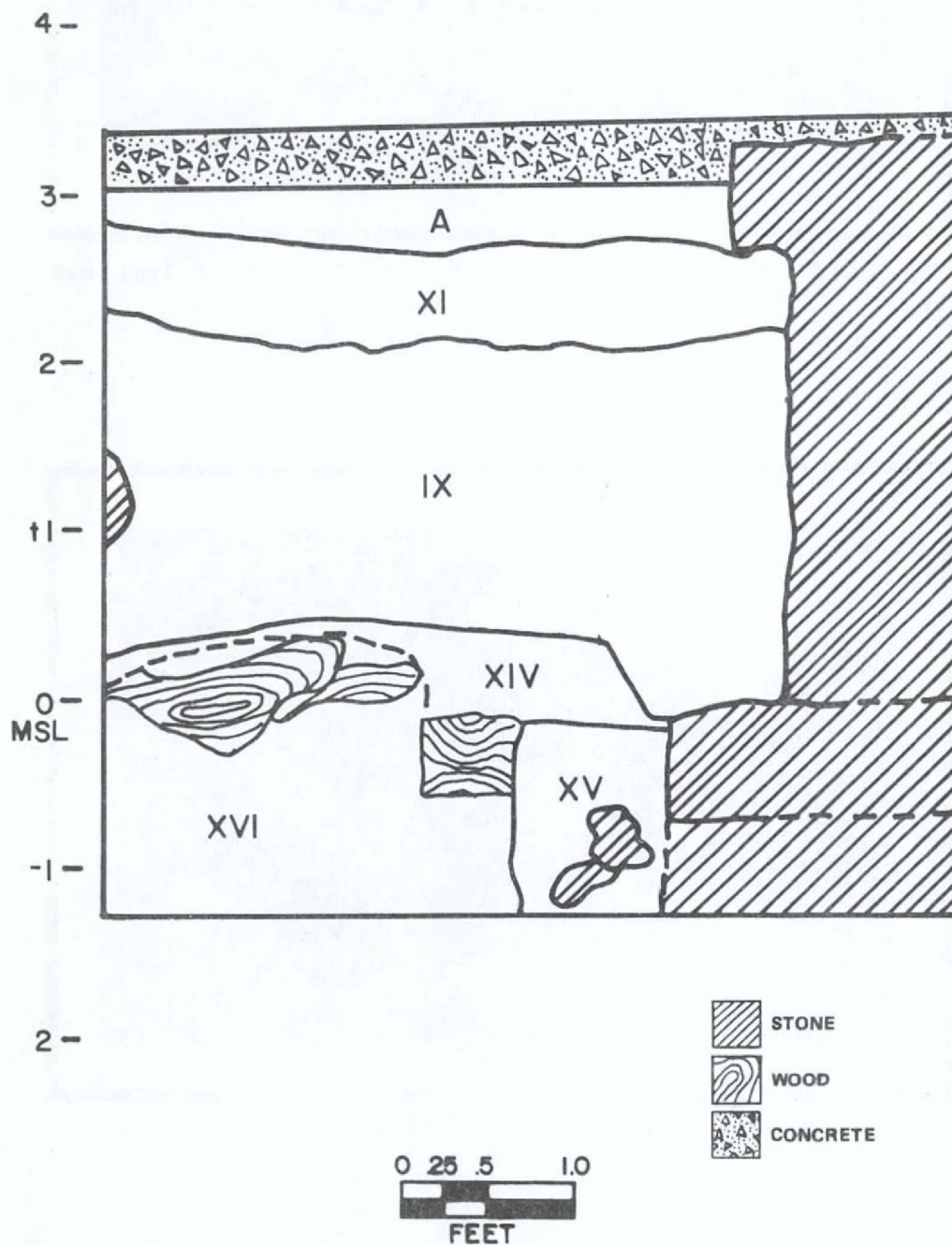


PLATE VI.6 Wall and pier complex. East profile of Lot 23/116 Water Street excavation area.



PLATE VI.7 Feature 8, Barrel. Lot 23 at 116 Water Street.

FIGURE VI.29:
Wall Profile of Excavation Unit H-4 Lot 23
116 Water Street
North View



LEGEND TO FIGURE VI.29

UNIT H-4

- IX - 10YR 3/6 Dark yellowish sand mottled with 7.5YR 4/6 strong brown sand
- XI - 10YR 4/3 Brown/dark brown sand
- XIV - 2.5YR 6/4 Light yellowish brown and 5YR 5/6 yellowish red sand, silt and clay
- XV - 10YR 6/6 Brownish yellow silt
- XVI - 7.5YR 5/6 Strong brown sand
- A - 10YR 3/2 Dark brown decomposed organic material

Unit H-4, positioned around Feature #8, exposed a stone-lined builder's trench associated with the barrel (Figure VI.30, Plate VI.7). Both the trench and barrel had been truncated by construction of one of the above-mentioned stone piers. The extant section of the barrel was 1.3 feet high and 2.0 feet in diameter at the base. A portion of an iron hoop and broken staves were found inside the feature, which contained an upper layer of coarse sand, coal, ash and cinders, overlying a brown sand. The function of the barrel was not evident during field investigations. It could have served as a cistern, privy, storage feature, trash receptacle, or a combination of these uses.

J. ARCHAEOLOGICAL MONITORING

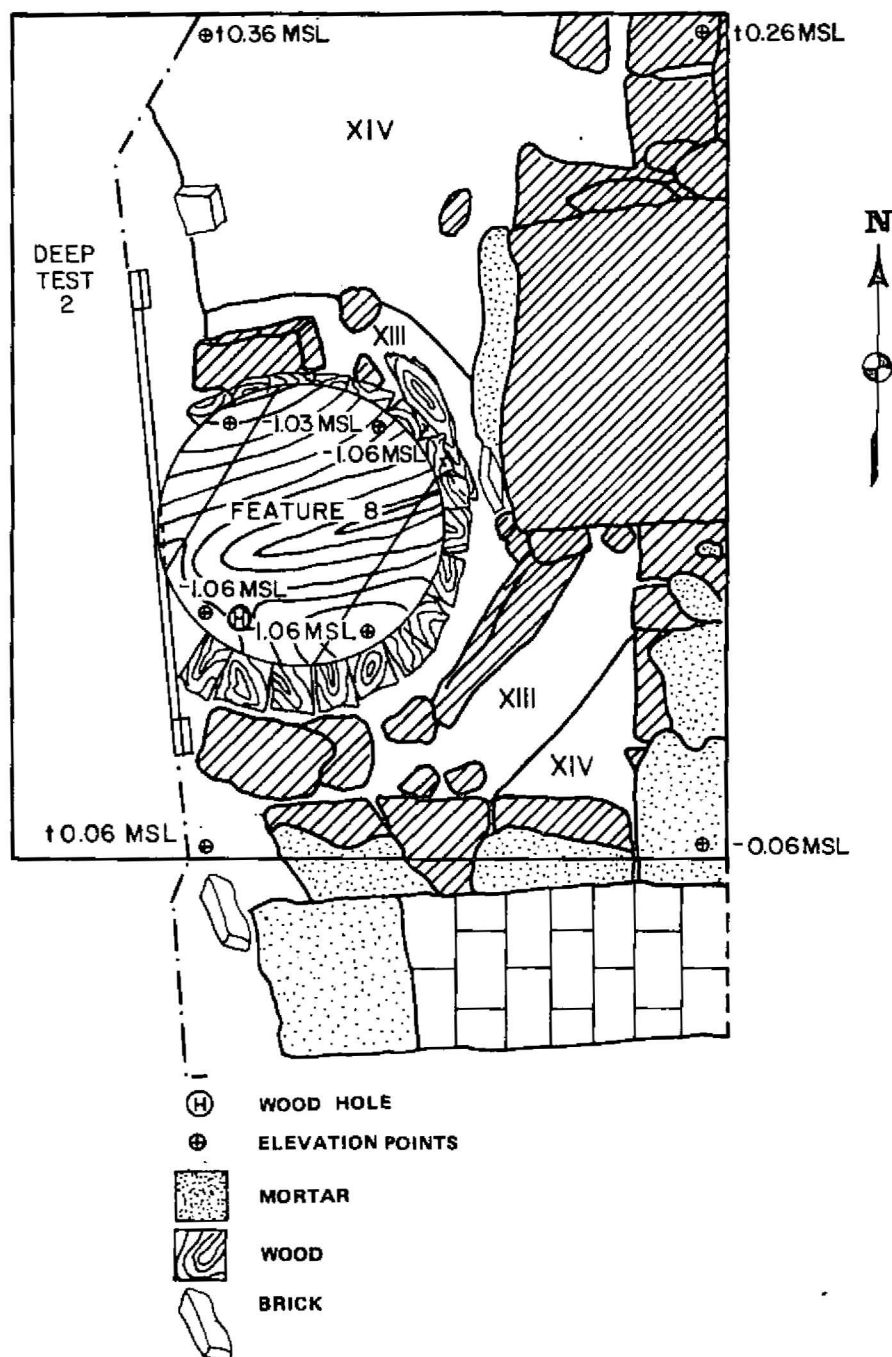
LBA staff archaeologists were able to monitor the basement/foundation excavations for the Barclays Bank office tower. These excavations were conducted by Urban Foundation for Tishman Realty and Construction Co. The purpose of the monitoring, which was completed on May 31, 1984, was to record any features or deposits that were not observed during data retrieval field efforts. The monitoring also provided a more extensive view of landfill and natural soil deposits within the block than could be obtained through normal hand excavation and machine trenching.

Monitoring revealed that the river bottom gradually sloped down from Pearl Street toward Water Street. Large soil profiles exposed by the basement excavation also revealed a distinct demarcation between the compact clayey river bottom soil and the organically rich landfill deposits. At the interface of these two soils there was often a layer of articulated shells, which clearly sat upon the river bottom surface.

Generally, two types of soils appeared to have been used for filling in the block. In Water Lot Grant 4, which included Lots 16, 17, 18 and 26, landfill consisted of a dark organic clayey soil. Water lot grants to the north and south of Grant 4, on the other hand, were filled with different types of soil, predominantly a sterile red sand overlying river bottom. These observations suggested that the block was created from at least two filling episodes and/or that two distinct soil sources were used to make land. Interestingly, Water Lot Grant 4 was awarded to Christina Veenbos in 1694, two years later than all the other grantees for water lots within the project area. The other grantees may have filled their lots quickly, using the same soil source. Lot 4 remained open and was used as a dumping area; and it also probably contained standing water. This would explain some of the organic soils within Water Lot Grant 4. It should also be noted that most of the deep fill retaining walls found within the project area border Lot 4 or are within this water lot (See Lot 16 and 18 discussions in this chapter).

Foundation excavations also exposed a 100 foot by 10 foot wooden structure parallel to Water Street. The southern end of the

FIGURE VI.30.
 Plan View at Base of Feature 8,
 Excavation Unit H-4, Lot 23
 116 Water Street



LEGEND TO FIGURE VI.30

UNIT H-4

- XIII - 10YR 4/2 Dark greyish brown sand
- XIV - 2.5YR 6/4 Light yellowish brown and 5YR 5/6 yellowish red sand, silt and clay

feature was 35 feet north of the existing Barclays Bank building (100 Water Street). This wood structure was built of timbers and logs, oriented to form a series of 5 x 5 foot compartments. These compartments, which were held in place by pilings approximately 5 feet apart, were filled with rock and coral. This structure appeared to be a cobb wharf (See Geismar 1983). Portions of the wharf remain undisturbed beneath the sidewalk, and probably Water Street (See Figure V.1).

It is possible that the wharf was a remnant of Rotton Row/Hunters Key. It may also be the wharf referred to in the titles for Water Lot Grant 4 (See Appendix C, Section 2). Interestingly, the wharf appeared to occur only in this water lot.

Other structural features observed during the monitoring included a series of six-foot-square concrete slabs, referred to as concrete "turtles," by Urban Foundation contractors. These slabs rested atop clusters of wood piles, with approximately six piles per cluster. These features occurred along the northern edge of the project area, as well as throughout the area that once contained the Orient Building. The concrete "turtles" and pile clusters appeared to represent the footings upon which the Orient Building was constructed.

The monitoring also revealed a few smaller features not located during earlier field efforts (See Figure V.1). A three-foot-square concrete and brick structure was located at the southeast corner of the project area. The feature appeared to be similar in construction to Features 3 and 4 in Lot 20/148 Pearl Street. The function of these features is unclear; however, they may have served as air shafts. Two brick wells were located approximately 25 and 35 feet north of the extant bank building at 100 Water Street, and approximately 10 feet east of the sidewalk along Pearl Street. They both appeared to have been built in the same manner as the wells beneath the north lot wall of Lot 106 Water Street and in the northeast corner of Lot 19/148 Pearl Street. A grab sample was taken of the contents of one well (well "C" in Figure VI.1). It contained coal cinders and late eighteenth- or early nineteenth-century artifacts. The speed in which the other well was uncovered, and subsequently destroyed by foundation excavation did not permit the taking of an artifact grab sample.

A third brick well was exposed approximately 40 feet west of Water Street and 78 feet north of the 100 Water Street bank building. This third well appeared to be similar in form to the other wells on the block. As with the second well found during monitoring, it was not possible to obtain a grab sample from this third well.

VII. ARTIFACT ANALYSIS

A. INTRODUCTION

Not all deposits within the Barclays Bank Site are conducive to an analysis of landmaking processes and consumer behavior (cf. Chapter III, Research Design). Thus, as a first step, it is necessary to define those deposits that are suitable for study. Of primary importance is the identification of the nature of a given deposit; that is, determining the formation process that may have created the deposit. This procedure will also help define the context of a trash deposit, whether it is de facto refuse, primary, secondary, displaced, etc. (Schiffer 1972, 1983, South 1977). Once these steps are accomplished, behavioral inferences can be more confidently made (cf. Schiffer 1983).

Researchers are just beginning to identify the processes which create the urban archaeological record (c.f. Wilk and Schiffer 1979; Roberts and Barrett 1984; Louis Berger & Associates, Inc. 1985; White and Kardulias 1985). Unfortunately, there are currently no empirically-based models describing the archaeological "signatures" of these various processes. In an attempt to fill this methodological gap, LBA researchers developed a table describing the formation processes that may have created deposits in privy/wells found in the Christina Gateway Project area in Wilmington, Delaware (Louis Berger & Associates, Inc. 1985:130). This table has now been expanded to include the types of archaeological contexts that would be expected to occur in a landfill/waterfront site in New York City (Table VII.1). The processes listed in this table are based on the works listed above, particularly Schiffer (1983). These processes and subsequent material manifestations are tentative, and do require testing. However, they can provide initial clues to the possible formation processes that created a deposit, and thus illustrate the potential of the deposit to contribute data for addressing the project's research design. This table also indicates the types of artifactual analyses that aid in defining the formation processes. These analyses include dating, calculating percentage of artifact completeness, counting minimum number of artifacts, identifying vessel cross mends within a feature, and measuring artifact frequencies. Of course, one of the most critical tools in identifying the origin and context of any deposit is the nature of the soil matrices from which the artifacts were recovered. Artifacts within a deposit of sand, gravel, and demolition rubble are of a different origin and context than artifacts from a deposit consisting of night soils.

Identifying formation processes also involves defining the occupational activity which created a deposit. There are several studies which provide models on how to recognize commercial as opposed to residential deposits. These models also describe the

TABLE VII.1
FORMATION PROCESSES OF URBAN DEPOSITS

PROCESS	Possible Archaeological "Signatures" of Processes		Minimum Number of Artifacts	Artifact Frequency	Vessel Cross Mends	General Observations
	Dating of Deposit	% of Artifact Completeness				
1. Filling in of water lots with soils from borrow area	Dates fall prior to and during actual filling of water lots	Low	Low to Moderate	Low	Low	May have prehistoric materials, indicating use of borrow area that contained Native American site
2. Filling in of water lots by rapid dumping of secondary refuse	Dates fall within period of actual filling of water lots	Depends on trash source	Moderate to High	Moderate to High	Depends on trash source	Fill is across major portion of an entire water lot. Fill contains waterfront related materials, e.g., ballast, shell, etc.
3. Filling in of water lots by rapid dumping of displaced refuse (i.e., from other trash dumping sites)	Same as No. 1	Low to High	Low to High	High	Low	Soil matrix will be fairly homogeneous
4. Filling in of water lots by gradual dumping of secondary refuse	Dates fall within period of actual filling of water lots	Depends on trash source	Moderate to High	Moderate to High	Depends on trash source	Trash mixed with waterfront-related materials and would have higher frequency of these materials than in No. 2
5. Filling in of water lots with demolition debris	Dates fall within period of actual filling of water lots	Moderate to High	High	High	Low	High brick, mortar, tile and stone frequencies
6. Filling in of low areas within a lot (created after land-filling activities)	Post-dates land-filling, unless redeposited land-fill used	Depends on fill source	Low to High	Low to High	Depends on fill source	Fill very localized. May contain materials as in No. 1
7. Accidental dropping of breakable material, disposed of in a feature	Dates fall within range of household or commercial occupancy	High	Low to Moderate	Low to Moderate	High (but restricted to adjacent levels and/or strata)	Feature would contain more sterile soils than artifact bearing deposits
8. Gradual accumulation of trash directly from household or business into a feature	Dates indicate gradual time span during household or commercial occupancy	Moderate to high (wide range, with whole artifacts disposed of along with sweepings from house or business)	Moderate to High	Low to Moderate	Low to Moderate	N/A
9. Gradual accumulation of trash, from open deposits within household or business property, into a feature	Dates fall within range of household or commercial occupancy, and possibly earlier	Low	Low	Low to Moderate	Low	Artifacts would be small in size. If trash came from outside property, dates may not fall within range of lot occupancy
10. Rapid accumulation of trash from open deposits, into a feature	Same as No. 9	Low	Low	Low to Moderate	Low	Soil matrix may or may not be uniform. Artifacts would be small in size
11. Household or business cleaning or moving change in household or business	Tight clustering of dates.	Moderate to High (See No. 8)	Moderate to High	High	High	Dates of materials may not all cluster together due to curation of some materials
12. Placement of broken artifacts to serve as percolation fill in a privy	Same as No. 11	High	Moderate to High	High	High (but restricted to a few strata and/or levels)	N/A
13. Regular carting-off of household and commercial trash	Same as No. 8	Low	Low	Low	Low	Assumes that only small items and/or vessels broken by periodic accidents would be deposited in features

Notes:

1. Features consist of wells, cisterns, privies, pits, trenches, etc.
2. If a privy was cleaned or night soil sold for fertilizer, and then refilled with soil and/or trash, may have remains of earlier deposits along sides and/or bottom of feature.
3. Formation process may consist of a combination of Nos. 1 to 13.

"signatures" of specific commercial and domestic activities. The first of these studies was South (1977).

Others include Lewis (1976, 1977), Honerkamp et al. (1982), Rockman et al. (1983), Geismar (1983), and Klein and Garrow (1983). The results of these efforts have not been extensively tested; however, they have been successfully applied to their respective sites. Table VII.2 details the artifact "signatures" that are used in the Barclays Bank Site analysis to distinguish residential, commercial, and mixed deposits.

The study of deposit soil matrices, combined with the results of the artifact analyses listed in the tables, should indicate which depositional units within a feature can be used in a study of landmaking, and household and commercial activities. Depositional unit refers to a single deposit or several deposits that are temporally, functionally, and/or spatially linked. With the use of historical data, depositional units are linked to a particular household or business; or at least a group of households or businesses. The archaeological materials within these units are then subjected to a group of analyses which will directly address the data needs of the research design. These analyses include pattern analysis, to describe historic activities within the block; analysis of vessel function, which provides data similar to the pattern analysis, but focusing within specific activities (e.g., food preparation as opposed to food serving); measurement of the economic scaling of ceramic assemblages, which defines the level of expenditures on ceramics and, as many researchers assume, the capability of a household to purchase ceramics of different costs; and finally, floral and faunal analyses, which provide data on household diet. Section D of this chapter provides a detailed examination of the depositional units within the project area that can either be used to test the project's research hypotheses, or will provide data on different types of commercial and residential activities that occurred within the block. Specifically, these units will be characterized in terms of their artifact quantity and variability (i.e., pattern and functional analyses). The floral and faunal remains within these important depositional units are analyzed in Appendices E and F.

Landfill depositional units will be examined in terms of soil and artifact content. The latter involves a pattern analysis to determine the proportion of artifact categories within the fill. There is also an artifact distributional study to identify differing landfill practices among water lot grants. In Chapter VIII, these landfill depositional units, in addition to the important commercial and residential deposits within the block, are used to address the project's research design.

TABLE VII.2

ARCHAEOLOGICAL "SIGNATURES" OF LAND USE AND OCCUPATION CATEGORIES (Mid to Late 18th and 19th Centuries)

Land Use/Occupation	Possible Archaeological "Signatures"							
	Pattern Analysis (Artifact Group Frequencies and %)						Artifact Recycling, Repair, Wear	Frequency of Food Remains
	Kitchen Group	Architecture Group	Furniture Group	Pharmaceutical Group	Personal Group	Activity Group		
1. Residential	High	*High to Low	Low	Moderate to Low	Moderate to Low	Low	High to Moderate	High to Moderate
2. Commercial (excluding glass and ceramic shops and druggists)	Low	High to Low	High to Low	Moderate to Low	High to Low	High to Low	Low	Low (excludes taverns and boarding houses)
3. Commercial, glass and/or ceramic shops	High	High to Low	Low	Low	Low	Low	Low	Low
4. Druggist	Low	High to Low	Low	High	**High to Moderate	Low	Low	Low
5. Mixed Residential and Commercial	High to Moderate	High to Low	High to Low	High to Low	High to Low	High to Low	High to Moderate	High to Moderate

* All land use categories may experience architectural activity, such as rehabilitation. Therefore, the architecture group % and frequency can range from high to low.

** Most druggists also sold personal items

B. METHODS FOR DEFINING AND CHARACTERIZING DEPOSITIONAL UNITS

1. General Laboratory Processing Methods

Artifacts were transported from the field to the lab on a daily basis. They were checked-in using their field catalogue number. This number remained with the artifacts throughout the entire analysis. Prior to washing, the bags were sorted by unit, thus assuring that the entire unit would be washed at one time. The artifacts were washed and set out on trays in vertical racks to dry. Fragile artifacts that could not be washed were set aside for more careful cleaning. Those items requiring conservation were also set aside (See Appendix G). The size of the collection made it necessary for artifacts to be bagged as soon as they were dry. Dry artifacts were bagged using four crude groups; diagnostic, nondiagnostic, faunal, and shell/floral. "Diagnostic" refers to artifacts that can be identified in terms of function, form, and/or date.

Once washing was completed, ceramics, diagnostic glass, pipes, notable small finds (e.g., buttons, coins, toothbrushes, gunflints, etc.) and brick samples were marked with india ink. Each artifact was marked with the site number and the provenience (unit/feature/stratum/level). Artifacts were then ready for further analysis. To aid in processing such a large collection, the ARDVARC archaeological data management system from DMS Consultants in Leverett, Massachusetts, was used. Coded information was entered on an ENTREX data-entry computer and transferred to a Control Data Corporation Cyber 175 on magnetic tape. The computer system is located at the University Computing Center at the University of Massachusetts.

The use of the ARDVARC system allowed laboratory analysts to record shorthand artifact identification codes, attributes, and provenience on coding forms. The system then enhanced the data base by adding English translations, dates where appropriate, and other variables based on coded entries. Once the data base was entered on the computer system, numerous analytical programs were run and computer reports were provided to the laboratory analysts for report writing. These reports included: aggregation of all catalogue data into analyzable depositional units; translation of artifact codes; assignment of analysis classes to all recorded items; file building; editing; maintenance and data retrieval reports; mean ceramic date reports; ceramic and glass reports by vessel number and minimum number of vessels; numerous formatted listings such as small finds by feature, small finds by catalog number and code, fauna and flora by catalog and feature; artifact reports by analytical class, etc.

Numerous reports were generated using SPSS (Statistical Package for the Social Sciences). ARDVARC provided extract files for the SPSS system. SPSS reports included: cross tabulation of ceramic wares by feature and stratum, glass by type, glass by commercial-

vs-domestic usage, etc. At the end of the project, summarized and detailed artifact catalogs were run for all artifacts analyzed.

Use of the ARDVARC system required the formation of alpha-numeric typologies for artifact type and numeral designations for notable attributes. A typology was set up for each artifact group. Typologies from the 175 Water Street Site were used as a guide to allow for intersite comparisons. These typologies started out in a basic format and were continuously added to, up until the last artifact was coded. The fully developed code system is presented in Appendix H.

2. Ceramic Analysis

The ceramic collection from the Barclays Bank Site was analyzed by proveniences which consisted of strata and levels. Each provenience received a catalogue number and was tabulated separately. Tabulation was done using the ARDVARC computerized system, which was first used on the 175 Water Street Site (Stehling in Geismar 1983). However, the computer categories were reorganized and types, forms, and decorations were reformulated (See Appendix H).

Before tabulation was begun on each lot, all of the ceramics from the lot were laid out, sorted by type, and cross mended. The objectives of this were twofold: to determine in which proveniences cross mending occurred, and to be able to view all of the sherds at one time in order to obtain a count for minimum number of vessels (MNV). MNVs were assigned, for the most part, to rim sherds, but were also assigned to unique types which were represented only by body sherds. Sherds were cross mended in the following order: within specific proveniences, within strata, within test units, and finally within the entire lot.

Where cross mends occurred between two or more proveniences, their locations were noted and the mending sherds were given a vessel number. Vessel numbers were consecutive within lots. The individual sherds were tabulated in their separate proveniences, but the vessel numbers enabled the computer to track all the sherds that mended. Each vessel was given an MNV of 1 which was recorded on the tabulation sheet for the provenience which had the greatest number of sherds from the vessel. In cases where two or more provenience units had the same number of sherds, the stratigraphically highest unit was given the MNV. If sherds within one provenience mended to form more than 25 percent of a vessel, it was also given a vessel number. When cross mending was completed, additional MNVs, based on rims and unique types as noted above, were assigned to the residual sherds. A hand-written vessel list was kept for each lot and a card containing information on type, form, manufacturer, etc., was attached to each vessel.

The following categories were then coded within the ceramic computer form:

Ceramic Types were based on the South/Noel Hume typology (South 1977) with three sorts of modifications: additional named and dated types from other sources, modifications of South's dates using other sources, and types which were simply descriptive of paste and glaze. Sources include Archer (1973), Miller (1980), Greer (1981), Coysh and Henrywood (1982), Gates and Omerod (1982), and Howard (1983). Appendix H lists specific dates and sources used in identifying ceramic types. The typology was organized by ware type (red bodied earthenwares, delftware, creamwares, etc.), following a standardized format used on several recent historic sites in New York (Geismar 1983; Rockman, Harris and Levin 1983; Rothschild and Rockman n.d.; Rothschild and Pickman n.d.). The computer code for ceramic type consisted of two letters, the first of which was always W, and two numbers.

Count was simply the number of sherds in any category.

Beginning Date and End Date were filled in only when more specific dating information was available than was already included in the typology.

Minimum Number of Vessels was filled in when the sherds had been assigned a MNV (See above for the methods used in assigning MNVs).

Vessel Forms were divided into the general categories of food consumption, serving, and storage, and non-food related vessels. Within the food consumption and serving categories, forms were grouped as tablewares, teawares and general flat or hollow forms. Sources which were used to make up the forms list were Beaudry et al. 1983, Greer 1981, Howard 1984, and Towner 1963.

Motif/Pattern included both descriptions of decorations and specific maker's marks, decorators' marks, retailers names, and pattern names. Dates, when known, and their sources were included. This list, unlike Type and Forms, is site specific and was compiled as the analysis progressed.

Percentage Complete was filled in only for vessels. The purpose of this figure was to aid in identification of deposit type by noting degree of artifact fragmentation. The categories used were less than 25 percent, 25 to 50 percent, 50 to 75 percent, 75 to 100 percent, and intact. (For the purpose of calculating the relative degrees of fragmentation of depositional units, all sherds which were assigned a MNV were placed in the less than 25 percent complete category by the computer.)

Vessel Number was the consecutive number assigned. (It should be noted that vessel numbers were given to both those vessels which mended between two or more proveniences and to those which were found only with one provenience but which were more than 25 percent complete.) Vessel numbering was simply part of the clerical needs of the analysis.

Many of the variables coded in the ceramic artifact processing were then subjected to several quantitative analyses. These include dating and percentage of vessel completeness analysis. Both are critical in the definition of depositional units and the formation processes which created these units. Calculation of Mean Ceramic Dates (MCDs) was done using the formula presented in South (1977:217). However, MCDs have been found to be problematical on complex urban sites (Stehling in Geismar 1983). At the 175 Water Street Site, termini post quem (TPQs) were more accurate indicators of the dates of activities within the block. The computer program developed for the Barclays Bank Site showed, for each provenience unit, the MCD with its standard deviation, TPQ, TAQ (terminus ante quem), mean date, modal date and the number of dated sherds upon which the calculations were based. This information was used to help to group strata into depositional units. Once the latter were defined, the same series of dates were run for each and the results were used as part of the characterization of the units.

As noted in Table VII.1, one method of determining whether a deposit originated directly from a household or business, came from sweepings from within the house or shop, or was derived from already existing trash deposits in a yard, is to examine the level of object completeness within a deposit. An easy way to examine this variable is to measure the percentage of completeness exhibited by the ceramic vessels within a deposit's assemblage. As noted above, each vessel identified through the minimum number of vessel analysis was examined in terms of level of completeness.

In order to compare the results of this analysis between the different depositional units, a percentage of vessel completeness index was calculated. This index simply involved calculating the percentage of vessels within one of the five levels of completeness categories, and multiplying this percentage with an index (1 for 0-25%, 2 for 26-50%, 3 for 51-75%, 4 for 76-100%, and 5 for intact). The products were then summed. A resulting value of 5.0 indicates a very high percentage of vessel completeness, while an index of 1.0 indicates a deposit consisting of very fragmentary ceramic vessels. The following provides an example of calculating this index.

<u>Completeness Category</u>	<u>Percentage of Vessels Within Category</u>		<u>Index Value</u>	<u>Product</u>
0%-25%	61.4%	X	1	.614
26%-50%	6.8%	X	2	.136
51%-75%	4.5%	X	3	.135
76%-100%	27.3%	X	4	1.092
100%	0.0%	X	5	.000
Index Value =				1.977

3. Pipe Analysis

The pipes were tabulated in the same way as the site's other artifacts. They were separated from the rest of the small finds and cataloged using the ARDVARC system. The categories used on the ARDVARC Data Sheets were the following:

Code was a four-digit alphanumeric code consisting of two letters and two numbers. The first letter was always "T" and the second letter was either "S" (for stems), "E" for general bowls, or "D" for Dutch bowls. The two numbers which followed identified certain characteristics of the pipe (e.g., TS50-measurable marked/decorated). These characteristics were always descriptive and sometimes contained dating information. Dates were based on bowl shape, and sources used were Oswald (1961), Noel Hume (1969b), Walker (1977), and Sudbury (1980).

Count/weight simply recorded the amount of fragments. The Beginning and End Dates were used for specific write-in dates when they could be assigned. A "MN" was used to designate the minimum number of pipes present in the assemblage. MNs were assigned only to bowls.

Bore diameter was the measurement in sixty-fourths of an inch, of the bores of stems. The measurement was taken with drill bits ranging from 4/64 to 9/64. The measurement was recorded on the data sheets using only the numerator (e.g., 4=4/64).

Maker's mark/decoration was used to further describe pipes when possible. Various decorations and maker's marks which were found on pipes (e.g., bas-relief, intricate vines, "W. Morgan Liverpool" on stem) were given one to three digit numbers.

Use was a one-digit code describing the amount of discoloration from smoking. Percent complete indicated the degree of fragmentation of the assemblage, and was only used to describe bowls. Milled rim simply showed whether the rim was milled/rouletted. Glazed indicated the color and type of the glaze, if present. Reworked/waterworn was used to indicate various types of reworking and wear.

4. Glass Analysis

The Barclays Bank Site glass artifacts were broken down, for analytical purposes, into three functionally distinct categories: bottle, table, and other glass. Window, door, and all colored and translucent flat glass, were considered to be architectural items, and were subsumed for analysis under small finds. Artifacts such as glass beads, buttons and marbles, etc., were similarly handled during small finds analysis under various group headings: Personal, Clothing, Activities, etc.

Identification and tabulation of the glass assemblage proceeded unit by unit within each lot. Each provenience was laid out on tables, sorted according to form under the various functional

headings, and then tabulated by sherds. This tabulation utilized the typology and partial attribute list originally developed by Joseph Diamond (See Geismar 1983:335-366), and modified and expanded by LBA for this project. Tabulation of the assemblage was computerized in the ARDVARC system. A description of coding procedures follows.

Functional categories of bottle, table, and other glass were the basis for glass tabulation and coding. A detailed breakdown of these codes and their associated translations is presented in Appendix H. It should be noted, that extensive mending was not undertaken for the site's glass assemblage. As a result, there were whole and fragmented bases, finishes, rims and body sherds, etc., for which specific forms could not be identified. Artifacts which could be designated, on the basis of curvature, mold, and/or pattern, as generally belonging to the bottle or table categories were subsumed under "Unidentified Bottle Glass" or "Unidentified Table Glass," respectively. Also bottle sherds exhibiting partial embossments which could not be identified were subsumed under "Unidentified Bottle Glass Embossed." Sherds too fragmentary to designate as belonging in either the bottle or table categories were coded "Total Unidentified Glass." Non-form specific vessels and sherds were coded as above, when appropriate, or under expanded codes such as "Carboy/Demi-john/Bulk Bottle."

Count was simply the number of sherds in any category.

Dating of the glass assemblage proceeded according to established diagnostic criteria. These criteria include various technological aspects of glass manufacture, such as finish types, tooling methods, empontrilling techniques, and mold markings; datable bottle embossments; and various stylistic elements associated with certain tablewares. When applicable, both a beginning and end date of manufacture were recorded. Sources used for dating include Hughes (1956), Davis (1964), Noel Hume (1968, 1969b, 1969e, 1974a, 1974b), Haynes (1970), Munsey (1970), McKearin and McKearin (1972), McKearin and Wilson (1978), Cheney (1980), Beaudet (1981), Miller and Sullivan (1981), Baugher-Perlin (1982), McNally (1982), Spillman (1982, 1983), Geismar (1983), O. Jones (1983), O.R. Jones (1983), and Diamond, Personal communication (1985). Specific page references are cited in Appendix H under the various typological and attribute listings. Additional sources consulted include Hunter (1950), Putnam (1965), Lorrain (1968), McKearin (1970), Brown (1971), O. Jones (1971), Toulouse (1972), Baldwin (1973), Switzer (1974), Harris (1979), McNally (1979), O.R. Jones (1981), Watters (1981), Wilson (1981), Drahotova (1983), Mehlman (1983) and Jones and Sullivan (1985).

Minimum Number of Vessels (MNV) for the majority of glass forms, were defined by counting the number of bases in the assemblage. All intact vessels and whole and fragmented bases were set aside as each provenience was readied for tabulation. Fragments were grouped by form, color and pontil type, when evidenced, and mended to the fullest extent possible within each provenience.

Cross mends were made between all proveniences in a given excavation unit in order to decrease the instances of multiple counting of vessels that may have crossed more than one level or stratum in a given unit. No attempts were made to cross mend between units. An MNV of one was assigned to each intact vessel and whole base. As a general rule, single fragments and those mending to form only a partial base were assigned an MNV of one, if the pontil type could be discerned and/or a 50 percent or above level of completeness was achieved. When a base cross mended between two or more proveniences, the MNV was assigned to the stratum and level containing the greatest number of fragments or, when the number of fragments was equal, to the stratigraphically higher provenience. MNVs for the footed glass forms in the assemblage (i.e., wineglasses, goblets, etc.) were defined by counting the number of stems and/or feet. Glass forms lacking a diagnostic base, foot or stem necessitated a different approach. Funnels, for instance, were assigned MNVs on the basis of rim counts.

Color was lumped under a broadly defined subheading. Light olive green, for example, was coded under olive green/black. As a general rule, color was not assigned to melted and devitrified glass owing to the distortion which results from burning and decay processes.

Finish Types relate to the shape of the varying elements comprising each finish. In some cases, common form names, i.e. crown and screw-top, were used. "Unknown" was used to denote unidentifiable fragments.

Base types refer to the pontil mark (or lack of one) left on the base of completed glassware. "Unknown," was used to denote both severely patinated bases and unidentifiable fragments.

Mold Type/Manufacturing Technique refers to the distinctive seams and markings found, for example, on cup bottom and two piece post bottom mold blown vessels. Manufacturing technique refers to methods such as cutting and engraving used for decorative purposes. The category "Mold Blown (Mold Type Indeterminate)" was used to describe vessels for which a specific mold type could not be discerned.

5. Floral and Faunal Analyses

Floral and faunal remains, recovered from screening during excavation, and from flotation of soil samples, were processed and analyzed by specialists. The methods used in processing and analyzing these materials are detailed in Appendices E and F.

Flotation samples collected during fieldwork were selected for processing during initial artifact analysis. A judgemental sampling scheme was used, focusing upon features and domestic and commercial trash deposits in lot cellars and yards. Some landfill

contexts were also examined. A total of 90 samples were processed. The primary purpose for analysis of flotation samples was to obtain floral and micro-faunal data that would otherwise have been lost during normal water-screening in the field.

6. Small Finds

Small Finds were defined as all artifacts not included under the following categories: ceramics, glass, flora, fauna and pipes. Procedures for tabulating these artifacts were similar to those outlined above for the ceramic and glass categories. As with all other artifactual materials from the site, tabulation was computerized using the ARDVARC system. In order to accommodate the diversity of Small Finds artifacts in the tabulation phase, a functional typology based upon a modified version of South's analytical categories (South 1977) was used. Artifacts were coded according to general morphology under the various functional headings of Architecture, Arms, Clothing, Kitchen, Personal, Activities, etc. Coding further included description of material type, characteristics/decoration, color and, when applicable, maker's mark. Sources used for identification of artifacts include Sloane (1964), Luscomb (1967), Israel (1976), Kovel (1979), Lantz (1980), Yeoman (1981), and Noel Hume (1969b). All small finds were counted and/or weighed. It should be noted, however, that some materials (i.e. brick, shell, mortar, building stone) were counted and weighed on-site during fieldwork, and were then discarded, retaining only a sample for laboratory analysis. Measurements made in the field, however, were placed onto coding forms.

Due to the fragmentary nature of the collection, minimum number (MN) counts were assigned only for certain artifact types. MNs were not assigned, for instance, to any artifacts which were weighed. Nails were assigned MNs on the basis of head counts only. Fields for beginning and end dates were included on the Small Finds computer form but were, for the most part, only used for datable shoes, crown glass, and coins.

C. LOT DEPOSITIONAL UNITS

1. Lot 20 at 148 Pearl Street

Five archaeological contexts, each composed of one or more depositional units, were identified upon completion of fieldwork within Lot 20. The earliest was original river bottom. Overlying these soils, in several areas of the lot, were landfill deposits. The third archaeological context was represented by Feature 1, a truncated rectangular wooden structure and its builder's trench. The backyard location of the feature and its watertight construction suggested that it had functioned as a cistern. The feature may also have been used for ice storage.

The fourth archaeological context within the lot consisted of a severely truncated stone wall with wooden support beams (i.e.,

spread-footers) and a possible builder's trench. The function and extent of this wall, which was located in the southern portion of Test Unit 3, was unclear. The fifth context was associated with the construction of the Orient Building, which encompassed 150 and 152 and portions of 148 Pearl Street. Features related to the building included two square concrete and brick structures (Features 3 and 4), in addition to a concrete wall and a builder's trench that may have been part of the small, one-story addition to the Orient Building.

Subsequent artifactual analyses altered some of these preliminary field interpretations. Nine depositional units are now recognized for Lot 20: (1) river bottom, (2) landfill, (3) secondary fill with displaced refuse, (4) a builder's trench for Feature 1, (5) fill within Feature 1, (6) a builder's trench to a concrete wall, (7) disturbance from a stone wall and concrete footing, (8) fill in Feature 3, and (9) demolition rubble. The soil descriptions for each of the strata within these depositional units are presented in Appendix D, Table D.1. Feature locations are provided in Figure VII.1 and VII.2.

The earliest artifact-bearing deposits within 148 Pearl Street consist of landfill. Identification of landfill in Lot 20 is based on its elevation (in terms of mean sea level) and the composition of its artifact assemblage. The quantity of brick, mortar, and shell fragments is low to moderate. Hand-wrought nails, including rose-head nails, and possibly some square-cut nails, (which would be intrusive) are represented in very small quantities. Small finds artifacts include five white clay tobacco pipe fragments and leather shoe fragments. The floral and faunal count is also very low, consisting of a total of five identifiable bone specimens, in addition to a few floral remains. Seven delftware, and red and buff-bodied coarse earthenware sherds comprise the entire ceramic assemblage, and identifiable vessels are less than 25 percent complete. The number of diagnostic ceramic sherds was insufficient for the calculation of a MCD. The TPQ for this depositional unit is 1640, but this is based upon one delftware sherd.

The elevation of the landfill deposits range from +0.06 to - 0.54 M.S.L in Unit A-4 and -0.70 to -3.09 M.S.L in A-6. The depositional unit does not consist of a homogeneous soil matrix, but has a variety of soil colors and textures (See Appendix D, Table D.1).

In both Units A-4 and 6, landfill overlies river bottom soils. The latter comprises Depositional Unit 1, and is characterized by a lack of artifacts. River bottom was encountered in Unit A-4 at -0.65 M.S.L; however, in Unit A-6 these soils began at -2.70 M.S.L. The difference in these elevations indicates a downward slope from west to east across the lot. The soils which comprise this depositional unit range from sands to fine silts with clay, and include a variety of soil colors (Appendix D, Table D.1).

FIGURE VII.1:
Location of Important Features and Deposits

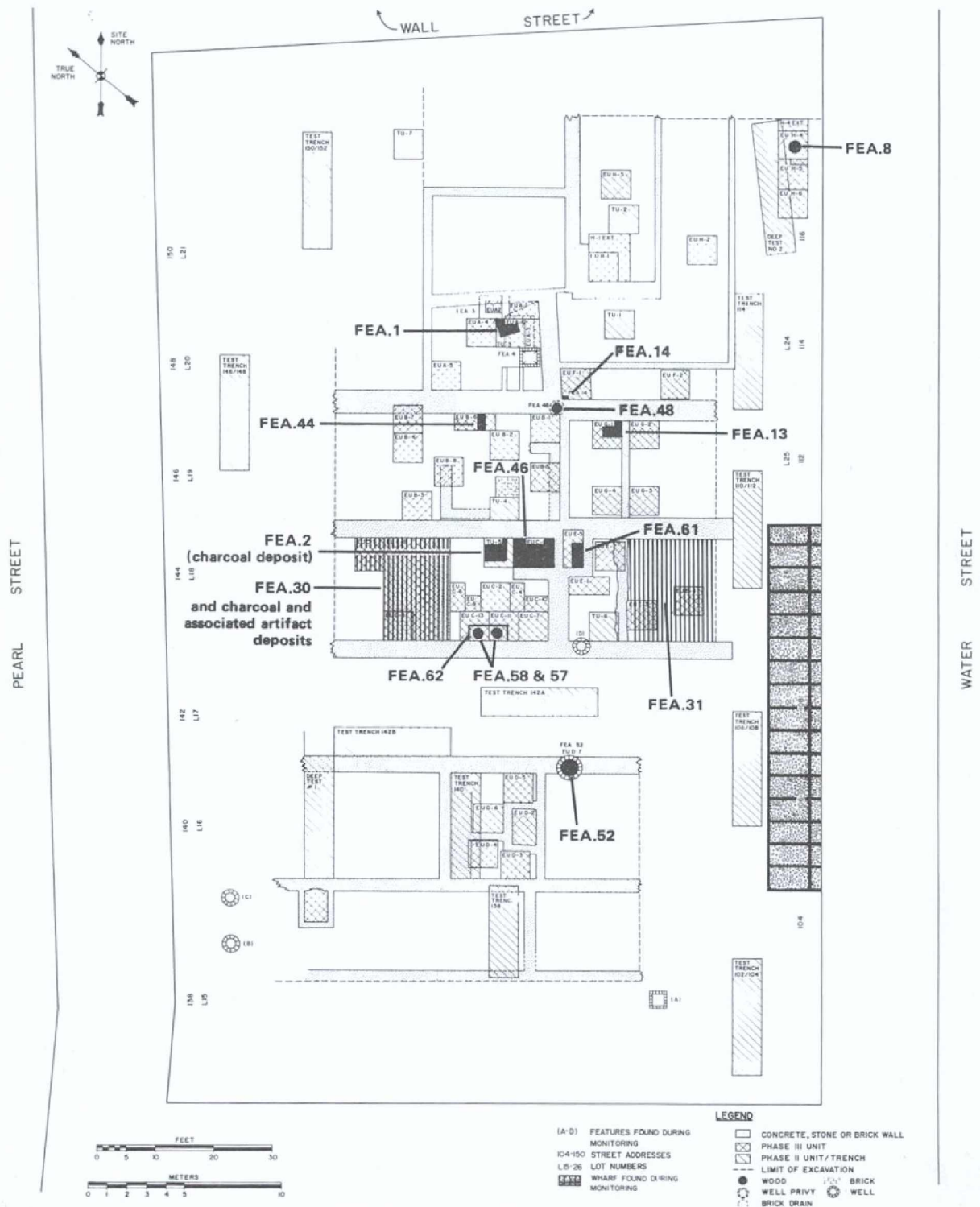
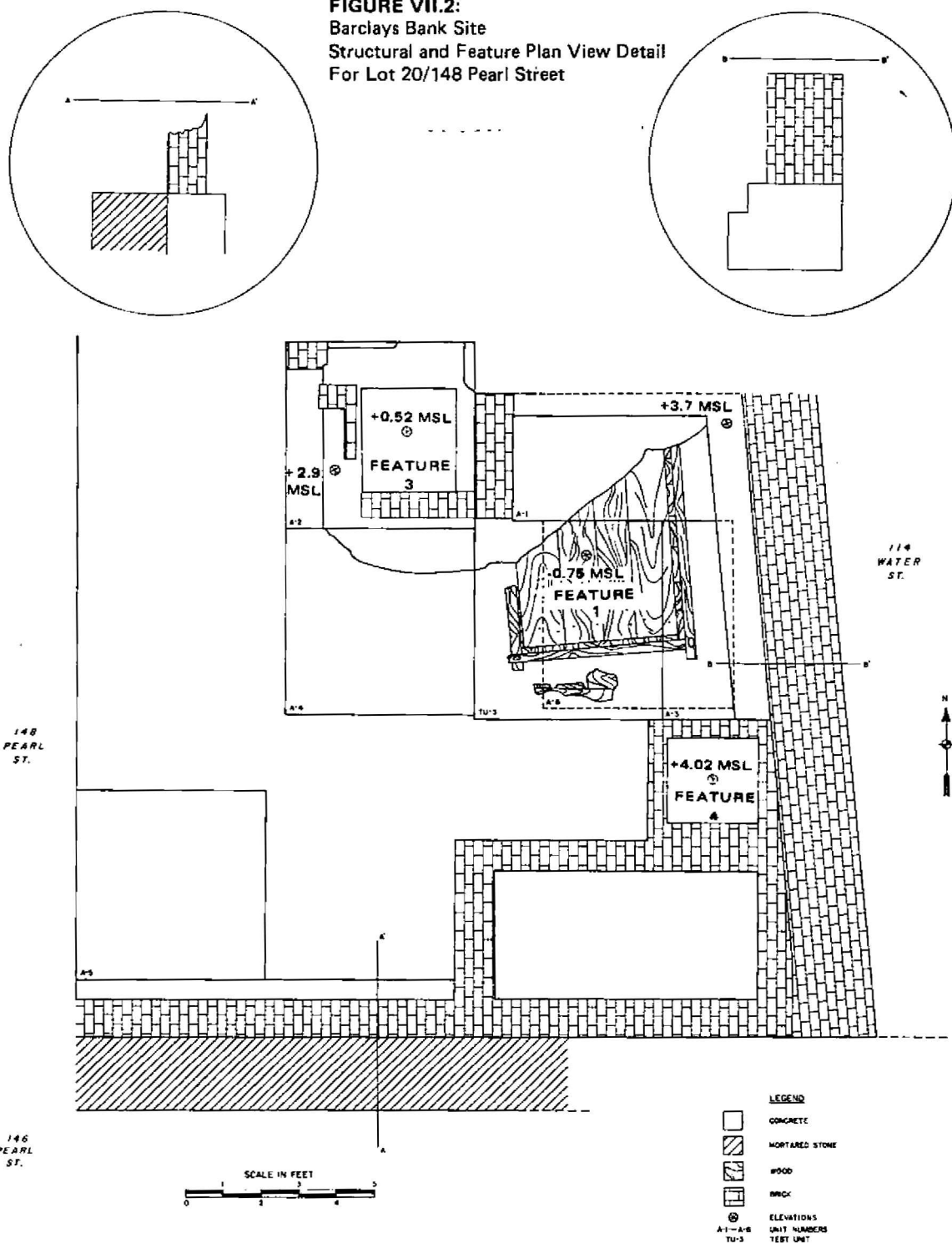


FIGURE VII.2:
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 20/148 Pearl Street



Depositional Unit 3 consists of several different strata across the lot. These strata appear to represent secondary filling episodes containing displaced refuse. The term, "secondary" helps to distinguish these fills from landfill/landmaking deposits. Strata are placed in this depositional unit on the basis of their low artifact frequency, soil matrices and location above landfill. These deposits are also much thicker than horizontal yard deposits (e.g., sheet trash).

Notable artifacts recovered from these fills include two crucible fragments, an aboriginal ceramic sherd and a moderately high quantity of building materials. Both the glass and ceramic frequencies are extremely low. A total of seven ceramic sherds and three glass sherds (including two vial fragments) were recovered from this depositional unit. The low artifact frequencies were not conducive for the calculation of a MCD; and, the unit's TPQ of 1640 was based on only two delftware sherds. These fill deposits, which are probably attempts to level, and/or fill in certain areas of the lot, cannot be associated with any specific occupation within the lot. However, the fact that the construction of Feature 1 intrudes into these deposits indicates that this secondary filling occurred between 1702 (when the lot was first occupied) and ca. 1714 (i.e., the MCD of Feature 1).

The builder's trench for Feature 1, which extends into landfill, is Depositional Unit 4 (See Figure VII.2). Its artifact assemblage is characterized by a low number of vessels, all of which are less than 25 percent complete. The fragmentary nature of this assemblage is also demonstrated by the high number of MNVs in relation to the low number of sherds; a total of 32 sherds have a MNV count of nine. The sherds are generally small, and could not be identified as belonging to a specific vessel form beyond the general categories holloware, flatware, etc. The builder's trench also exhibits a high degree of variability in ceramic ware types. The assemblage includes delftware, Oriental export porcelain, plain and Rhenish/Westerwald stonewares, and yellow-slip earthenwares. The MCD for this depositional unit is 1714.

Glass artifacts include primarily wine/liquor bottle fragments. Only a single datable glass vessel was recovered from the builder's trench: a wine glass stem, inverted baluster type, which dates from 1690 to 1720. The architectural materials in the trench are primarily brick and mortar fragments with a low quantity of handwrought nails, square-cut nails, window glass and coarse red earthenware roof tiles. Floral remains are also present, including peach and olive pits. Overall, the artifact assemblage from the builder's trench resembles a landfill context with the exception of the cut nails, which may be intrusive.

This depositional unit and thus Feature 1, may date to the initial occupation of the lot, as is suggested by the artifact dates. Hendrick Kormer owned the property at that time, and

rented it out to various tenants. There is no documentation, however, to indicate whether the lot contained a residence, a business, or both. Additional historical research on this lot (See Lot 19 discussion, this chapter) located a notice on the sale of 148 Pearl Street in 1758. The notice refers to a cistern on the property, suggesting that Feature 1 was in place by at least that date.

Depositional Unit 5 consists of the fill within Feature 1. Architectural materials make up a major portion of this fill (i.e., 27.5 kilos of brick fragments). Building materials such as hand-wrought and square-cut nails, delftware tiles, and roof tiles are also present. White clay pipe stems and a gunflint were among the small finds recovered. The glass assemblage consists of vial and wine/liquor bottle fragments, none of which could be assigned a date range. Refined earthenware ceramics in the fill include Whieldon type wares and Jackfield. Blue decorated and polychrome decorated majolicas, delftware, as well as scratch blue-decorated white salt-glazed stonewares are also part of this assemblage.

The fragmentary nature of this artifact assemblage is demonstrated by both the number of MNVs in relation to the total number of ceramic sherds and the percentage of vessel completeness. Out of a total of 65 sherds, there are 19 MNVs. All of these vessels are less than 25 percent complete. The feature fill has a MCD of 1739, based on 54 sherds, and a TPQ of 1775. Using the TPQ of 1775, Depositional Unit 5 would be associated with the tenure of Hugh Gaine. Gaine owned the property from 1759 to 1807. This is not to say that Gaine filled the cistern. It is possible that a lot occupant after Gaine filled the structure with refuse and soils placed into the rear yard by Gaine. Regardless, the displaced character of the feature fill is clearly suggested by the fragmentary nature of the assemblage and the high quantity of brick rubble (See Table VII.1).

The materials from the fill within Feature 1 cannot be confidently used to address the project's research design. The displaced refuse in the feature cannot be easily linked to a specific occupant or occupants within the lot. Also, there is no documentation on the specific composition of the households that occupied the lot during the date when Feature 1 may have been filled (ca. 1775).

Feature 1 was truncated by a stone wall. This wall was subsequently truncated by the construction of Feature 3 (Figure VII.2). Only a small section of the wall remains in the southern portion of Test Unit 3. The wall sat upon a series of wooden timbers oriented east/west, which were overlaid by a second course of timbers running north/south. As the construction of this wall appears to have destroyed the upper portion of Feature 1, and was itself truncated by the construction of the cement and brick square feature (Feature 3), the date range of the stone wall is

between 1775 (i.e., the date of the fill in Feature 1) and ca. 1908 (i.e., the approximate date of Feature 3). The placement and orientation of the stone wall correlates with that of a four-story structure noted in the historic record. The building, owned by John C. Green in 1860, measured 21.9 feet by 59 feet on a lot 21.9 by 65 feet (See Appendix C, Section 2). The rear wall of this structure would have been situated approximately 6 feet from the rear of the lot. This is the location of the stone wall (Figure VII.2).

Chronologically, the next structural element within the lot is Feature 3, situated along the northern lot wall (Figure VII.2). The absence of a builder's trench makes it difficult to assign an exact construction date for the feature. The presence of a red quarry tile pavement over the feature does, however, provide an end date. The feature had to predate the tile pavement, which is associated with the early twentieth-century Orient Building (ca. 1908-1911). There is no artifactual or structural evidence which would clearly indicate the function of Feature 3. One possible use, however, is as an air shaft.

Depositional Unit 8 is the fill within Feature 3. It contains a high frequency of architectural materials, including over 12 kilos of brick fragments, as well as a number of building stones, nails, window glass, slate tiles, and mortar/cement fragments. The extremely low frequency of floral and faunal remains and the types of materials in the fill suggest that Feature 3 contains displaced refuse. This interpretation is also supported by the fragmentary nature of the ceramic assemblage. Sixty-six ceramic sherds comprise the entire ceramic assemblage, which contains seven MNVs, all less than 25 percent complete. The fragmentary nature of the deposit is also evident in the inability to assign specific vessel forms for the majority of the collection. The MCD for this depositional unit is 1780, and the TPQ is 1813, based on one, blown-three-mold cruet lid. The presence of wire nails and ceramic bathroom type tiles, however, suggests a later date for the deposit. The only noteworthy small finds artifact is a George II/III half penny which has a date range of 1727 to 1820.

The fill in Feature 3 appears to represent a mixed and displaced refuse context. This depositional unit, therefore, cannot be used to address the project's research design, because the materials within the feature cannot be confidently associated with any specific occupational activities within Lot 20.

Depositional Unit 7 consists of the soils associated with the construction of the above-mentioned stone wall and Feature 3. Its artifact assemblage is characterized by a low frequency of glass and ceramic sherds (4 and 14 respectively) and a high proportion of small finds, consisting mainly of unidentifiable wood and metal fragments, and building rubble. It was not possible to calculate a MCD for this deposit; however, it did yield a TPQ of 1745, based upon a glass wine/liquor bottle finish. This date

probably reflects the inclusion of artifacts from earlier deposits rather than the actual date of the soils.

The remaining structural elements in Lot 20 are a cement wall and its builder's trench, a cement and brick square structure (Feature 4), and the red quarry tile pavement, all associated with the Orient Building. The builder's trench for the western cement wall, in Unit A-5, comprises Depositional Unit 6. This deposit contains a low frequency of artifacts, all highly fragmentary. Two MNVs were assigned to the collection, both of which are less than 25 percent complete, out of a total sample of 14 ceramic sherds. The inability to assign specific forms to these sherds also indicates the fragmentary character of the deposit.

Ceramic ware types within the trench include delftware, Rhenish stoneware, red-bodied coarse earthenwares, buff/yellow bodied earthenwares, and Oriental export porcelains. The glass assemblage consists of wine/liquor bottle fragments which could not be assigned a date range. Small finds include four white clay pipe stems. Architectural materials make up the highest proportion of the entire assemblage, with over 5 kilos each of brick and mortar. Nails recovered are wire, handwrought and square cut. The MCD for this depositional unit is 1726, based on 11 sherds, and the TPQ is 1715. These early eighteenth-century dates contrast with the presence of wire nails which date to the second half of the nineteenth century. The function of Feature 4 is not clear; however, it may have been an air shaft like Feature 3.

The final Depositional Unit in Lot 20, is No. 9. It is composed of numerous strata that may have resulted from demolition of structures within the lot, prior to the construction of the Orient Building. These strata contain a high frequency of architectural materials, including large quantities of brick, building stone, and mortar, as well as nails, window glass, and various types of tiles. Twentieth-century materials such as vinyl, ceramic bathroom tiles, pressed boards, and plastic are also present. The depositional unit has a TPQ of 1875. This date more than likely reflects the presence of earlier displaced refuse among the demolition debris and twentieth-century materials.

In summary, most of deposits and features in Lot 20 cannot be used to address the project's research design, with one exception. Depositional Unit 2, the uncontaminated landfill deposits, will be used in testing the landfill hypothesis, which compares and contrasts landmaking activities in New York City. The structural elements present in this lot, including the wood cistern, Feature 1, cannot be used to examine Hypotheses 1 and 2, which concern the use of space in these urban lots. Except for the features associated with the Orient Building, it is not possible to link the construction of these structural elements to a lot occupancy.

2. Lot 19 at 146 Pearl Street

Four major archaeological contexts were identified within Lot 19: river bottom, landfill, commercial/residential deposits and modern demolition rubble. Subsequent artifact analyses generally supported these field data interpretations, but with some modifications and elaborations. Based on these analyses, the depositional units within the four archaeological contexts are: (1a) landfill, (1b) secondary landfill, (1c) river bottom, (2a) fill below the cellar floor of an eighteenth-century structure, (2b) fill directly under the floor, (2c) the stone, mortar and brick floor, (2d) deposits directly above the floor and intruding into the floor, (3a) trash deposits/cellar fill within the structure, (3b) trash deposits/fill outside the structure, (4) trash deposits/demolition across the lot, (5a) Feature 48 (privy/well), (5b) deposits below Feature 48, (6) Feature 44 (builder's trench), (7) Feature 34 (pit), (8) another pit feature, (9) Feature 32 (a large pit), (10) Feature 12 (a builder's trench), (11) builder's trench to the eastern lot wall, (12) fill inside Feature 35 (function unknown), (13) a pipe trench in Unit B-7, (14) a pipe trench in Unit B-3, (15) Feature 22 (a possible posthole), (16) Feature 36 (a pit under the cellar floor), (17) a possible rodent burrow, (18) Feature 18 (function unknown), (19) Feature 37 (function unknown), (20) Feature 20 (function unknown), (21) Feature 16 (function unknown), (22) Feature 33 (a possible posthole within landfill), (23) Feature 15 (function unknown), (24) a concrete floor across the lot, and (25) rubble above the floor (See Appendix D, Table D.2 and Figures VII.1 and 3). These depositional units are listed in rough chronological order except for Numbers 16 and 22.

In the field, three separate landfill strata had been identified, based on depth, soil color, and location east or west of Feature 60, a fill retaining wall (Figure VII.3). Artifact analysis and reexamination of field data indicated that landfill deposits within the lot could not be separated into distinct depositional units. The variability of the strata was so great that identifying separate units would be an impossible task. These deposits were therefore combined as a single depositional unit (No.1a).

Landfill in excavation units west of Feature 60 (Units B-3, B-4, B-7, and the west half of B-8) range from 1.44 to -2.0 feet M.S.L. The soils in these units are dark to pale brown sands with silt and some clay. To the east of Feature 60, landfill was excavated at depths ranging from 1.97 to approximately 0 M.S.L. The landfill soils in these units are sands and silts with some clay and gravel, and vary from yellowish red to dark brown. Artifact types and frequencies are also variable from strata to strata, but most contain materials typically found in landfill contexts, and all date to the late seventeenth century.

The deposit defined in the field as "primary landfill," which underlay Depositional Unit 1a, was redefined as river bottom. It

was reached but not excavated in Units B-1 and B-5, at -3.46 and -1.73 feet M.S.L. respectively, through auger testing. In Unit B-3, river bottom was excavated (-3.99 M.S.L) but produced no artifacts.

Feature 33 (Depositional Unit 22), in Unit B-4, is a possible posthole extending into landfill. It is a rectangular dark stain containing oyster shell, some decomposed worked wood, a small buff slipware sherd, and one handwrought rose-head nail. The top of the feature was rectangular and the sides tapered toward the bottom. This posthole might have been associated with a secondary fill-retaining structure, as were found at the 175 Water Street Site (Geismar 1983); however, no other traces of such a structure were found.

The oldest structural elements in the lot are Features 60, 67, 70, and 71 (Figure VII.3). These are unmortared stone fill-retaining walls. Features 60, 67, and 70 also served as foundation walls for the eighteenth-century structure that fronted on Pearl Street. A builder's trench for Feature 71 was identified during fieldwork, but further examination of the profiles for Test Unit 4 indicated that the "trench" did not extend to the bottom of the wall. This "trench" appears to be an accumulation of fill against the wall.

Within the confines of Features 60, 67, and 70, is cellar fill (Depositional Unit 2a). It lies directly above landfill and below a brick and mortar floor (Depositional Unit 2c). Soils within this fill consist of approximately 1 to 1.5 feet of brown to dark brown silts. Ceramic MCDs range from 1695 in the lowest strata to 1790 in upper strata, with a MCD for the entire deposit of 1743. The upper and lower end of this date range can be attributed to mixing with the underlying landfill, and movement of later artifacts (notably pearlwares) into the lower cellar fill through gaps in the floor. In fact, one pearlware sherd does mend with sherds from strata above the floor. Further, the only large sized sherds present are creamwares or earlier wares, and the few pearlwares and Canton/Nanking porcelains which give the deposit its 1790 TPQ are quite small. One piece of thick, burned whiteware is present, but it is thought to be intrusive. Of the 46 MNVs within Depositional Unit 2a, only three are more than 25 percent complete. The unit's fragmentation index is 1.06.

The cellar floor (Depositional Unit 2c) is composed of brick, mortar, and stone (Features 27 and 51 and associated strata in Unit B-3). Feature 27, in Unit B-4, is a brick surface surrounded by a layer of mortar (Figure VII.3). Feature 51, in B-8, consists of brick, schist and mortar. The mortar surface in Unit B-3 was not given a feature number. No floor was observed in Unit B-7; but the construction of Feature 35 may have destroyed any surface that was once extant in this area of the cellar. The few artifacts which are intermixed with the floor, mostly in Unit B-4, Stratum XV, have a ceramic TPQ of 1780 and a MCD of 1788. Coal

and coal ash are associated with Feature 51, suggesting a possible hearth or stove area. However, no direct indications of a hearth or chimney were found, but later construction and demolition within the cellar could have removed these structures.

The deposit directly underneath the cellar floor (Depositional Unit 2b) consists of brown to dark brown sands which probably served as a bedding for the floor. Depositional Unit 2b contains nails, bottle glass, and small fragments of refined earthenwares. The latter include white saltglazed stonewares, delftware, creamwares, and pearlwares, which date the deposit to post-1780. The size of the sherds is the same as in the underlying cellar deposits, where all post-creamware sherds tend to be small. It is notable that there are very few coarse earthenwares among these sherds (13 of a total assemblage of 163); either they were absent from the household/shop assemblage represented by these artifacts, or there is a different pattern of breakage and disposal for refined compared to coarse wares. Among the other artifacts present in Depositional Unit 2b are some pharmaceutical glass, sewing-related items (wrapped head straight pins, a thimble, and buttons), and a pipe bowl dated 1680-1750. Some of these ceramic and glass artifacts are probably the result of breakage during use and subsequent trampling into the cellar floor.

If the floor was constructed after 1780 (based on the ceramic TPQ), it was probably associated with the Hulls' tenure. The Hulls lived at 146 Pearl Street from before 1789 to 1800/1810 (See Appendix C, Section 2). Oliver and John Hull were chemists/druggists, and the pharmaceutical glass in Depositional Unit 2B might be associated with their occupation. Unfortunately, the cellar fill and floor related depositional units cannot be employed in addressing the project's research hypotheses because of the fragmentary nature of the artifacts and the possibility of mixing with under- and overlying strata. Also, the artifact assemblage is too small and fragmentary to be used in developing a description of activities within a druggist's shop.

Feature 35 is a mortared stone wall, in Unit B-4 and B-7, which abuts the north lot wall (Figure VII.3). The bottom of the feature wall is approximately 2 feet M.S.L., i.e. at the level of the cellar floor. The function for Feature 35 is unknown, nor could it be associated with any specific building episode within the lot. The ceramic TPQ of the fill within the confines of the feature (Depositional Unit 12) is 1790. The MCD is 1781. The underlying and lowermost strata within the feature contain a large amount of coal, ash and charcoal, and very few artifacts. It is possible that Feature 35 was constructed as an interior wall for a small room within the cellar, perhaps used to store coal. It is not known if Feature 35 extends to the front of the lot. A coal bin would most likely have access to the street.

Depositional Unit 16 consists of Feature 36 in Unit B-4, and Stratum XIII in Unit B-7, below Feature 35. Feature 36 extends

into the stratum directly beneath the cellar floor in Unit B-7, and was identified in the field as a pit. Feature 36 contains ash and charcoal, in addition to white clay tobacco pipe stem fragments, cattle bones, nails, and green pepper and berry seeds. Stratum XIII, in Unit B-7, has clam shells, mortar, coal, and two creamware sherds. Depositional Unit 16 is probably a disturbance associated with the construction and/or use of Feature 35. This is supported by the occurrence of coal, ash, and charcoal within both Depositional Unit 16 and Feature 35.

Depositional Unit 2d, in Unit B-4, consists of strata directly overlying, and in some places intruding into, Feature 27. These strata are similar in dates and artifact composition to Depositional Units 2b and 2c. The ceramic TPQ is 1780, and the MCD is 1778. Depositional Unit 2d also probably represents a disturbance associated with Feature 35's construction.

Depositional Units 13 and 14 are parallel pipe trenches in Units B-7 and B-3, respectively. The pipe in B-7 is of rolled lead, and lies within a trench containing demolition rubble (brick, nails, window glass, and floor, roof, and wall tiles), ceramics, bottle glass, and pharmaceutical vials. The ceramic TPQ of 1762 and MCD of 1737 indicate a mid- to late eighteenth-century date. Stratigraphically, the trench is lower than the base of Feature 35 and is overlain by Depositional Unit 3a (fill above cellar floor). The pipe in Unit B-3 is made of wood, and its trench cuts through Depositional Unit 3a. There is a pearlware vessel which mends between the pipe trench in Unit B-3 and Stratum XXII in Unit B-8. This latter stratum is in Depositional Unit 2a. The mend between the two areas may have resulted from the filling of the pipe trench with materials from 2a. The trench also contains demolition debris, bottle and table glass, shell, coal, a crucible fragment, and only three ceramic sherds, with a TPQ of 1762.

Feature 45 is a mortared stone wall which may represent the eastern wall of the cellar. The wall is built atop Feature 60, but it appears that only the east half of the wall lies directly on this earlier fill retaining structure (Figure VII.3). Feature 45 extends to the south lot wall, where it makes a right angle and turns east. Within Unit B-8, Feature 45 ends at what is apparently a doorway. The base of this doorway is at the junction of Features 45 and 60, at approximately mean sea level. It appears that the wall (Feature 45) continues northward on the other side of the doorway. This doorway is below the level of the above-mentioned cellar floor, but the floor dips toward the cellar wall, at which point there may have been a step or sill connecting the floor with the doorway. This opening in Feature 45 may have served as a passage from the cellar into yet another cellar room. Since Feature 45 extends toward the rear of the lot, it is probably associated with an addition to the main structure fronting on Pearl Street. The extent of this addition could not be determined since Feature 45 was not encountered in Test Unit

4. Either the wall did not extend into this area of the lot or it was destroyed during the construction of Feature 43, a north/south running wall (Figure VII.3). It should be noted that unlike the cellar in the main structure, no cellar floor was observed within this possible extension.

Feature 74 is a shallow, narrow east/west running wall which abuts the east side of Feature 45, on the south side of the doorway. It overlies and intrudes into deposits dating to 1780-1820 (Depositional Unit 3A). Based upon this stratigraphic relationship, it is probably associated with a nineteenth-century structure and may represent the base of an interior wall. There was no discernable difference in the deposits to the north and south of this feature.

Feature 43 is another north/south oriented wall located to the east of Features 45 and 60. Its associated builder's trench, Feature 44 (Depositional Unit 6), contains boards which served as spread footers for the wall. These boards are about .5 feet thick and are partially decomposed. The artifacts within Feature 44 include pharmaceutical glass, some demolition rubble, and a few drug-related and domestic ceramics. Of the ceramic vessels in the assemblages only two are more than 25 percent complete, producing a fragmentation index of 1.12. There are over 1,500 pieces of glass in Depositional Unit 6, of which the majority are vials, with lesser amounts of wine/liquor and medicine bottles. Almost all of the glass came from Unit B-6, on the west side of the wall. Also, approximately 3/5s of the ceramic sherds within Feature 44 are found in Unit B-6. The ceramic TPQ of Feature 44 is 1820 while the glass TPQ is 1857, based on one sherd. The MCD for the deposit is 1786. The 1857 glass fragment is probably intrusive, originating from an upper deposit. If not used, the glass TPQ for the feature is then 1780.

Feature 44 appears to contain secondary refuse; that is, materials removed from their place of use. The high frequency of pharmaceutical materials suggests that this refuse came from the Hulls' drug shop, possibly from cleaning activities (See Table VII.1). The occurrence of such a high frequency of glass items in a builder's trench is unusual. Possibly, when the wall was built, the trench was used as a pit for disposing of broken glass items from the shop. An alternative explanation is that the refuse was in place, either in a trash pit or as sheet refuse, prior to the construction of this north/south wall (Feature 43). The builder's trench would have been dug out, the wall built, and then the trench backfilled with the earlier pit fill or sheet trash. Under this latter scenario, the wall (Feature 43) would post-date the Hulls' occupancy of Lot 19. Regardless of which scenario is correct, the fill in Feature 44 clearly originates from the Hulls' store, given the types of material present and their date. These materials can be used to address the project's research design, particularly in describing the activities within the chemist/druggist shop.

Feature 43 (Figure VII.3) is probably the rear foundation wall of a nineteenth-century structure. When this structure was built, is unclear; but, a likely time for construction would have been after the 1835 fire. In fact, the deposits which are truncated by Feature 44 all pre-date 1835. However, if the material in the builder's trench represents secondary refuse directly from the chemist shop, then this wall would be associated with the Hulls' tenure within the lot.

Feature 12 is a wall in Unit B-5 (Figure VII.3). Even though its builder's trench (Depositional Unit 10) contains mid-eighteenth-century artifacts, the wall is probably associated with the one-story addition which appears to have been attached between 1890 and 1900, to the four-story building that stood within the lot (See Appendix C, Section 1). Ceramics and bottle and table glass artifacts in the trench are generally small in size, and there is a high frequency of demolition rubble, including brick, mortar, nails, and roof tiles. The fragmentary nature of these materials and their early date (ceramic TPQ of 1741 and MCD of 1733), suggests that they represent redeposited fill used to backfill Feature 12's builder's trench.

Unit B-1 exposed the builder's trench for the eastern lot wall, between 146 Pearl Street and 112 Water Street. The artifacts in the trench (Depositional Unit 11) appear to be a mixture of redeposited landfill, demolition rubble, and some later trash. There are only 10 ceramic sherds present, predominantly mid-eighteenth century, with a MCD of 1737. This date is clearly too early, suggesting that the trench fill, like the trench for Feature 12, contains displaced refuse.

Feature 15, Depositional Unit 23, is located underneath the northern lot wall in Unit B-1. It is a stone structure which partially truncated Feature 48 (a privy/well). The soils associated with the feature contain demolition rubble, melted glass, ceramics, bottle glass, and 89 metal buttons. The buttons, which are badly corroded, include both flat-topped and domed forms. No decorations or marks could be seen on the buttons. The glass TPQ of fill within the feature is 1903, based on one sherd. However, there is a fragment of a beverage bottle with a TPQ of 1891. The function of Feature 15 is unknown.

Feature 48 is a circular brick well under the 146/148 Pearl Street lot wall (Figure VII.3) (See Chapter VI for rationale for defining the feature as a well). Deposits within this feature (Depositional Unit 5a) date to the turn of the nineteenth century. The construction date for Feature 48 is problematic. The bottom of the feature consists of loose, partially decomposed boards through which artifacts from within the feature could have moved. Thus, the 1790 ceramic TPQ for strata beneath the feature cannot be reliably linked to the actual construction date of the well. The location of the feature on the lot line of Nos. 19 and 20 is also problematic. The well could have been constructed to

serve both lots, or its placement on the lot line could have been inadvertent. It is curious that two other wells within the block also occur beneath lot walls and straddle lot lines (See Figure VII.1).

Stratum I in Feature 48 contains some late nineteenth-century materials and demolition rubble. It is not included in Depositional Unit 5a, but is placed in Depositional Unit 4 (trash and demolition debris). Stratum II is the interface between Strata I and III, and contains a high frequency of artifacts within a matrix of sand, silt, and night soil. Stratum III consists of night soils with numerous artifacts, including table, tea, and toilet wares of creamware, pearlware, and Oriental export porcelain. Stratum IV is a sand lens in the western section of the feature. This deposit probably served as a cap or partial seal for the night soil deposits beneath it (See Figure VI.7). Artifacts mend above, below, and within this lens, so it is very unlikely that Stratum IV represents a break in the use of the privy/well.

The ceramics within Depositional Unit 5a have a low fragmentation index of 1.79. This figure is misleading. The range of fragmentation is bimodal, with 157 vessels (59 percent of the collection) less than 25 percent complete and 67 vessels (24.7 percent of the assemblage, falling into the 75 to 100 percent complete category. This type of vessel completeness range is characteristic of either a gradual accumulation of refuse from a household and/or of household cleaning or moving (See Table VII.1). There are also at least 97 glass vessels within this depositional unit. These include wine glasses with plain drawn, bridge fluted, and hexagonal diamond stems; wine/liquor bottles dating 1780-1820; goblets with collared knops (1790 to 1820); and general food bottles, including London Mustard bottles (post-1800). Many pharmaceutical glass vessels are also present. These glass dates are similar to the deposits' ceramic dates. Depositional Unit 5a has a MCD of 1795 and a ceramic TPQ of ca. 1800, based on the presence of transfer printed pearlware with stipple engraving (Coyshe and Henrywood 1982:9).

The domestic ceramics from Feature 48 include at least three different tea sets in Oriental export porcelain (Plates VII.1, 2, and 3). These tea sets have overglaze designs which can be dated to the same time period as the rest of the feature's artifacts (late eighteenth to early nineteenth century). Some Oriental porcelains in this assemblage have underglaze blue decorations which suggest a mid- to late eighteenth-century date, and probably represent curated pieces (Plate VII.4). The ceramic assemblage also contains a large number of chamber pots, large plain creamware pitchers, and creamware basins.

The feature's faunal assemblage includes pig, cattle, sheep, chicken, and turkey. The domestic animals represent the major portion of the assemblage, and are quite numerous. Fish



PLATE VII.1 Oriental export tea set decorated in overglaze gold and discolored blue from Feature 48. Circa 1800.

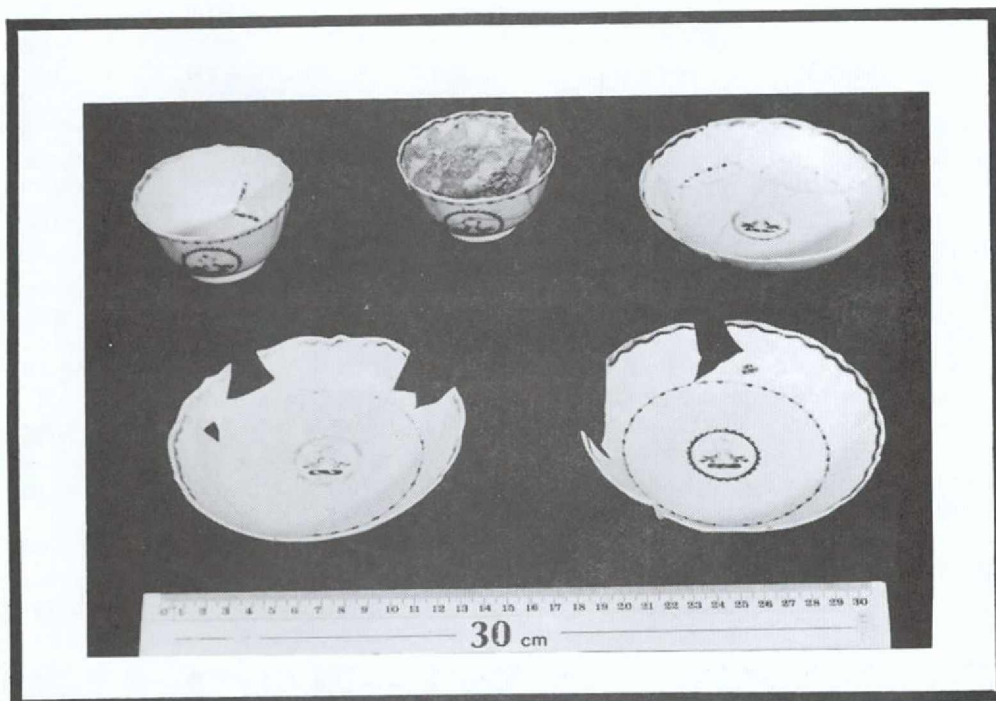


PLATE VII.2 Oriental export porcelain tea set from Feature 48. The love birds motif is thought to illustrate marital happiness and the set might have been a wedding present.



PLATE VII.3 Closeup of lovebird motif on Feature 48 teacup. Overglaze gold, red, black, and discolored blue decoration.

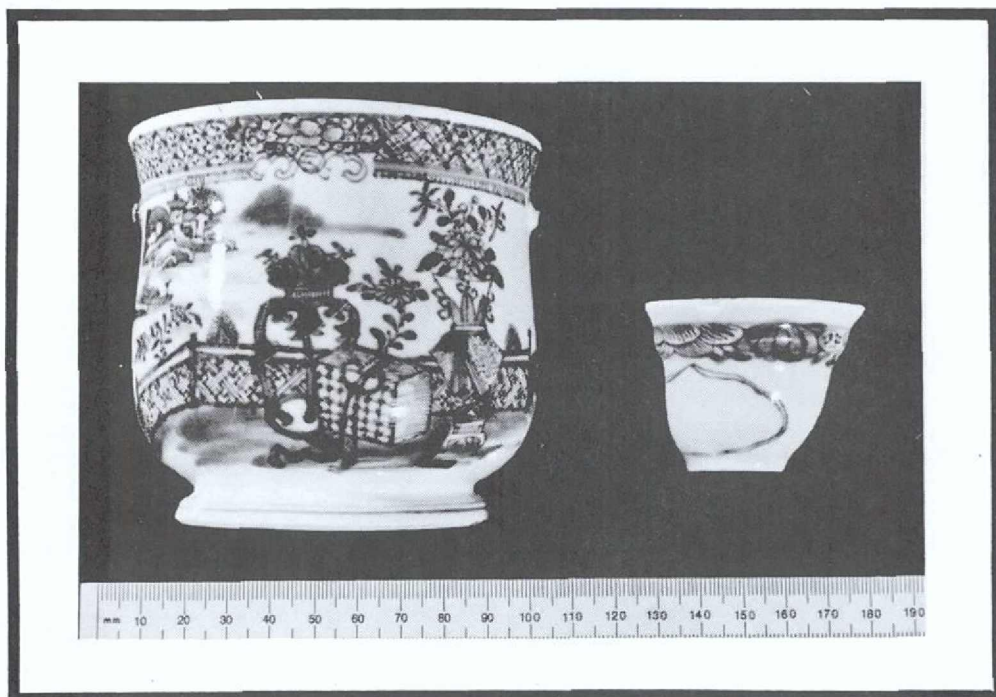


PLATE VII.4 Oriental export porcelain with underglaze blue decoration from Feature 48. The form of the sugar bowl (at left) was common after 1770.

bones are also present, but in smaller quantities. Commensal species are represented by dog, cat, and rat bones. Floral materials include nine varieties of nuts, plus apricot, plum, peach, and cherry pits. There is also a high frequency of grape, strawberry/fig, and raspberry/blackberry seeds.

The feature appears to have been filled quickly, given the many ceramic vessel cross mends among all fill strata. The source of the refuse was probably a household. This is suggested by the high frequency of tablewares, chamberwares, and food remains. To identify which household may have deposited materials into the well is problematical. Additional historical research on both Lots 19 and 20 reveal a complex and quickly changing occupancy. Oliver Hull's family, and probably his son's, resided at 146 Pearl Street prior to 1800 (See Chapter IV). In 1800, Oliver's son and family moved out, but father and son continued to operate their drug firm at this address (U.S. Bureau of Census 1800; Longworth's New York City Almanac 1800:234, 345). Between 1800 and 1810, the firm of Hull and Bowne replaced the earlier partnership of John and Oliver Hull at 146 Pearl Street, and Richard Bowne's household succeeded Oliver Hull's (U.S. Bureau of Census 1810; Longworth's American Almanac New York Register and City Directory 1810: 115, 225). Hull and Bowne's firm was still at this address in 1812 (Elliot's Improved New York Double Directory 1812).

Hugh Gaine, a printer and bookseller, occupied 148 Pearl Street beginning in 1757, and purchased the property in 1759 (Ford 1902). Of note, is the following notice in the August 28, 1758, New York Gazette, concerning the Gaine property.

TO BE SOLD, the house in Hanover Square belonging to the estate of Bartholemew Skaats, deceased, new in possession of Hugh Gaine: "Tis" 3 story high, has two rooms on a floor, with a good kitchen, cellar and cellar kitchen, a cistern and pump in yard, with priviledge of passage to the dock.

The reference to the cistern provides a good TPQ for Feature 1 in 148 Pearl Street, which may be the remnants of the above-mentioned cistern.

In 1800, Gaine has moved to 79 Greenwich Street; however, Gaine continued to run his bookselling business, but jointly with Philip Ten Eyck (Longworth's New York City Almanac 1800:207, 235, 245). Ten Eyck also had his residence at this address (U.S. Bureau of Census 1800). Gaine died in April, 1807 (Ford 1902), and Ten Eyck appears to have left 148 Pearl Street sometime in early 1805 (Jones' New York Mercantile and General Directory 1805). Calvin Baker, a merchant, occupied this address in 1811 (New York Directory, 1811) and appears to have both his business and residence at this address until 1820 (Elliot's Improved New York Double Directory 1812, Tax Assessment 1813).

Which household(s) is associated with the material in Depositional Unit 5a: the Hulls, Gaine, Ten Eyck, or possibly Bowne or Baker? How this problem is solved is discussed in Section D of this Chapter.

Lot 19 contains many other occupational deposits, either within pit features or as horizontal layers of refuse within cellars. The area of the lot sampled by Units B-2 and B-6 was apparently used for trash disposal during most of the eighteenth, and probably early nineteenth centuries. The earliest pit features in this location are represented by Depositional Units 18 (Feature 18 in Unit B-2) and 19 (Feature 37 in Unit B-6). Both pits extend into landfill, and have similar shapes and depths. Feature 37 contains window glass, nails, shell, bone, and bottle glass. The artifacts from Feature 18 consist of the same material, with the addition of brick. The ceramic assemblages are too small to calculate a reliable MCD, but the majority of sherds do date to the seventeenth century. The function of these features is unknown. However, their intrusion into landfill deposits, and the presence of seventeenth-century material within the pits, suggest a possible association with secondary landfill structures, as observed at 175 Water Street (Geismar 1983).

Feature 34 (Depositional Unit 7) in Unit B-6 is a basin-shaped pit which is truncated by Feature 32. The pit contains some pharmaceutical glass (including a funnel), domestic material, and an aboriginal flake and a basalt plummet. Aboriginal plummets are rarely found, and their exact function is unknown. However, they are thought to have been used as bola stones (John Cavallo, personal communication 1986). These materials suggest that Feature 34 contains both redeposited landfill as well as secondary refuse (See Table VII.1). The ceramic TPQ for the deposit is 1762 and the MCD is 1724. The date of the deposit and the presence of some pharmaceutical items suggests an association with the Hulls occupancy. The feature appears to have been used as a trash pit and then truncated by later yard leveling activities.

Materials within Feature 34 cannot be used to address the project research design, as the pit contains both secondary refuse and redeposited landfill. The drug-related items, though probably associated with the Hulls' occupancy, are too fragmentary to use for describing activities within the chemist/druggist shop.

Feature 32 (Depositional Unit 9) is a rectangular pit in Units B-2 and B-6. It is approximately 9 by 5 feet wide and 2 feet deep, and is truncated by Features 43 and 44 (a wall and builder's trench). Materials within the feature are varied but fragmentary. The ten ceramic vessels within the feature are all less than 25 percent complete. Glass artifacts make up a major portion of the artifact assemblage, and include bottles, table glass, and vials. The distribution of these materials is not uniform within the feature. The majority was recovered from Unit B-6, with a lesser number from Unit B-2. The feature also con-

tains food remains such as pig, sheep/goat, cow, and chicken, as well as oyster shell. Non-household items within the feature include nails, window glass, roof tile, brick, and mortar.

The size and location of Feature 32 is similar to the wood cisterns in Lots 18 and 20. It is possible that the wood cistern in this lot was removed from its builder's pit, and then the hole was backfilled with yard refuse or soils from outside the lot. The fill has a MCD of 1755, a ceramic TPQ of 1815, but a glass of TPQ of 1903, based on two bottle fragments. As the fill within the feature is fragmentary and of an unknown source, it will not be used to address the project's research hypotheses.

Depositional Unit 8 consists of two strata, which were defined in post-field analysis as a pit intruding into the corner of Feature 32. The pit contains a variety of artifacts, including ceramics, glass, pipes, and bones. The ceramics, some of which are burned, have a TPQ of 1762, and an MCD of 1739. The unit's glass TPQ is 1755. These dates are earlier than those for Feature 32, but are based on only 20 sherds. There are no mends between the pit and Feature 32, so the fill in Depositional Unit 8 is probably not redeposited Feature 32 material. Depositional Unit 8 will not be used to address the project's research design because of its small artifact assemblage and questionable date.

Depositional Unit 1b extends across the lot, east of Features 45 and 60 (Figure VII.3), at elevations ranging from 1 foot to 4 feet M.S.L. The majority of the artifact dates in this unit are quite early (mid-seventeenth through mid-eighteenth century with a MCD of 1720), but there are also nine creamware sherds and one pearlware sherd. Sherd counts, in general, are low as are counts for most other artifact types. White clay tobacco pipes are also not numerous except in Stratum X of Test Unit 4, which contains 224 fragments. These include bowls whose forms are dated between 1700 to 1770 and 1680 to 1720. Of the 279 measurable bores in this depositional unit, 51 percent have diameters of 6/64ths of an inch, 29 percent have diameters of 7/64ths, while 11 percent have 5/64ths, 7 percent have 8/64ths, and 2 percent have 4/64ths diameters. Prehistoric flakes and ceramics are also present.

From the Unit B-6 profiles, Feature 32 appears to cut through Depositional Unit 1b, but overlies Feature 37. Based on this stratigraphic sequence, Depositional Unit 1b dates to the second, or possibly third, quarter of the eighteenth century. However, the stratigraphic relationship between 1b and the floor within the structure (Depositional Unit 2c), suggests a later date. The floor was in use after 1780, and, since Depositional Unit 1b extends into the doorway which was associated with the cellar floor, it is more probable that 1b was deposited in the late eighteenth century. The soils which make up Depositional Unit 1b may have come from outside the lot, and were used to fill the cellar to the extension. In Unit B-8, strata within 1b lay against the lowest courses of the east side of Feature 45. This

also suggests, along with the overall content of these deposits, that Depositional Unit 1b represents fill within the cellar of the extension.

Depositional Unit 3a consists of deposits within both the cellar of the eighteenth-century structure fronting on Pearl Street, and in the extension to this structure. These deposits overlie Depositional Unit 1b in Unit B-8, and the cellar floor within the house/shop. In Unit B-8, the strata also extend through the above-mentioned doorway in Feature 45. Artifact frequencies are generally high and include pharmaceutical vessels (Plate VII.5), large amounts of bottle and table glass, and smaller amounts of demolition rubble. The ceramic and glass TPQ is 1820, and the MCD is 1790. Some of the ceramic vessels mend with Depositional Unit 4, which overlies these strata. Depositional Unit 3a probably was deposited during lot leveling activities in the late eighteenth or nineteenth century. Precise dating of these activities is not possible, given that the 1820 TPQs for 3a may be from intrusive material from the overlying Depositional Unit 4 (See below). In fact, there are cross mends between the two strata. Depositional Unit 3b is a relatively restricted deposit, with dates (i.e., ca. 1820) and artifacts similar to 3a, except that it contains larger amounts of brick and demolition debris. It occurs mainly in Unit B-5, and overlies Depositional Unit 1b. Its precise relationship to 3a is unclear, but it may also represent leveling activity within the lot.

The final leveling activity on the lot is represented by Depositional Unit 4. This deposit mends with the underlying 3a strata, suggesting that there was mixing of soils and artifacts at the 3a and 4 interface during the deposition of the latter. Depositional Unit 4 also extends over Features 12, 43, and 45. As it is directly beneath the concrete floor which covered the lot, No. 4 is probably associated with the installation of this floor. The ceramic TPQ for these strata is 1930, and the glass TPQ is 1933. The deposit appears to consist largely of redeposited material with some modern trash and demolition rubble. Among the redeposited materials are some pharmaceutical vessels (Plate VII.6).

Depositional Unit 24 is the concrete floor which extends across the lot, except in the area of Unit B-1. There are no artifacts associated with this floor. In several areas of the lot, there are breaks in the concrete which allowed modern artifacts to intrude into Depositional Unit 4, and this probably accounts for the post-1933 glass dates in this deposit. Depositional Unit 25 in Test Unit 4 consists of the rubble overlying this concrete floor, and in B2, consists of a concentration of large stones (Feature 11) which are both surrounded by and protruding above the floor. These stones are probably a crude footing associated with a twentieth-century structure. Depositional Units 20 and 21 (Features 20 and 16) are also dated to the twentieth century. Feature 16 is a roughly rectangular opening in the concrete

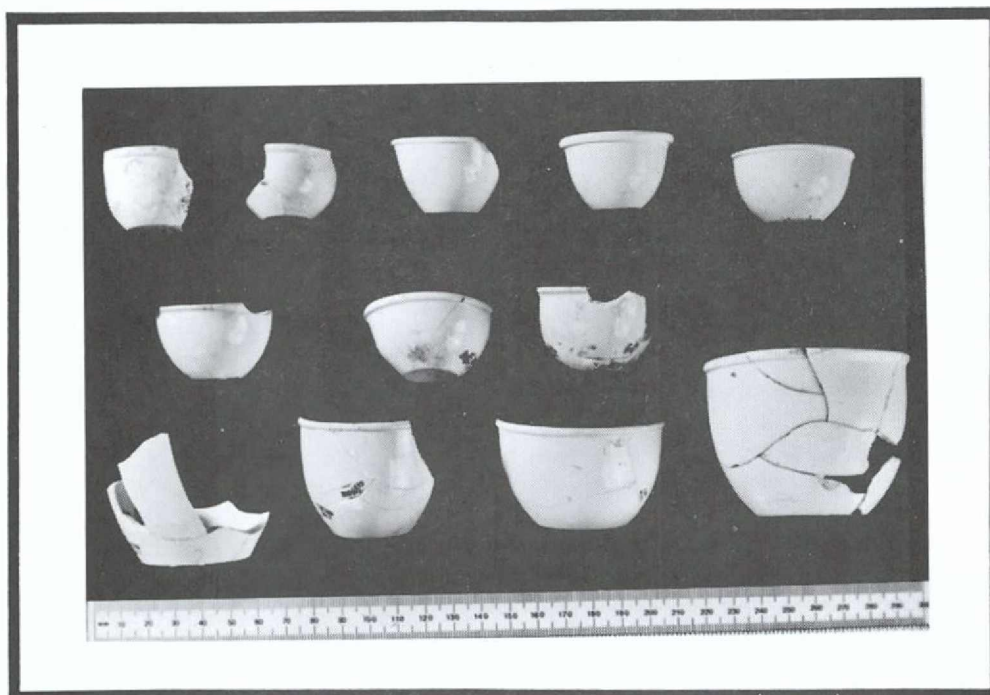


PLATE VII.5 Creamware cup shaped ointment pots from Lot 19/ 146 Pearl Street. Note the rolled lips.

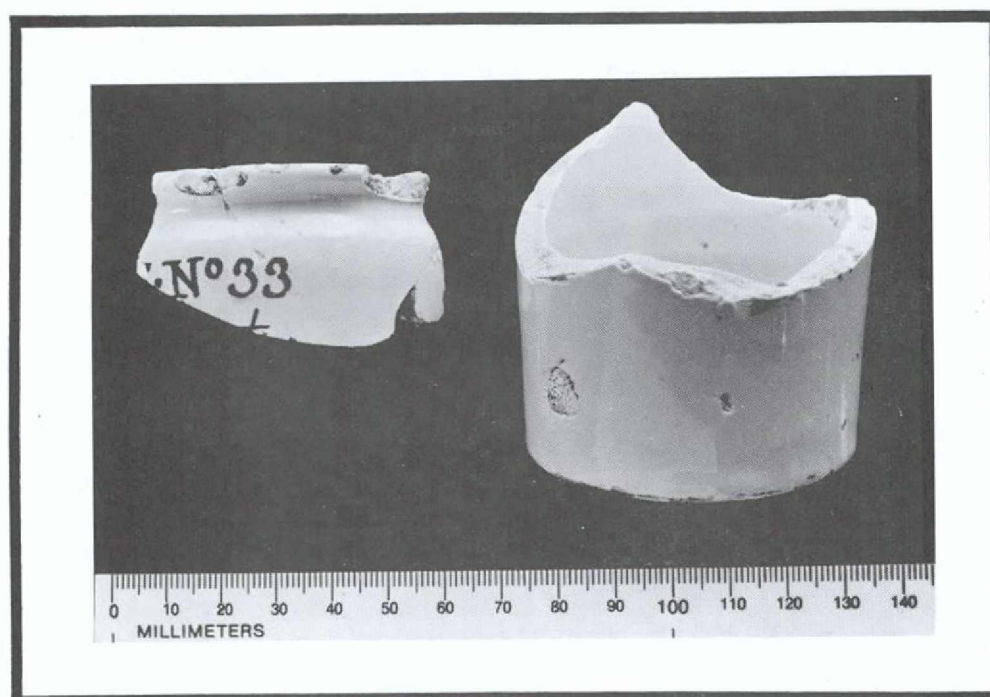


PLATE VII.6 Delftware drug vessel from Lot 19/ 146 Pearl Street. The dark blue inscription probably refers to a specific medicinal compound.

floor, above a circular pit. This latter pit (Feature 20) is approximately .5 feet in diameter and is a possible post mold. Feature 16 contains numerous restaurant-related artifacts: 17 vessels of green banded hotelware; forks, knives, and spoons; crown top closures; and table and bottle glass. The glass TPQ is 1903, the ceramic TPQ is 1930 and a spoon maker's mark dates to 1898-1983. Feature 20 contains smaller amounts of the same types of artifacts.

Depositional Unit 17 is a rodent burrow in Unit B-4. It contains a variety of ceramics, including green banded hotelware, vials, and Norway rat bones. Feature 22, Depositional Unit 15, is a possible posthole near Feature 12. It contains brick and shell but no datable ceramics or glass. It is not possible to associate this feature with a specific structure within the lot.

In summary, Lot 19 at 146 Pearl Street contains several deposits which can be used to test the project's research hypotheses and to develop a description of day-to-day activities within the late eighteenth- and early nineteenth-century chemist/druggist shop. These deposits include landfill (Depositional Unit 1a), the builder's trench to the north/south trending wall (Depositional Unit 6), and most of the fill and night soils in Feature 48, (Depositional Unit 5a). The remaining depositional units within the lot consist of displaced refuse, soils of unknown historic affiliations, and deposits resulting from lot levelling activities or building demolition and modern cellar construction.

3. Lot 18 at 144 Pearl Street

The data retrieval program in Lot 18 at 144 Pearl Street uncovered both residential and commercial deposits and features, spanning the eighteenth through twentieth centuries. Three distinct activity areas were documented within the lot. These included, the cellar and foundation of an eighteenth-century building fronting on Pearl Street, an extension to the above-mentioned building, and an intact eighteenth- and nineteenth-century rear yard, south of the extension. Preliminary field interpretations of depositional units were defined in terms of each of these activity areas within Lot 18. These interpretations are reviewed below.

Four depositional units were identified beneath and within the eighteenth-century structure fronting on Pearl Street. Within the structure's cellar, there was a cobble floor (Feature 30) at approximately 1.0 feet M.S.L. The floor was apparently set into a sandy bedding which overlay what was tentatively identified as landfill. Overlying the cobble floor was a burned deposit, which was interpreted as the remains of a fire which destroyed the structure. This burn layer in turn was covered by a brick and mortar rubble deposit filling the entire cellar area.

The northeast third of Lot 18 was covered by an extension to the structure fronting on Pearl Street, forming an "ell" - shaped

building (Figure VII.4). The earliest group of strata, or depositional units, in the area of the ell were associated with land-filling activities. This was apparently followed by the construction of Feature 46, a stone and brick rectangular structure extending into these landfill deposits (Figure VII.4). The feature was filled with redeposited domestic refuse.

South of Feature 46 was an east/west oriented brick wall (Feature 19). The brick wall abutted Feature 41, the rear or east wall of the cellar (Figure VII.4). Feature 19, which was truncated by a later construction episode at the east lot boundary, probably represented the south wall of the ell extension. This wall appeared to have a possible doorway approximately eight feet east of Feature 41.

Based on the relationship of Feature 46 and 19 (Figure VII.4), it seemed highly improbable that they were used concurrently. Feature 46 may have been located within the backyard prior to the construction of the ell. The extension was later built, destroying the upper portion of Feature 46. A burned deposit, Feature 2, overlaid the redeposited fill of Feature 46. This deposit appeared similar to the burned deposit within the main cellar. Feature 2, which extended across the northeast third of Lot 18, was interpreted as the remains of a burned or collapsed floor of the extension. The deposit in turn was overlaid by rubble deposits associated with the destruction of a structure within the lot, possibly the ell extension.

Feature 6, a brick drain (Figure VII.5) and the stone walls and builder's trenches surrounding it, represented the final construction episode on Lot 18. The stone walls were probably part of an air shaft at the rear of the building which occupied the entire lot in the nineteenth century.

The earliest deposits within the rear yard, or southeast portion of Lot 18, was landfill. Feature 19, and a brick and schist rectangular cistern (Feature 39) represented the first construction sequence within this area (Figure VII.4). Associated with these features was the installation of two cobble surfaces (Features 24 and 25). The uppermost of these (Feature 24) may have been an attempt at leveling of the earlier cobble surface (Feature 25). Feature 54, a large pit, truncated the main cobble surface, (Feature 25) (Figure VII.4). A tongue and groove wood box, Feature 62, was exposed at the base of Feature 54. This wooden structure was similar in construction to Feature 1 in Lot 20, and probably had a similar function (i.e., cistern). Feature 54 was first interpreted as the builder's trench for the installation of Feature 62. However, reanalysis of the field results indicated that it is the builder's trench for two barrels, Features 57 and 58 (See Figure VI.14). Feature 54 also appears to have truncated the wooden cistern. Surrounding Feature 54, were several fill deposits, all underlying Feature 17, a third, and higher cobble surface (Figures VII.5 and VI.14). The final building episode

FIGURE VII.4:
144 Pearl Street
Lot 18
Planview of Features 19, 25,
30, 39, 41, 46, 54, 57, 58

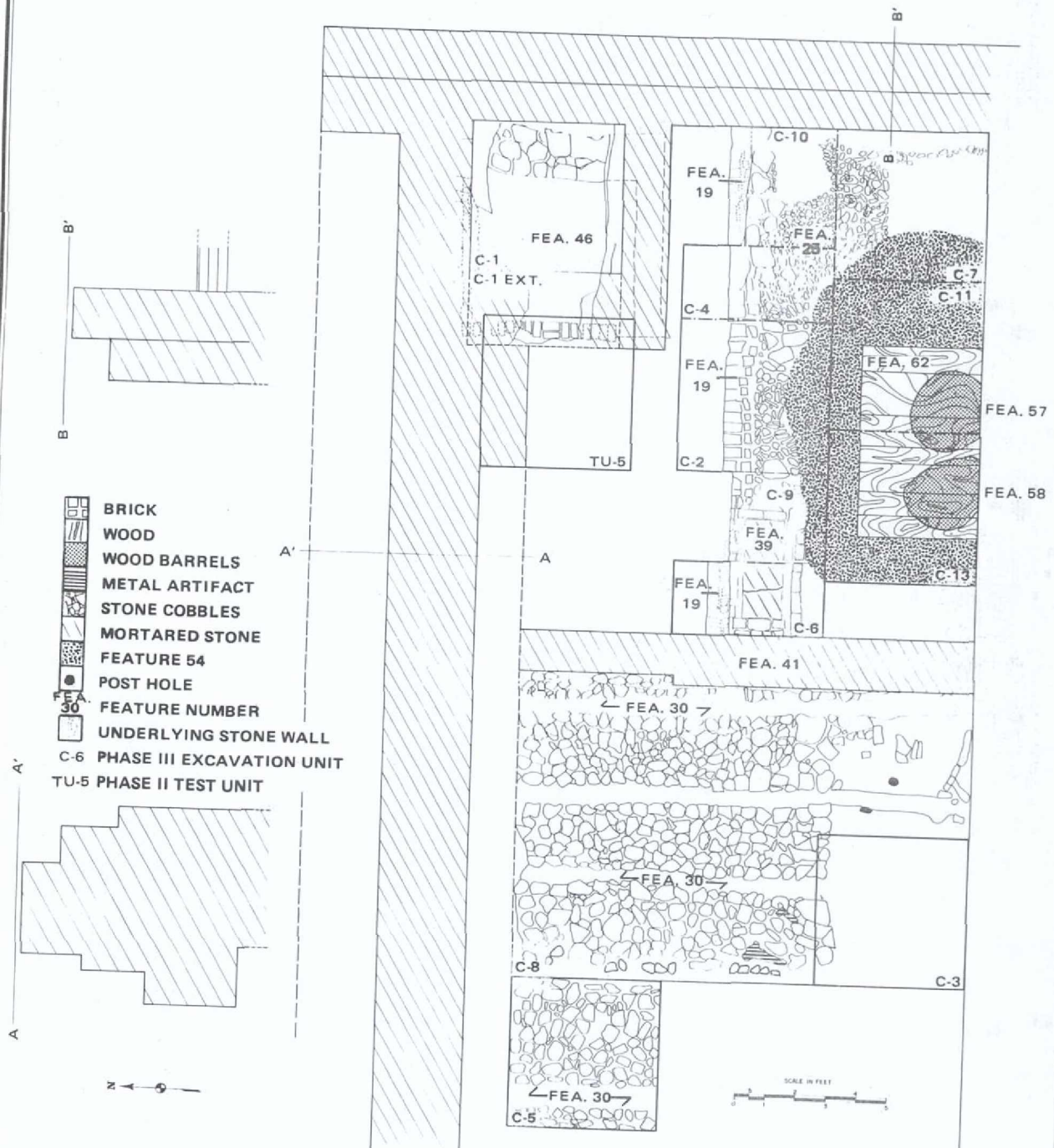
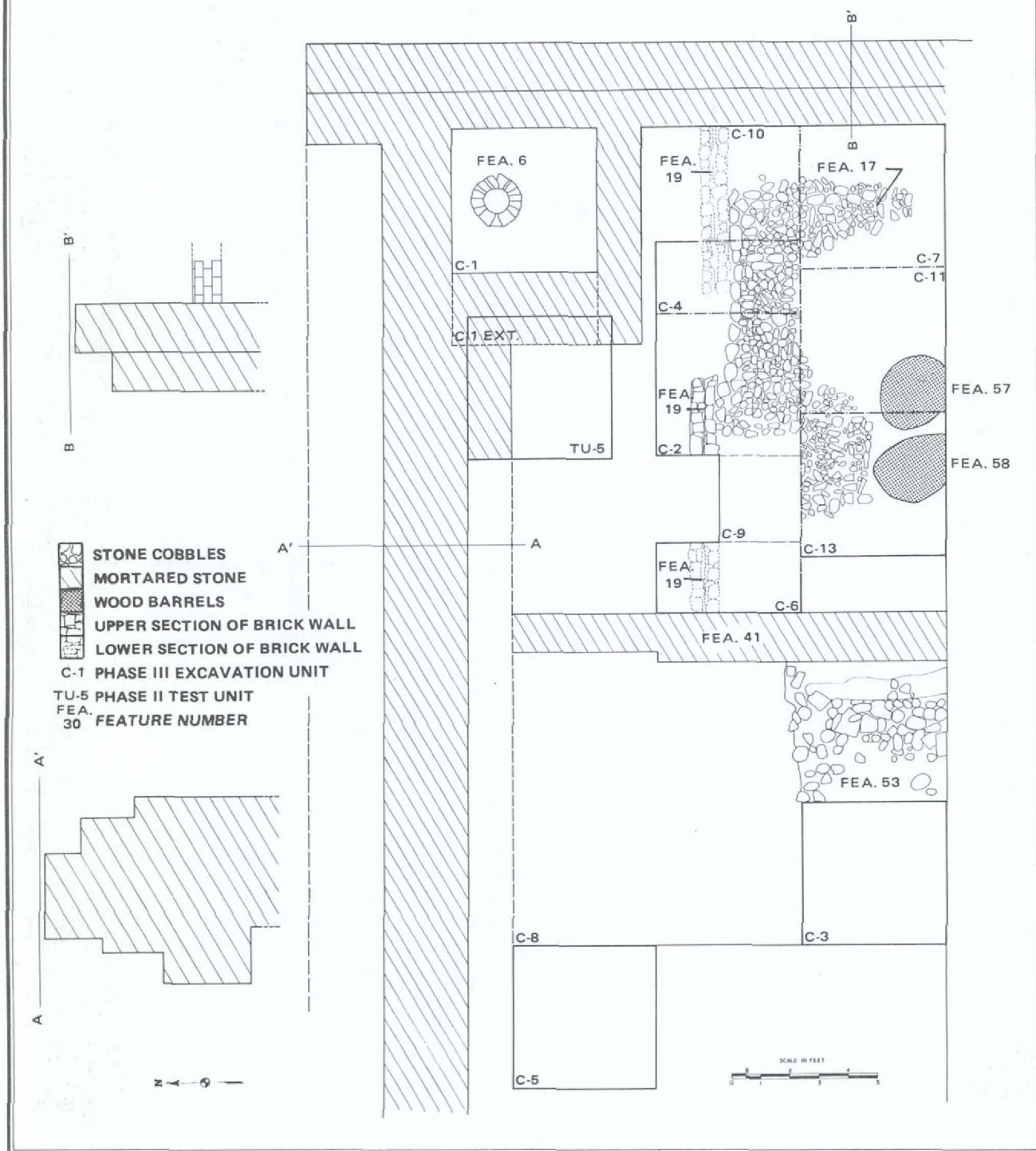


FIGURE VII.5:
144 Pearl Street
Opening Plan View
Lot 18



within the lot was the construction of a nineteenth-century building which covered the entire lot. The builder's trenches of the rear wall of this structure truncated Features 19 and 17.

These initially defined archaeological contexts were slightly modified as a result of subsequent artifact analyses. Also, the analyses identified the linkages between the three activity areas within the lot, and in turn, the complex construction and demolition sequences of 144 Pearl Street. The resulting depositional units are as follows: (1a) landfill, (1b) landscaping/landfill, (2) landfill with intrusive materials, (3) secondary fill/fill below the cobble floor (Feature 30), (4a) a builder's trench for the brick wall (Feature 19), (4b) Feature 39 and associated deposits, (4c) an ash lense under the cobble surface (Feature 25), (4d) a bedding to the cobble surface (Feature 25), (5) the deposit under brick rubble and under burn layer (Feature 2) in the ell, (6) brick rubble deposit under burn (Feature 2), (7) fill below wood structure (Feature 62), (8) wood structure (Feature 62), (9) a builder's trench (Features 54 and 73) to the wood barrels (Features 57 and 58), (10) deposit below the wood barrel and above Feature 62, (11a) a cobble floor (Feature 30) and associated soils, (11b) another cobble surface (Feature 53), (12a) fill above and adjacent to Feature 39, (12b) a cobble surface (Feature 17) and bedding, (12c) cellar fill below the burn layer and above the cobble surface (Feature 30), including fill in floor trenches, (12d) the burn/charcoal deposit in the cellar and in ell extension (Feature 2), (12e) possible disturbance of the burn/charcoal layer in cellar, (12f) demolition, overlies Feature 2 in the ell, (12g) demolition rubble and fill, immediately above burn layer in the cellar, (13) demolition rubble and fill above Depositional Unit 12g, (14) a pit within Feature 54, (16) fill within a wood barrel (Feature 57), (17a) lower fill within a wood barrel (Feature 58), (17b) upper fill within a wood barrel (Feature 58), (18a) Feature 46 fill, (18b) demolition overburden, cross mending with Feature 46, (19) fill above Feature 46 and below a brick drain (Feature 6), (20) trench around a brick drain (Feature 6), (21a) builder's trench of east lot wall, (21b) builder's trench of an airshaft, and (22) overburden. Depositional Unit 15 (which was Feature 73) was combined with No. 9.

As mentioned above, the earliest deposits excavated in Lot 18, (Depositional Unit 1) were associated with the filling of water Lot Grant 4. These soils consist of various lenses of silts, sands and clays (Appendix D, Table D.3), with a relatively low artifact frequency. Of those artifacts recovered from the landfill deposits, the majority are small finds, consisting of clay pipe fragments, architectural materials, and one prehistoric ceramic sherd. The percent of artifact completeness for these deposits is consistently low, i.e., less than 25 percent complete. Diagnostic artifacts from the landfill include majolica, Nevers blue and blue on white delft hollowware vessels, buff/yellow body lead glazed earthenware and clay pipes. There is also a hollow

quatrefoil wine glass stem, which provides a TPQ of 1681. Material from these soils will be used to examine the research hypothesis concerning landmaking activities within the block.

The earliest structural elements in Lot 18 are associated with the eighteenth-century building that fronted on Pearl Street. The cellar floor to this building is constructed of a stone cobble surface (Feature 30) with "trench-like depressions" spaced approximately 2.5 feet apart (Figure VII.4). The trenches, oriented north/south, probably represent the location of wooden sleeper beams that would have functioned as floor supports. At the south/east corner of the cellar, there are cobbles set higher than the majority of the cellar floor. These cobbles were designated as Feature 53, though they probably are all part of the cellar floor. Below the floor were several fill deposits that appear to have been a bedding to the cobbles. These soils make-up Depositional Unit 3. The majority of ceramics within these soils are delftware, buff/yellow body slipware, red body earthenware and red body slipware ceramics. There are also two pearlware sherds. However, these very small sherds are probably from soils above the cellar floor which were trampled into the bedding of the cobbles. Eliminating these pearlware ceramics, the depositional unit's ceramic TPQ is 1762. Other artifacts within the bedding include clay pipe fragments, liquor/wine bottle fragments, shell, mortar, nails, shipping ballast, etc. Shipping ballast at the Barclays Bank Site consisted chiefly of pebbles of European flints and pieces of coral.

It is not possible to directly associate the cellar floor with a specific occupant within 144 Pearl Street. However, several datable delft tiles were recovered from the cellar fill (Depositional Unit 12c); tiles that were probably used as interior wall decorations. The majority of these tiles were painted with a Shepherd and Shepherdess in a landscape motif, which dates from 1660 to 1725 (Schaap 1984:112-113). Therefore, these tiles may have been from the original structure built by Christina Veenvos in 1702 to 1709.

The brick wall of the ell extension (Feature 19) a possible wood flooring (Unit C-2, Stratum XXIV), the rectangular brick and schist cistern (Feature 39), as well as the two lower cobble surfaces (Features 24 and 25) and a possible bedding to one of the surfaces, represent a complex of structural elements associated with a second phase of development on Lot 18 (Figure VII.4) It appears that Feature 39, the brick cistern, was built at the same time as Feature 19. Figure VI.12 demonstrates the relationship of the cistern with the brick wall. Diagnostic artifacts from the builder's trench of the brick wall (Depositional Unit 4a) yield a 1780 TPQ. This is based on the presence of square-cut nails. Additional artifacts recovered from the depositional unit include a small sherd of red bodied earthenware with yellow/brown glaze, clothing beads, and faunal material.

There is an ash deposit (Depositional Unit 4c), underlying Feature 25. It has a ceramic TPQ of 1700, but based only on one sherd. Other material found in association with the ceramics include white clay pipe fragments, a straight pin, a table knife, shipping ballast and a high frequency of faunal material (i.e., approximately 450 specimens). It is unclear if the ash is part of landfill, as the date suggests, is a bedding to Feature 25, or is simply material that has moved through the cobbles as a result of natural or cultural processes. The relatively high faunal count suggests that the latter scenario may not be valid. Depositional Unit 4c may represent landfill soils with faunal refuse, or an old yard surface upon which the bone was deposited.

Stratum XXIV in Unit C-2, may represent decomposed floor joists associated with the brick ell. These north/south oriented dark stains may be an extension of the north/south oriented stains observed in Test Unit 5. The configuration of the stains appears similar to that of Feature 31, in Lot 26. The only cultural material recovered from these deposits, in Unit C-2, was a possible plumbing fixture.

Originally, Feature 46 was interpreted as predating the ell extension. However, the fill within the feature dates to the 1820s, while fill within the extension is associated with eighteenth-century occupations within the lot (See discussion below). Feature 46, therefore, was probably installed after the extension was leveled. The feature is constructed of three stone walls and one brick wall, all set into landfill. The stone walls do not appear to be mortared; however, the brick wall is mortared to and abuts the stone walls.

As noted earlier, remnants of a possible wood cistern (Feature 62) was located at the base of a large pit (Feature 54), located in the southern yard area of the lot (Figure VII.4). The date of the cistern is unknown, but its construction and location is similar to the other early to mid-eighteenth-century wood cisterns within the block. Features 54 and 73 (Depositional Unit 9) are in the builder's trench for the two barrels (Feature 57 and 58) in the yard area. Feature 73, was originally thought to be a smaller builder's trench for Feature 57, but it now appears to be part of the larger trench, Feature 54. Material recovered from both Features 54 and 73 include Oriental export porcelain, delftware, buff/yellow body slipware, and creamware in addition to glass vials, liquor/wine bottle fragments, a kitchen utensil handle, a gun flint, clay pipe fragments, jewelry parts, ceramic tiles and marbles. The ceramic assemblage, which is very fragmentary, produced a MCD of 1743 and a TPQ of 1790. The glass TPQ is 1755. Interestingly, there are several ceramic crucibles within these deposits. These crucibles are similar to those found in the cellar fill (in Units C-3, C-5, and C-8). It is hypothesized that the crucibles were associated with a metallurgist within Lot 18.

Feature 17 (Figure VII.5) is the uppermost cobble surface uncovered in Lot 18. The stones within the feature are set into an olive brown sand (Depositional Unit 12b). Material recovered from the sand bedding is fragmentary and includes several very small pearlware sherds. Additional ceramics include, creamwares, delftware, red body earthenwares with manganese mottling, red bodied slip wares and Oriental export porcelains. These ceramics produce a MCD of 1747, and a TPQ of 1780. The latter is based on five small pearlware sherds. Eliminating these sherds, the TPQ becomes 1762. Plates, mugs, jars and teawares are the predominant ceramic forms within the assemblage, which has a ceramic MNV of 45. The small fragments of pearlware may be the result of trampling, whereby the sherds were pushed into the bedding of the cobble surface. Depositional Unit 12b also contains wine/liquor bottle fragments, straight pins, buttons, a hair brush, a toothbrush, clothing and jewelry beads, marbles, a cannon ball, a nit comb, shipping ballast, and pipe fragments. The glass artifacts yield a 1780 TPQ, based on one fragment. It is not possible to associate this upper cobble surface with a specific lot occupant. As noted several times in other lot discussions, there are no occupancy data for the 1740s to 1780s period.

The northeast corner of the lot appears to have remained open during the late nineteenth century, possibly serving as an air shaft for the building which covered the lot. At the base of the shaft is a circular brick drain (Feature 6). The builders' trenches associated with this drain (Depositional Units 20, 21a, and 21b) produced a ceramic TPQ of 1886. However, the presence of plastic and vinyl asphalt and linoleum tile fragments suggests an early twentieth-century date. Also, bottle glass fragments recovered from the interior of the drain have a 1903 TPQ. Additional artifacts recovered from these depositional units include wine/liquor bottle and tumbler fragments, kitchen utensils, a furniture hinge, straight pins, buttons, crucibles, crown cap closures, jewelry parts, clothing buckles, cosmetic glass, and pipe fragments. A large percentage of the artifacts recovered were architecturally related (i.e., nails, window glass, floor and wall tiles, roofing slate, and brick).

In addition to these various structural elements, the lot contains several fill and trash deposits, some localized and others extending across the lot, linking the three activity areas.

Depositional Unit 5 consists of similar grey sands and silts, all located beneath a brick rubble layer in the ell. These silts and sands extend over most of the ell (Appendix D, Table D.3). The MCD for these soils is 1729, and the ceramic TPQ is 1820, based on one sherd. If eliminated from the dating analysis, the next TPQs are 1800, based on one sherd and 1763 based on three. There are 17 ceramic MNVs, all less than 25 percent complete. Ceramic vessel forms include plates, tea cups, mugs, a deep bowl, and a jar. Additional artifacts recovered from Depositional Unit 5 include a shoe buckle, clay pipes, buttons (domed and disk),

jewelry beads, clay marbles, a toy cannon, straight pins, kitchen utensils, a knife blade, shipping ballast, coal, floor and wall tiles, and a large quantity of faunal material. The fact that a large proportion of the assemblage from this depositional unit is faunal material, (i.e., approximately 600 specimens) supports the identification of these deposits as domestic refuse.

The ceramics in Depositional Unit 5 represent a long temporal span (i.e., comparing the MCD to the TPQs). Also, the ceramic assemblage is very fragmentary, indicating that it either comes from yard sheet trash and/or sweepings from a house and/or shop. The relatively moderate bone count supports both scenarios. These observations suggest that Depositional Unit 5 probably contains displaced refuse, deposited in the ell during the mid- and possibly late eighteenth century (if not using the 1820 or 1800 TPQs). This depositional event cannot be linked to a specific occupation or source within the lot. Therefore, no further analytical work will be conducted on this depositional unit.

Depositional Unit 6 is the demolition layer overlying No. 5. The soils within this depositional unit contain a large amount of brick (approximately 90 kilos), as well as handwrought and square-cut nails. Ceramic ware types within Depositional Unit 6 include delftware (Plate VII.7) buff/yellow body slipwares with dot and comb decoration, white salt glazed stonewares, refined agatewares and creamwares. The ceramic assemblage has an MNV of 20, with a fragmentation index of 1.60. Though the unit has a low index, it should be noted that 2 of the 20 vessels are 76 to 100 percent complete. Vessel forms for the most part indicate domestic uses, and include bowls, tea cups, plates, a teapot, a drinking pot, a mug, a pan, a pudding and pastry dish, and a serving vessel. A crucible, the only non-domestic form, was also recovered. The MCD for Depositional Unit 6 is 1740, and the ceramic TPQ is 1762. The glass TPQ is 1770, based on one fragment. The next TPQ is 1725, based on two. Other material recovered from Depositional Unit 6 includes a clothing button, a wrapped head straight pin, a kitchen utensil handle, clay pipes, and jewelry beads, as well as the previously mentioned architectural items.

Depositional Unit 6 cross mends with No.5 and No.18a (fill in Feature 46). The latter mends are probably the result of mixing of soils, in the eastern portion of the ell, during construction of the drain (Feature 6) and the air shaft. Materials probably moved from Depositional Unit 6 into 5 as a result of the unconsolidated nature of the rubble in the former unit. The origin of this rubble, and the domestic material within it, is unclear. Given the fragmentary nature of the ceramic and glass assemblages, the rubble content of the deposits, and the low frequency of ceramic and glass vessels, Depositional Unit 6 cannot be confidently used in testing the project's research hypotheses.

Depositional Unit 12 (Appendix D, Table D.3) appears to represent several fills that have been redeposited across the rear yard

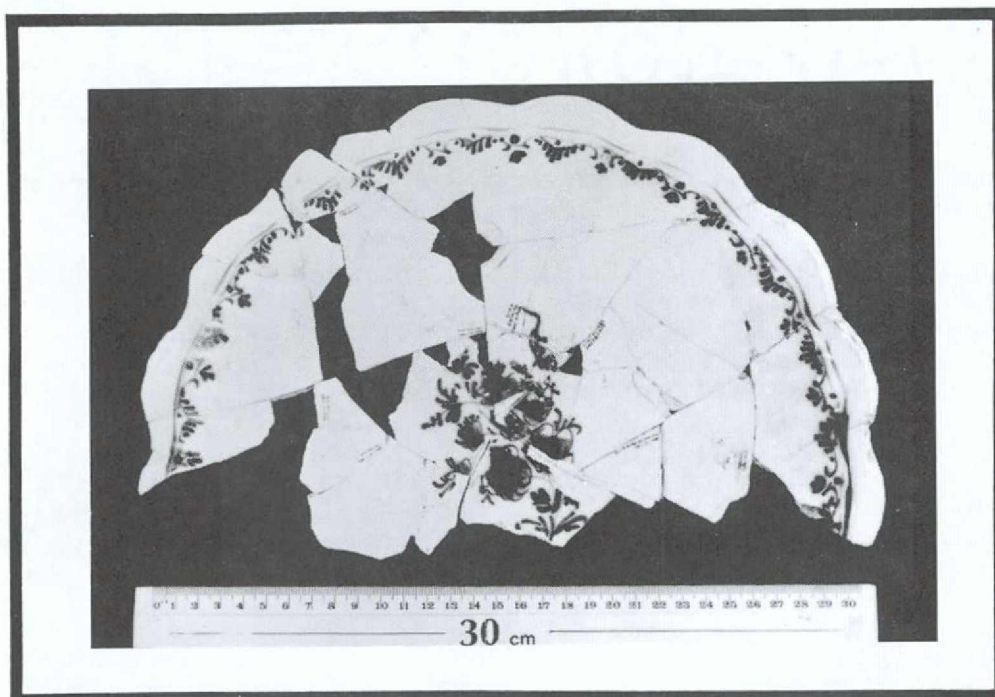


PLATE VII.7 Delftware lobed plate decorated in underglaze blue from Lot 18/144 Pearl Street.



PLATE VII.8 Blue decorated delftware tiles from Lot 18/144 Pearl Street. These tiles portray the same biblical scene but are painted by two different artists. Possibly from England or Friesland.

area, into the ell extension and within the basement of the structure fronting on Pearl Street. The depositional unit is subdivided into seven smaller units, each related to specific areas within the lot.

Depositional Unit 12a, appears to be an area of soil deposited over the remnants of Feature 39, the brick cistern (Figure VII.4). This depositional unit is very localized, and occurs only south of Feature 19, and as far east as Unit C-9 (Figure VII.4). Ceramics within the deposit include creamwares, delftware, red bodied engine-turned stoneware, and Nottingham stoneware. There are also several crucible fragments. The ceramic TPQ for these soils is 1762 and the MCD is 1764. Ceramic vessels recovered from Depositional Unit 12a are very fragmentary and generally domestic in nature. A majority of the vessels cross mend with vessels in the cellar of the structure fronting on Pearl Street (i.e., Depositional Units 12c, d, and e).

Additional artifacts in the depositional unit include architectural materials (i.e., nails, spikes, tacks, brick, mortar and window glass), wine/liquor bottle fragments, shipping ballast, a table knife, a wrapped head straight pin, furniture parts (i.e., upholstery tacks, furniture plate, latch, and sconce) and large amounts of faunal material. How Depositional Unit 12a is linked with Nos. 12c, d, e, and other soils in Lot 18, will be examined after discussing the remaining deposits in the cellar and the ell, and in the two barrel features in the yard area. This is necessary, given the complex relationships of all these soils.

Depositional Unit 12c represents a group of deposits overlying the cobble cellar floor (Features 30 and 53) (Figure VII.4 and see Figure VI.10). This fill deposit contains 57 ceramic vessels and has a fragmentation index of 1.22, with almost all vessels falling into the less than 50 percent complete category. Vessel forms include tablewares, such as creamware feather-edged and royal rim plates, soup bowls and sauce boat; buff/yellow bodied slipware drinking pots; white salt-glazed stoneware plates and a grey stoneware mug. In addition, there are Oriental export porcelain tea cups, saucer and bowls, creamware sanitary wares (chamber pots and wash basins), and food serving forms. Non-food related ceramic forms include delft tiles (Plate VII.8) and creamware and white salt-glazed ointment pots. Glass vessels consist of tablewares, tumblers, wine/liquor bottles, drug vials, and snuff bottles. A total of 251 clay pipe fragments were recovered, 198 of which have measurable pipe stems. Fifty-two percent of pipe stems have $4/64$ ths of an inch bore diameters. Noel Hume (1978) has suggested a 1750 to 1800 date range for this proportion of diameters of this size. Other artifacts within the Depositional Unit 12c assemblage include buttons, a toothbrush, a cannonball, prehistoric debitage, and kitchen utensil handles.

These soils above the cobble floor have a MCD of 1758. The ceramic and glass TPQs are both 1780, but based on a few sherds. The

next TPQ date from the assemblage is 1762, based on 123 creamware sherds. The cross mends between Depositional Unit 12c and other deposits are numerous. There are mends between 12c and Depositional Units 12d and e (the burn/charcoal layer in the cellar), 12a, and the fill in one of the barrels (Feature 57, Depositional Unit 16).

Depositional Units 12d and 12e immediately overlay Depositional Unit 12c within the cellar. Depositional Unit 12e differs from 12d, in that e may represent a disturbed area, possibly caused by backhoe excavation. The disturbed area contained six toggle bolts and a wire nail. This group of deposits are predominantly black in color (10YR 2/1) and contain charcoal. Surprisingly, only the soil is blackened and not the artifacts contained within these soils. Feature 2 within the ell extension, which is included within Depositional Unit 12d, has similar characteristics. All strata included within the depositional unit have a high artifact frequency, particularly in terms of ceramics.

Ware types in Depositional Units 12d and 12e include brown salt-glazed stonewares, creamwares, delftware (white with blue and Rouen faience), pearlwares (edged and handpainted), Oriental export porcelain, red bodied earthenware, buff/yellow bodied slipware (combed and dot decoration) and clay crucibles. There are 211 MNVs, out of a collection of 1,900 sherds. The ceramic assemblage produced a TPQ of 1780, and MCDs of 1783 and 1791. The glass TPQ is 1780. Vessel forms are predominantly tablewares, with numerous sanitary wares, food service and preparation items and teawares. There are also several delftware and redware floor and wall tiles, in addition to redware roof tiles. The fragmentation index for ceramic vessels from 12d is 1.52, and 1.70 for 12e. However, unlike Depositional Unit 12c, 12d has vessels in the 51 to 100 percent complete range. In fact, 8 percent of the vessels in 12d fall into the 76 to 100 percent complete and whole categories. Other domestic artifacts within the assemblage include a utensil handle, a candlestick, buttons, jewelry, and buckles. A striking feature of the assemblage is the large number of ceramic crucible fragments (i.e., 380) (Plates VII.9 and 10). There are also many reconstructable teawares, mostly porcelain. These vessels are unusual, given their high level of completeness and location within this unusual deposit.

As noted above, there are no burnt artifactual materials in Depositional Unit 12d. If these soils represented burned domestic refuse and/or architectural remains, this would not be the case. The presence of the crucibles within the charcoal matrix, a pattern also observed in the Lodge Alley study in Charleston, South Carolina (Zierdan et al. 1983), supports the hypothesis that Depositional Unit 12d contains redeposited refuse and charcoal from metallurgical activities.

After the completion of the artifact analyses and background research on this lot, LBA obtained new information on the



PLATE VII.9 Crucibles from Lot 18/144 Pearl Street. All have round bases and triangular mouths.

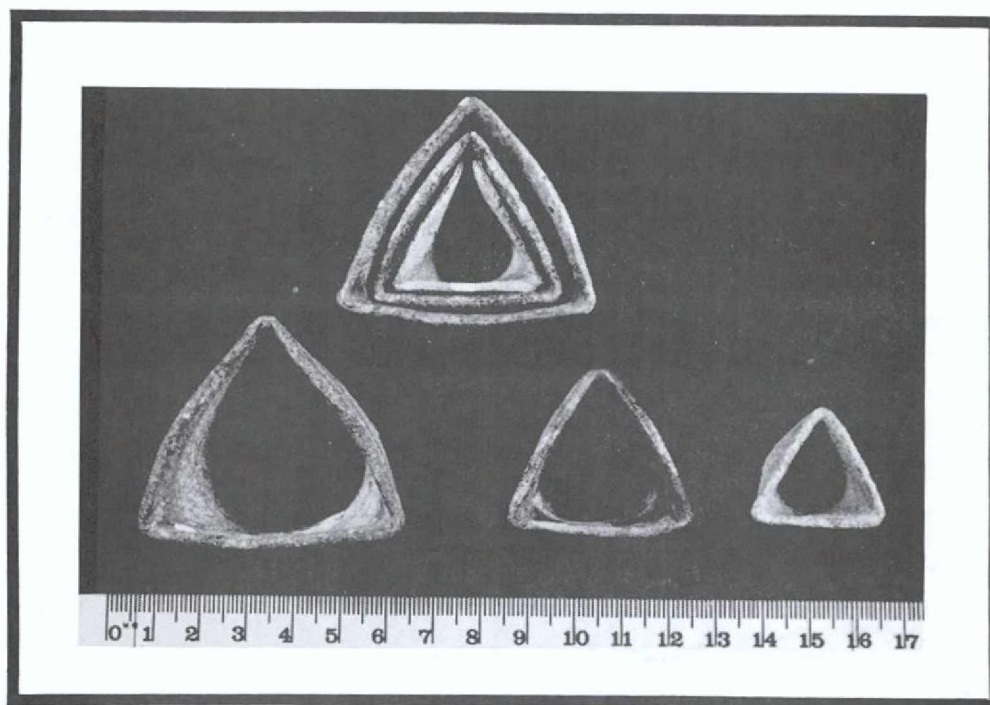


PLATE VII.10 Top view of nested crucibles from Lot 18/144 Pearl Street.

historical association of the materials in Depositional Unit 12d and e. Diana Wall was using ceramic assemblages from the Barclays Bank Site as part of her doctoral dissertation. Wall conducted additional documentary research on Lot 18 and found references to a metallurgist at this address. Gottesman (1954) lists Daniel Van Voorhis, Bayley and Coley, manufacturers in gold, silver, and jewelery at 144 Pearl Street (27 Hanover Square) in 1784. Van Voorhis continues to occupy the lot, with various partners, until 1789. The crucibles and charcoal deposits undoubtedly came from the Van Voorhis shop, given the close agreement between the documented occupation dates and the ceramic and glass dates within Depositional Units 12 d and e. It is not clear whether this lot also contained Van Voorhis's residence.

The domestic materials in 12d and e cross mend with several other deposits within the cellar and in the south yard area. These other proveniences include Depositional Units 12g (above 12d), 13 (above 12g), 12a and c, and Depositional Unit 16 (Feature 57). There is also a mend with the fill in Feature 46 and the charcoal layer in the ell (Feature 2) (See Figure VII.1 and Figure VII.4).

Overlying the burned deposits are three depositional units, Nos 12f, 12g, and 13, all containing demolition debris (Appendix D, Table D.3, see Figures VI.12 and 13). Although the deposits appear to be similar both chronologically and in general artifact context, they were given separate depositional unit numbers because of their horizontal distribution and varying soil colors. Depositional Units 12g and 13 overlies the charcoal layer in the cellar, and 12f is above the charcoal deposit (Feature 2) in the ell.

In addition to containing a large amount of architectural materials, i.e., brick; nails; floor, wall, and roofing tiles; and window glass, these soils have a large number of domestic-related ceramic and glass vessels. Over 200 glass and ceramic vessels were identified within these proveniences. Ceramic ware types include creamwares, Rhenish/Westerwald and scratch blue stonewares, Oriental export porcelains, red bodied earthenwares, buff/yellow bodied slipwares, delftware and crucibles. The ceramic fragmentation indices for Depositional Units 12f, g, and 13 are 1.00, 1.60, and 1.30, respectively. Even though the value for 12g is low, 10 percent of the ceramic vessels fall into the 76 to 100 percent range.

Depositional Unit 12f has a MCD of 1782 and a ceramic TPQ of 1790 based on one sherd, and 1780 based on four. Unit 12g falls into the same time frame, with a MCD of 1788, ceramic TPQs of 1795 (based on one) and 1780 (based on 46 sherds), and a glass TPQ of 1780. The uppermost demolition deposits (Depositional Unit 13) appear to be slightly later than the deposits immediately overlying the burned deposit. The former has a MCD of 1794 and a ceramic TPQ of 1820 and a glass TPQ of 1780. Vessel cross mends are present between this uppermost demolition deposit in the

cellar and the bedding of Feature 17, the upper cobble surface in the rear yard. There are also mends with Depositional Units 12g, and 12d and e (the charcoal layer in the cellar), and with the upper soils (Depositional Unit 17b) in one of the barrels, Feature 58.

Depositional Units 16 and 17 are within the two wood barrels in the rear yard area (Figures VII.1 and VII.4). Depositional Unit 16, (Feature 57) is made up of two separate deposits. The upper soils contain a large amount of demolition debris (i.e., brick and mortar), while the lower contain sandy silt with much less brick and mortar. The few fragmentary vessels that were recovered from the upper soil of Feature 57 cross mend with vessels in the barrel's lower deposit, suggesting the presence of a single depositional unit. Ceramics within this depositional unit consist of buff/yellow-body slipwares, handpainted polychrome pearlwares, red-body engine-turned earthenwares, delftware and creamwares. The deposits' MCD is 1776, and the ceramic TPQ is 1795, while the fragmentation index is 1.00. Other artifacts within the barrel include wine/liquor bottle fragments, proprietary medicine bottle sherds, a toy die, a bone rib for a fan, and 14 crucibles. Not only do the cellar and Feature 57 both contain crucibles, there are also ceramic cross mends between Depositional Unit 16 and 12c and 12d.

Depositional Units 17a and b are fills within the second wood barrel (Feature 58) (Appendix D, Table D.3). The lower fill (Depositional Unit 17a) contains a considerable amount of drug-related glass, such as proprietary medicine bottles, (Plate VII.11) various sized vials, pharmaceutical bottles, (Plate VII.12) a glass rod and funnel, and nursing paraphernalia (Plate VII.13). There are also carboys, which may have held spirits. The ceramics consist predominantly of drug related forms such as delftware and creamware ointment pots (Plate VII.14); as well as a few large- and small-mouthed stoneware jars. These lower deposits have a ceramic MNV count of 6, the majority of which were relatively complete (i.e., 75 to 100 percent complete). In fact, the fragmentation index for this unit is 4.15, the highest value within the entire lot. The MCD for the depositional unit is 1772, while the ceramic TPQ is 1762.

Unlike the lower deposit, the upper deposits (Depositional Unit 17b) have a higher amount of demolition debris (i.e., brick, mortar, nails, window glass), and consist of lenses of yellowish brown to dark grey brown sands and clays. In addition, there is an increase in overall artifact frequency. The majority of the ceramic and glass vessel forms are drug related. These include glass snuff bottles, specimen bottles, vials, long-necked globes, carboys, and creamware transfer printed, cylindrical ointment jars (Plate VII.15). Additional ceramic ware types include hard-paste porcelain, grey salt-glazed stoneware, Oriental export porcelain, underglaze blue-Canton/Nanking porcelain, red-body earthenwares, buff/yellow-body slipware,

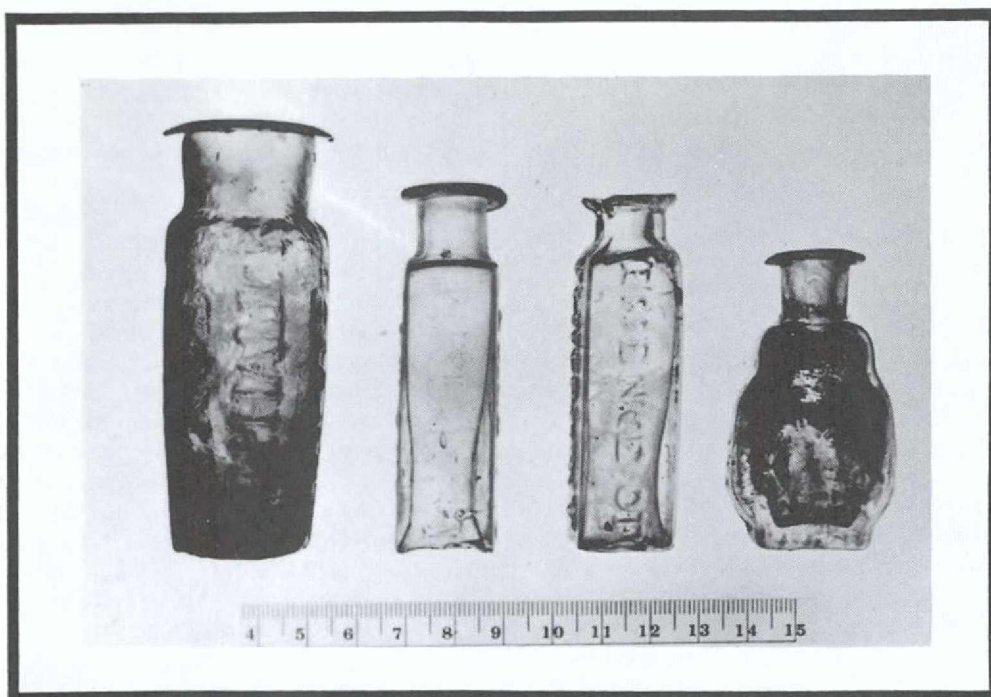


PLATE VII.11 Patent/Proprietary medicine vials. Feature 58

- 1. True Cephalick Snuff
- 2 & 3. Essence of Peppermint
- 4. Turlington's Balsam of Life

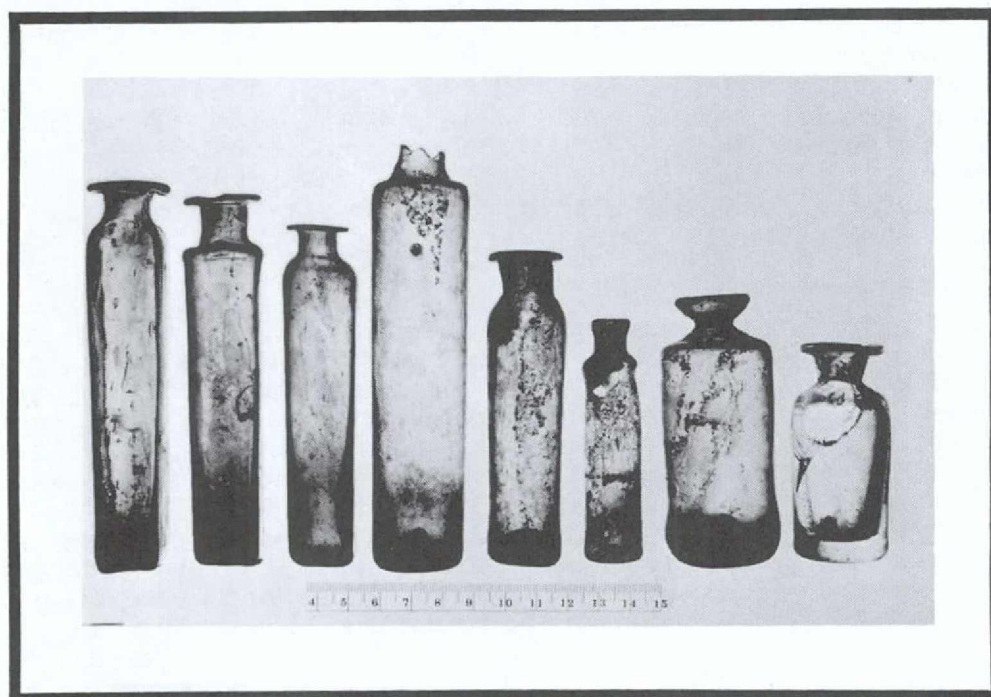


PLATE VII.12 Pharmaceutical vials. Feature 58.

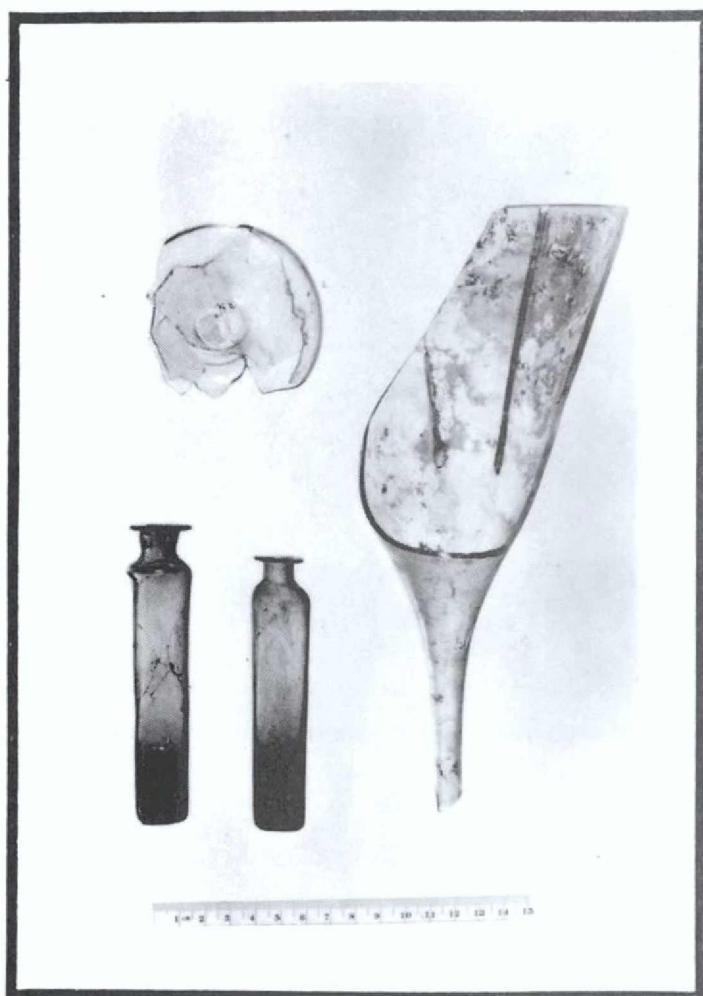


PLATE VII.13

Pharmaceutical Glass.

1. Nipple Shield, Feature 58
2. Funnel, Feature 62
3. Vials, Feature 58



PLATE VII.14 Delftware drug vessels from Feature 58, Lot 18/144 Pearl Street. Plain white and rather crudely made. The rims of the pedestal footed vessels are unglazed.

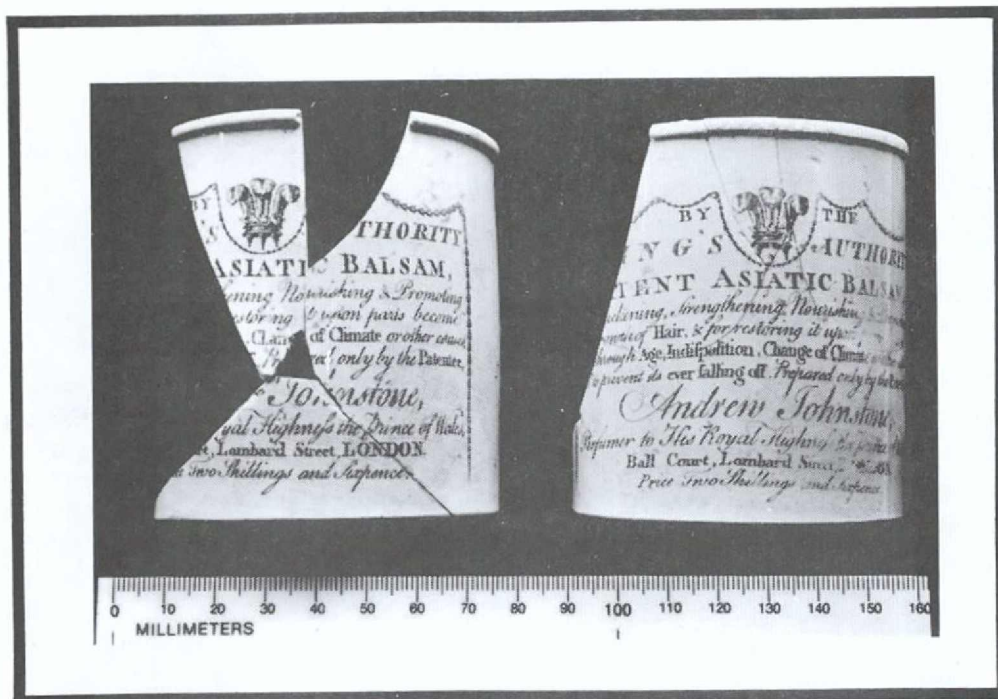


PLATE VII.15 Creamware ointment jars from Feature 58, Lot 18/144 Pearl Street. Overglaze transfer printed in dark red.

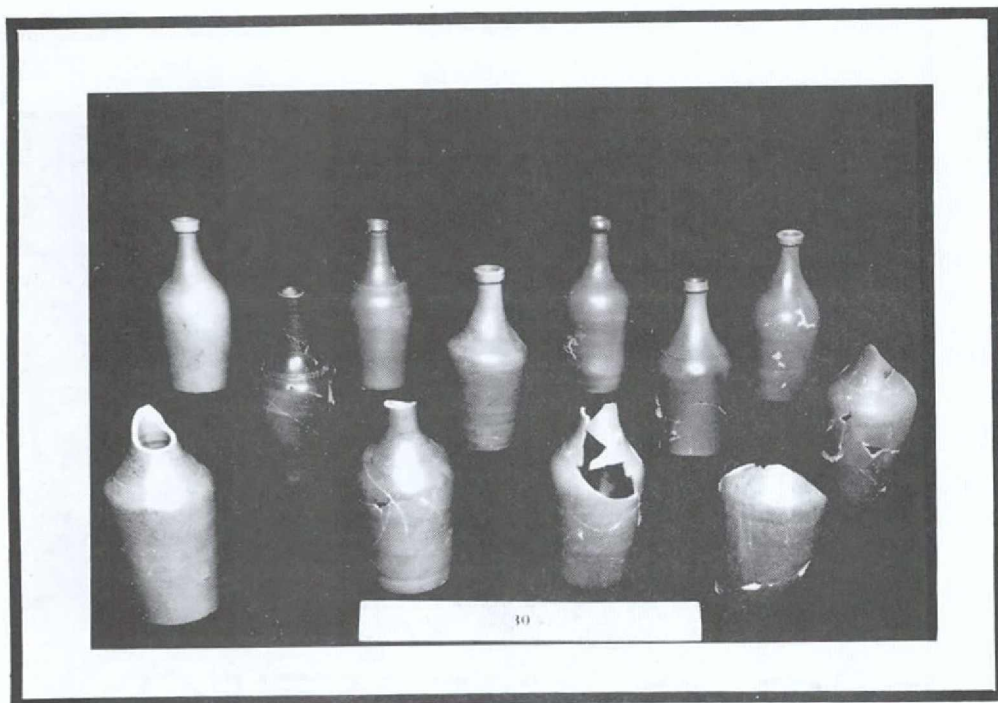


PLATE VII.16 Brown stoneware bottles from Feature 46, Lot 18/144 Pearl Street. These wine/liquor shaped bottles are probably locally made.

pearlware, delftware, and crucible fragments. The redware vessels are predominately small storage jars. Given the context of the overall assemblage, these vessels probably were used for storing drugs.

There are 39 MNVs, and most are less than 25 percent complete (i.e., 59% of all vessels). However, 18 percent of the vessels are 76 to 100 percent complete. The fragmentation index for this depositional unit is 1.92. The MCD for these upper soils is 1789 and the ceramic TPQ is 1800, while the glass TPQ is 1780. The ceramic TPQ is based upon Canton/Nanking porcelains which were dated by their similarities to dated examples in Howard (1984).

There are several cross mends between Depositional Units 17a and b; therefore, the two are considered as a single depositional event. This event was most likely cleaning activities within the drug shop of Joel and Jotham Post, who occupied the lot between 1793 and 1797. It should be noted that between 1789 and 1830, no other drug firm was located at 144 Pearl Street. The dates of Depositional Units 17a and b do not precisely correlate with this 1793 to 1797 range. This is due to the imprecision of the beginning dates of the ceramics used to obtain the TPQ (i.e., Canton/Nanking porcelains) and the continued use of creamware drug vessels into the nineteenth century (Noel Hume 1969b) which results in a relatively early MCD. Materials within Depositional Units 17a and b can therefore be used to address the project's research design given the linkage with Joel and Jotham Post. Specifically, data from the feature can be used to describe activities within the druggist shop.

The upper deposit of drug-related material and brick rubble in Feature 58 mends with Depositional Unit 13, the upper demolition layer in the main cellar. This last mend completes the linkages between the various deposits in the cellar, the ell, and the two barrel features. Based on these ceramic cross mends, the dates of the deposits, and the location of the various contexts within the lot, the following depositional sequence seems to have occurred within Lot 18. In the late eighteenth century (circa 1780/1790), a decision was made to demolish all structures within the lot, level it, and construct new buildings. Depositional Unit 12c was first deposited in the cellar, possibly through natural means. The soils in this unit consist of silts; possibly waterborne (e.g., during flooding of the cellar?). Next, the charcoal layer (Depositional Units 12d and e), containing no domestic material, but only crucibles, was placed into both the cellar and the ell. In the ell, this charcoal deposit covered two fills already placed into the cellar of the ell (i.e., Depositional Units 5 and 6). Whether 5 and 6 were part of this demolition/lot leveling is unclear. The superstructure of both the ell and main structure was in place when Depositional Units 12d and e were spread across the two cellars. The source of the charcoal layer may have been from ovens/forges within the cellars themselves, possibly the remains of a last series of firings within the Van Voorhis

shop. The charcoal would have been removed from the ovens/forges and spread across the cellar floors. It is also possible that the charcoal was not in an oven/forge, but was being stored in some type of storage bin, in anticipation of disposal outside the lot. Immediately or soon after the charcoal layer was spread across the two cellars, which were probably connected by a doorway (See Lot 19 discussion), the brick and mortar superstructure of the main building and ell were pushed into the cellars, along with domestic refuse from within the lot, either from inside the buildings or from a trash feature in the lot. Given the loose, unconsolidated nature of the soil in Depositional Units 12d and e, artifacts from the upper rubble (12g and 13) in the cellar and in the ell (12f), filtered into and through the charcoal layer. In the cellar, material also filtered down into Depositional Unit 12c.

An alternate scenario for the cellar and ell filling is as follows. Along with the charcoal and crucibles, domestic material from the Van Voorhis house and shop was also spread across the two cellars. Some of these materials then filtered through the loose charcoal soil, into the silts of Depositional Unit 12c. The brick superstructure of the main building and ell were then pushed into the cellar, as domestic materials from the house and shop continued to be placed into the cellars. Thus, the domestic artifacts in the cellars' fill were from the same sources, and were mixed into the two types of cellar fill (i.e., charcoal layer and rubble). This explains the cross mends between all rubble soils in the cellar, the charcoal layer, and the silts under the charcoal.

There are also cross mends between the cellar fills and the fill within the two barrel features in the yard. As the cellars were being filled with the rubble and domestic debris, this fill matrix may have also been transported to the barrels, probably to seal them. This also explains the cross mends between the bedding of the cobble surface surrounding the barrels, and the cellar fills. Materials may have been dropped unto the cobble surface and trampled into the bedding.

It should be noted that the rubble deposit immediately above the charcoal layer (i.e., Depositional Unit 12g) contains several crucible fragments. The presence of these items suggests that the source of the crucibles continued to be used to fill the cellar after the charcoal layer was laid down. An alternative explanation is that the crucibles were not originally within the charcoal layer. It is possible that they were placed in the cellar at the same time as the domestic debris; and that both mixed with the charcoal and rubble during deposition.

How Depositional Unit 12a fits into the scenario is unclear. Possibly, the upper rubble deposits with domestic debris, placed into the main cellar, were also mixed into these fills in and around Feature 39. This would explain the mends between Depositional Unit 12a, and 12c and 12d and e.

During the filling of the cellar and ell, the two barrel features were also filled; or at least their filling was completed. Both Features 57 and 58 have rubble in their upper strata, similar to the brick and mortar rubble in the main cellar. In fact, Feature 57 mends with Depositional Units 12c and 12d; suggesting that material from 12g and 13 were placed into Feature 57, and portions of these same materials also filtered down and/or were mixed into the charcoal layer (12d) and the silty soil (12c) beneath it. There is also a ceramic cross mend between the upper strata in Feature 58 and Depositional Unit 13, the uppermost rubble in the main cellar. Possibly, both barrel features were partially filled (Feature 58 with the material from Joel and Jotham Post's drug shop) and then the filling was completed with the addition of the brick and mortar rubble. Another artifact link between the charcoal layer, rubble above the burn, and the rubble fill in the upper portions of Features 57 and 58, is the occurrence of crucibles in all of these contexts, with the greatest number of fragments in 12d and e, the charcoal layer itself. If this association between the rubble and Feature 58 is correct, the rubble, and thus the demolition, may post-date Joel and Jotham Post's occupation (1793-1797).

The cellar and features are filled, and the lot is made level for new construction. As part of this new construction, Feature 46 is dug and built into the ell fill deposits. The feature is then abandoned and filled with commercial refuse (Depositional Unit 18a) and capped with demolition debris (Depositional Unit 18b, during the 1820s. These latter two units are discussed in more detail below. Remnants of this new construction within the lot are few, e.g., the walls at the rear of the lot. Leveling during 1983 appears to have removed most of the mid-nineteenth-century structure, except the foundation walls along the lot lines.

Of all these cellar and feature deposits, a few contain the types of materials that are needed to address the project research design. As noted above, the artifacts in Feature 58 can be used to describe activities within a late eighteenth century drug shop. The archaeological and historical evidence suggests that Depositional Unit 12d and e, f, g and 13 are probably associated with the Van Voorhis gold, silver, and jewelry shop, and possibly his or a partner's residence. Depositional Unit 12c is not included as part of Van Voorhis's assemblage. This deposit is below the charcoal layer and appears to contain mid-eighteenth-century material (MCD 1759) which, given currently available historical data, predates the Van Voorhis occupancy. Therefore, Depositional Unit 12c cannot be confidently linked to Van Voorhis.

The crucibles will be examined as examples of materials involved in late eighteenth-century metallurgy in New York City, and then compared to crucibles and associated soils recently found in Charleston, South Carolina (Zierdan et al. 1983). The domestic

items, mixed in with the brick/mortar rubble and charcoal, were unusual in terms of their quantity, high percentage of completeness, and unusual location (i.e., in the charcoal layer). Given the frequency and percentage of completeness of the ceramic vessels in these deposits, this refuse does not represent sheet trash or sweepings from a house or shop, but most likely secondary refuse from a kitchen and dining area. Therefore, these domestic materials can be used to study the household goods of a late eighteenth-century metallurgist, and/or the food-serving activities within a gold, silver, and jewelry shop.

Depositional Unit 18 consists of fill deposits associated with Feature 46, the stone and brick structure in the northeast corner of the lot (Figure VII.4). The depositional unit is subdivided into two smaller units: 18a and 18b. Unit 18a is those deposits excavated from within the stone and brick structure itself, while 18b represents those deposits overlying Feature 2 (the charcoal deposit in the ell) and cross mending with the interior fill of Feature 46 (Figure VII.4 and see Figure VI.11). It is hypothesized that at one time, 18b extended over 18a (i.e., the reason for the cross mends) and that the construction of the drain (Feature 6) and the air shaft removed these deposits, in addition to the upper portion of Feature 46. The four strata within Depositional Unit 18a have a high frequency of artifactual material. There is a ceramic MNV count of 88, with a fragmentation index of 2.08. Ceramic vessels include numerous brown stoneware wheel-made, wine/liquor bottles/vessels, which are rare in archaeological sites (Webster 1971:193) (Plate VII.16). In addition there are plates, bowls, tea cups, saucers/bowls, chamber pots, small- and large-mouthed jars, and crucible fragments, with an 1800 ceramic TPQ and 1806 MCD. Glass vessels consist of wine/liquor bottles, tumblers, snuff bottles, vials, and pharmaceutical bottles. The glass TPQ is 1813. Small finds within the feature's assemblage include keys, buttons, clay pipes, a pocket knife, and architectural-related items. Based on documentary evidence, it appears that this redeposited fill, which is commercial and possibly domestic in nature, may be associated with David Durham, who resided at 150 Pearl Street but maintained an auction and commission merchant business at 144 Pearl Street, from ca. 1810 to 1820+ (U.S. Bureau of Census 1810, Longworth's American Almanac, New York Register, and City Directory 1810). By at least 1830, the lot was occupied by Smith, Kane and Brush, merchants (See Appendix C, Section 2). There appears to have been no residences within the lot in the 1830s.

Along with the approximately two dozen stoneware wine/liquor shaped bottles, there are three other stoneware vessels, all less than 50 percent complete, which were identified as "nineteenth century style bottles" (South 1977). South dates such bottles to post 1820, but, given the overall dates of 18a and the similarities between these bottles and the wheel-made vessels which have a TPQ of 1800, it was decided to use 1800 as the TPQ for the deposit.

Depositional Unit 18b consists of those strata overlying the charcoal deposit in the ell extension. The most noteworthy aspect of this depositional unit is the high frequency of architectural items, e.g., over 105 kilos of bricks. The ceramic component of the assemblage is very similar to that of Depositional Unit 18a. Ware types include creamware, pearlware, red-bodied engine-turned earthenware, buff/yellow-bodied slipware, delftware, grey salt-glazed stonewares, and Oriental export porcelains. These ceramics yield a MCD of 1779, and a TPQ of 1820. The MNV count is only 7, with 86 percent falling into the less than 25 percent complete category. Other artifacts within the 18b assemblage include wine/liquor bottles, case bottles, tumbler and glass funnel fragments, keys, clay pipe fragments and metal tool parts.

Many vessels within Depositional Units 18b cross mend with those in Feature 46 (Depositional Unit 18a). This suggests that after the feature was no longer in use, it was filled with commercial, and possibly domestic, refuse. Then it continued to be filled with this refuse, but with the addition of brick and mortar rubble. The latter also extended across the area of the ell, covering those earlier deposits which sealed the lower portions of the ell cellar.

Given the linkage between the two depositional units, No. 18b is also probably associated with D. Dunham and Company. Therefore, both 18a and b can be used to describe the range of items sold within stores and/or auction houses along Pearl Street in the first quarter of the nineteenth century. However, these deposits are not suitable to test the project's research hypotheses, given their probable commercial association.

Depositional Unit 19 represents a group of fill deposits that both overlie Feature 46 and are beneath the brick drain, (Feature 6) in the northeast corner of the lot (Figure VII.5). Ceramics from this fill deposit include creamwares, grey salt-glazed stonewares with Albany slip, brown salt-glazed stoneware bottles, delftware with blue glaze, pearlwares, and whitewares. The presence of green transfer printed pearlwares suggests a post-1825 TPQ. The fills' MCD is 1793. The ceramic MNV is only 2, and both are less than 25 percent complete. Additional artifacts from these fills include wine/liquor bottle and tumbler fragments, clay pipe fragments, faunal and floral remains, and architectural debris. These fills probably represent a bedding for the brick drain in the rear of the lot.

Depositional Unit 14 represents a pit, of an unknown function, in the rear yard area. Cultural material recovered from the pit was extremely fragmentary and ranged from prehistoric artifacts to plastic. Additional artifacts include wine/liquor bottle fragments, linoleum, buttons, pipe fragments, creamware, delftware, Oriental export porcelains, red bodied earthenwares, and faunal materials.

Depositional Unit 22 is a layer of overburden and rubble covering all excavated portions of Lot 18 (See Figures VI.11, 12, and 14). These strata contain a mixture of seventeenth- through twentieth-century materials. A partial listing of artifacts recovered from this assemblage includes blue decorated delftware, majolica, creamwares, pearlwares, Oriental export porcelains, prehistoric ceramic sherds, plastic, soda can closures, asphalt tiles, a notebook binder and crucibles. Architectural-related artifacts clearly predominate within this depositional unit. Well over 100 kilos of brick were recovered from these strata. Based on the presence of aluminum pop can closures, asphalt tiles, and metal notebook binders, Depositional Unit 22 is associated with the 1983 razing of buildings within the lot.

Lot 18 exhibits one of the most complex stratigraphic sequences within the project area. However, this same sequence of events may have also occurred in other lots within the block, and around the same time. Lot 19 shows evidence of cellar filling and lot leveling during the late eighteenth and early nineteenth century. This same process also appears to have occurred in Lot 26, but only remnants of the sequence remain. Was there a major catastrophe within the block which led to these demolitions and lot levelings? There are several documented fires within and near the block (1778 and 1835). In the journals of Hugh Gaine (Ford 1903), there is also a reference to a fire at 148 Pearl Street in 1798. However, there is no evidence for a fire on the block. None of the lots contain burnt wood, brick, mortar, or structural debris, and the number of burnt artifacts is extremely low. The only evidence of burning is the charcoal and crucible deposits in the cellar of Lot 18 (Depositional Unit 12d and e). Therefore, the late eighteenth- and early nineteenth-century demolition material in 144 Pearl Street, and possibly the other lots, may represent changes in property use and ownership, whereby buildings that were standing since ca. 1700 were demolished to make way for new structures and businesses.

Remnants of earlier businesses within Lot 18 are extant, and will be examined further in the next section of this chapter. These deposits include the Post's drug materials, (Depositional Units 17a and b), the Van Voorhis artifacts in Depositional Units 12d, e, f, g, and 13, and the materials within Feature 46 (Depositional Units 18a and b). Further, the Van Voorhis materials will be studied as an assemblage from either the household of a late eighteenth-century gold/silversmith and jeweler, or from activities within the shop itself (e.g., entertaining of clients and/or meals taken during working hours). The landfill soils in Lot 18 (i.e., Depositional Unit 1) can be used to address the hypothesis involving landmaking within the block (Hypothesis 6).

4. Lot 16 at 140 Pearl Street

Phase III field effort identified several depositional units within Lot 16, the earliest of which was landfill. This latter

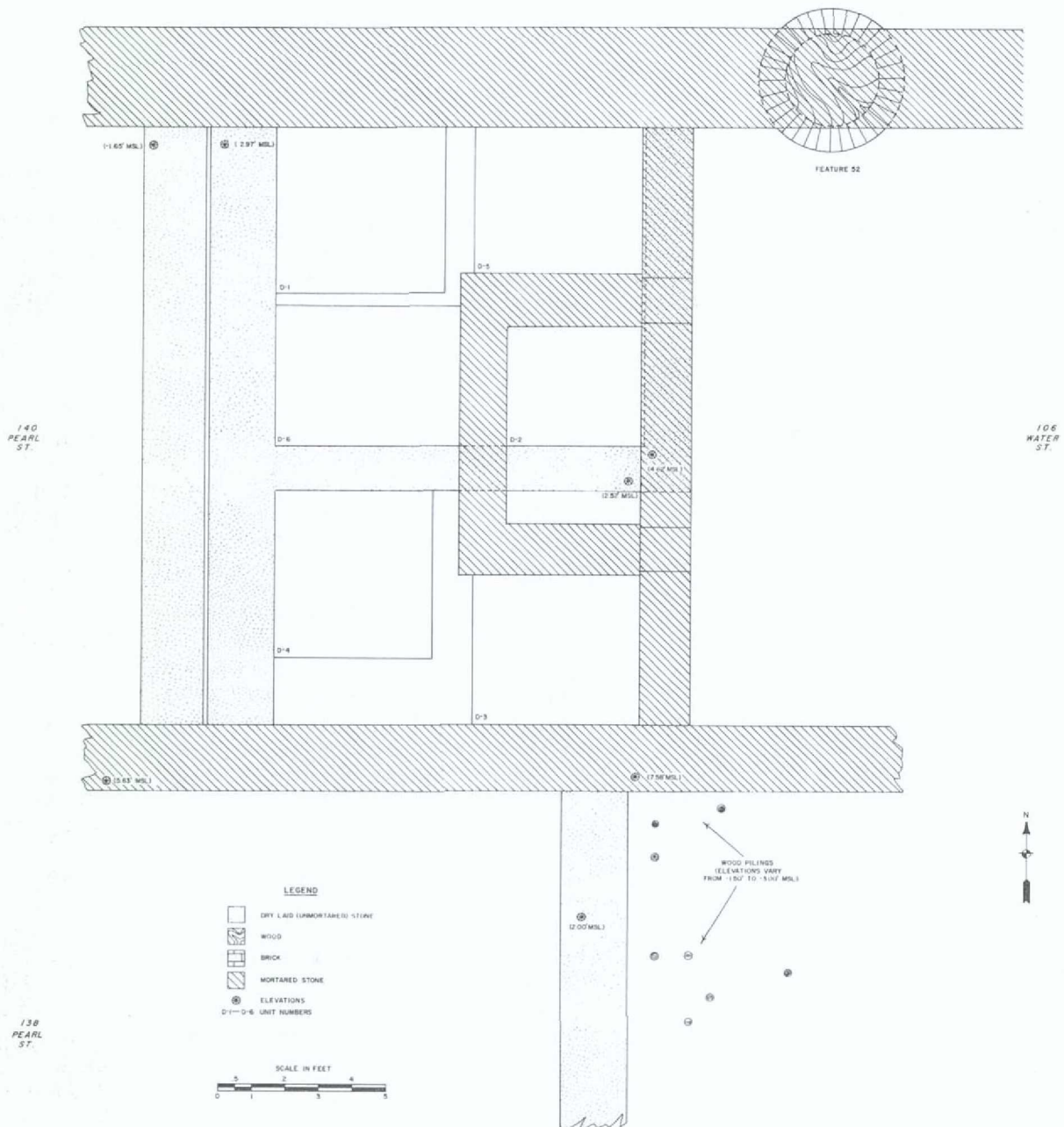
depositional unit included several deep fill retaining walls located within the lot proper and along its northern and southern boundaries. Above the landfill soils and fill retaining walls were several occupational deposits. These strata appeared to represent yard deposits and secondary fills. Overlying these strata were various soil deposits, some relatively sterile. These soils may have been a covering or "capping" above the yard refuse. There was also a shell/mortar layer which extended throughout the lot. This layer was interpreted as another capping deposit over yard refuse.

Builder's trenches for the north and south lot walls were located within the excavated area of the lot. (Note: This does not include the area of Deep Test #1, which contained fill retaining walls beneath the north and south lot walls). Trenches were also identified for the eastern wall of the dual western walls (Figure VII.6) and for the upper portions of the easternmost wall in the excavated area. Other structural elements within the lot included a possible air shaft to a twentieth-century structure fronting on Water Street, and a truncated circular brick well found beneath the north lot wall (Figure VII.6). Fill within the well appeared to date to the early nineteenth century.

These field interpretations were refined as a result of the artifact analyses, and 13 depositional units were identified within the lot: (1) landfill, (2) redeposited landfill under the north wall of a rectangular structure, (3) a shell/mortar layer, (4) redeposited fill, (5) a builder's trench for the north lot wall, (6) demolition debris, (7) a builder's trench for the easternmost wall, upper section, (8) builder's trench to the south lot wall, (9) additional redeposited land fill, (10) builder's trench for the easternmost wall of the dual western walls, (11) a builder's trench to the north, south, and west walls of the rectangular structure, (12) a concrete slab and bedding for the slab, and (13) fill inside Feature 52, a brick well. Strata descriptions for these depositional units are presented in Appendix D, Table D.4. The major distinction between the field interpretation and subsequent analyses based on the artifactual data is the absence of any "yard deposits" within the lot. Such deposits were reinterpreted as various fills, possibly within a cellar. This is discussed in more detail, below.

Landfill (Depositional Unit 1) was identified in all excavation units in the lot, except Unit D-7, the brick well. The deposit consists of a range of soil colors and soil textures (See Appendix D, Table D.4). Artifact content is characterized by a low density and a high degree of fragmentation. Historic material within the deposit includes delftware, majolica and redware ceramics, and small amounts of red and yellow brick. All identified ceramic vessels are less than 25 percent complete. Glass artifacts are very sparse, and none are datable. Clay tobacco pipes account for a large percentage of the small finds. Prehistoric materials are also present, but are extremely

FIGURE VII.6:
Barclays Bank Site
Structural and Feature
Plan View Detail For
Lot 15/138 Pearl Street &
Lot 16/140 Pearl Street



fragmentary, consisting of ceramic sherds, debitage, and biface fragments. Actual frequencies of prehistoric artifacts are fairly low, but they are present throughout the landfill in Lot 16.

Dates for this depositional unit, with one exception, are uniformly late seventeenth to very early eighteenth century, and are consistent with documentary evidence for landfilling activities within the lot. The MCD for these soils is 1696 and the ceramic TPQ is 1700. The anomalous date occurs in Unit D-4, Stratum X, and is a ceramic TPQ of 1740. It is based on a single sherd of Jackfield, probably attributable to flooding of the excavation unit and subsequent loss of some stratigraphic control.

Structural elements in Lot 16 include walls, builder's trenches, and a mortar and shell surface. The westernmost stone wall and lower portions of the easternmost wall (Figure VII.6) are some of the earliest within this area of the lot, and probably functioned as landfill-retaining structures. This interpretation is supported by the elevations of both walls. In the case of the lower portion of the easternmost wall, its bottom was not encountered at -6.00 feet M.S.L., the deepest extent of excavation. The lowest elevation of the westernmost wall is at least equally deep. These fill-retaining structures were probably associated with either Christina Veenvos, the holder of the original water lot grant, or John Abeel, a merchant to whom Veenvos sold the area corresponding to Lot 16 within two months of receiving the grant. The grant was awarded in 1696 and by 1702 a house was listed on the lot. These walls were, in all probability, constructed sometime between 1696 and 1702.

There is also an east/west oriented stone wall (See Figure VII.6) within the center of the excavated area which appears to be yet another fill-retaining wall. This wall extends to a fairly deep elevation and its location conforms to the original water lot grant boundary line. It was built either by Veenvos or Miles Forster, the owner of the water lot to the south of the Veenvos/Abeel property.

Abutting the westernmost deep wall is a second dry-laid stone wall. This wall does not extend very far into the landfill, i.e., 0.91 feet M.S.L. A builder's trench (Depositional Unit 10) was identified for this second west wall. Artifacts within the trench are few in number and highly fragmentary. The two dated sherds are not enough for calculating a MCD. The elevation and location of this wall suggest that it functioned as a structural wall; but to what structure is unclear.

The upper section of the easternmost stone wall also had an associated builder's trench (Depositional Unit 7). The artifact assemblage within the trench is highly fragmentary, containing only two identifiable ceramic vessels, both less than 25 percent complete. The unit's MCD is 1776, suggesting that this upper wall served as the rear of an eighteenth-century structure fronting on Water Street.

The builder's trenches for the north and south lot walls (Depositional Units 5 and 8) are present in Units D-3 and D-5, respectively (Appendix D, Table D.4). Dates for these trenches are similar: a 1700 MCD and 1690 TPQ in the case of the south wall, and a 1679 MCD and 1700 TPQ for the north. The dates of the builder's trenches appear to link the walls to the initial building episode within the lot. However, the early dates may simply represent redeposited landfill placed within the trenches, and not the actual date of construction.

Both the north and south lot walls consist of multiple constructions. Dating of the upper portions of these walls is somewhat problematic, given the absence of builder's trenches. Also, because of the lack of documentary evidence for the period between 1740 and 1789, it is not possible to determine precisely which building or buildings the upper lot walls represent.

The rectangular structure in the eastern portion of the excavated area represents one of the final building episodes on the property. Its walls, consisting of stone set in concrete, were exposed during the excavation of Unit D-2. While material recovered from the builder's trench (Depositional Unit 11) to this series of walls did not yield any diagnostic material, the fill within the structure dates to about the turn of the twentieth century. Beneath these fills, in Unit D-2, is a concrete slab and associated bedding (Depositional Units 12a and 12b). This slab and bedding overlie landfill deposits. The bedding for the concrete slab contains a number of deteriorated wooden planks which are oriented north/south. These planks are similar in appearance to planking found in the western portion of 110 Water Street. The boards in both lots may have served as a spread/footer complex. Artifacts within the bedding level (Depositional Unit 12b) are sparse, and no reliable MCD could be calculated. Based on these attributes, the rectangular structure, which extends into 140 Pearl Street, may have been an air shaft to a building fronting on 106 Water Street.

In all excavation units except D-2, the southern portion of D-6, and D-7 (the brick well), there is a layer of mortar and shell (Depositional Unit 3) (Appendix D, Table D.4). This deposit varies in thickness from .1 foot to .35 feet, and also slopes noticeably towards the south. It should be noted that the mortar and shell was reinforced with metal in Unit D-4. This may represent a later repair to the original surface. Artifact density within this matrix, which appears to date to the first half of the eighteenth century, is extremely low. There are only three ceramic vessels in this deposit, and all are less than 25 percent complete.

It seems likely that the mortar/shell deposit served as a capping or floor over landfill soils, possibly within a cellar. This floor may be associated with a structure on the Water Street frontage. It should be noted that a similar method of flooring appears to have been used in Lot 19/146 Pearl Street. It is not

possible to associate the mortar and shell flooring in Lot 16 to a particular building or occupant(s), nor will it provide any data germane to testing the project's research hypotheses.

Above the mortar layer is a mixture of redeposited fills, some of which contain both landfill and modern materials (Appendix D, Table 4). Delineation of the number and nature of fill episodes actually present is difficult as is the dating of the these soils. However, ceramic cross mend analysis and comparison of soil matrices do provide a few clues for the interpretation of some of these fills. Depositional Unit 2 (Appendix D, Table D.4), identified as redeposited landfill under the north stone wall to the rectangular structure, has a soil matrix which is very similar to that of the landfill. In addition, there is a cross mend between this fill and D-5, Stratum VII, which is a landfill deposit. Artifact density in Depositional Unit 2 is very low, and the single ceramic vessel present is less than 25 percent complete. Therefore, in this area of the lot, it appears that landfill has been redeposited in conjunction with the construction of the rectangular structure.

Depositional Unit 4a (redeposited fill) (Appendix D, Table D.4), occurs in all areas of the lot except for Unit D-3. Though soil matrices vary, as do date ranges (eighteenth to early nineteenth century) and levels of modern contamination, several strata within this deposit do cross mend. As with most of the fills in this lot, ceramic vessels within 4a are all less than 25 percent complete.

In Depositional Unit 4b, there is a wide range in artifact dates, as in 4a. The MCD for 4b is 1713 and the TPQ is 1762. The artifact assemblage is quite mixed, including bellarmine sherds, which date to the seventeenth century, and modern debris (e.g., plastic, linoleum). Ceramic vessels are again very fragmentary (i.e., fragmentation index of 1.20). The presence of very early materials in 4b indicates that the fill contains redeposited landfill.

The final depositional unit within this group of redeposited fills is No. 9. It differs only slightly in artifact content from 4b, but appears to be predominantly redeposited landfill. The mean ceramic date for this depositional unit is 1707, and the fragmentation level is very high.

These fill deposits contain fragmentary and temporally and functionally mixed artifact assemblages. Some consist of both modern debris and original landfill materials. They clearly represent displaced refuse contexts, i.e., trash removed from original place of disposal, and therefore cannot be used to address the project's research design. One interesting observation about these fill deposits, however, is the relatively high frequency of clay pipes (Plates VII.17 and VII.18). Documentary evidence does indicate that tobacconists were located at 104 Water Street from

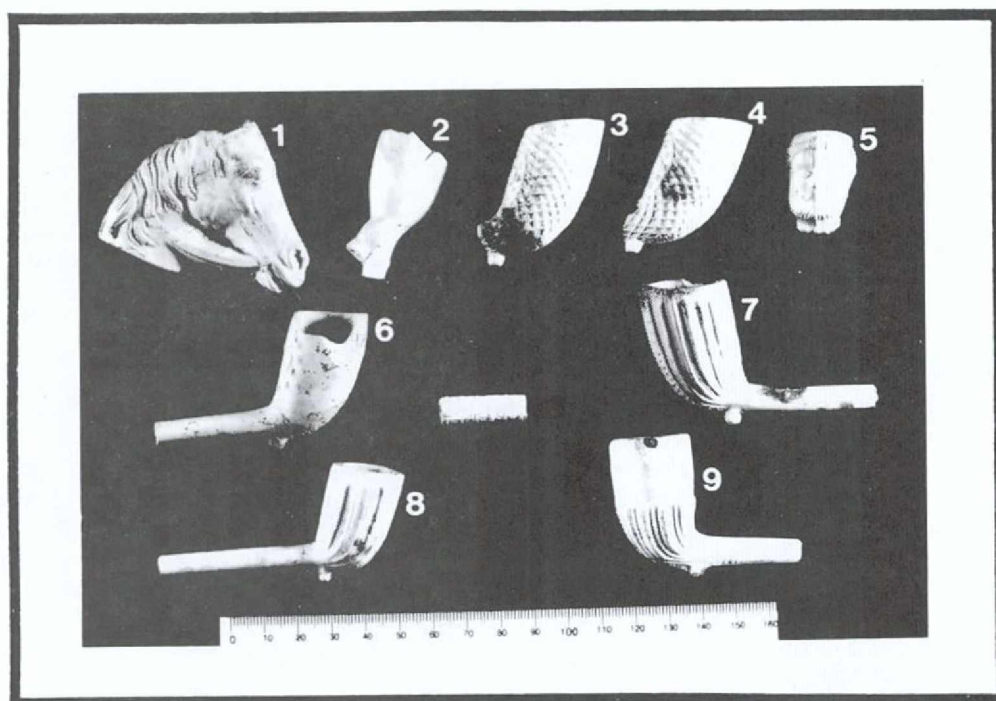


PLATE VII.17 Pipes from Unit D-2, Lot 16/140 Pearl Street. Numbers 1 and 2 are marked with an 'M' beneath a crown and Numbers 3, 4 and 6 are TD pipes.

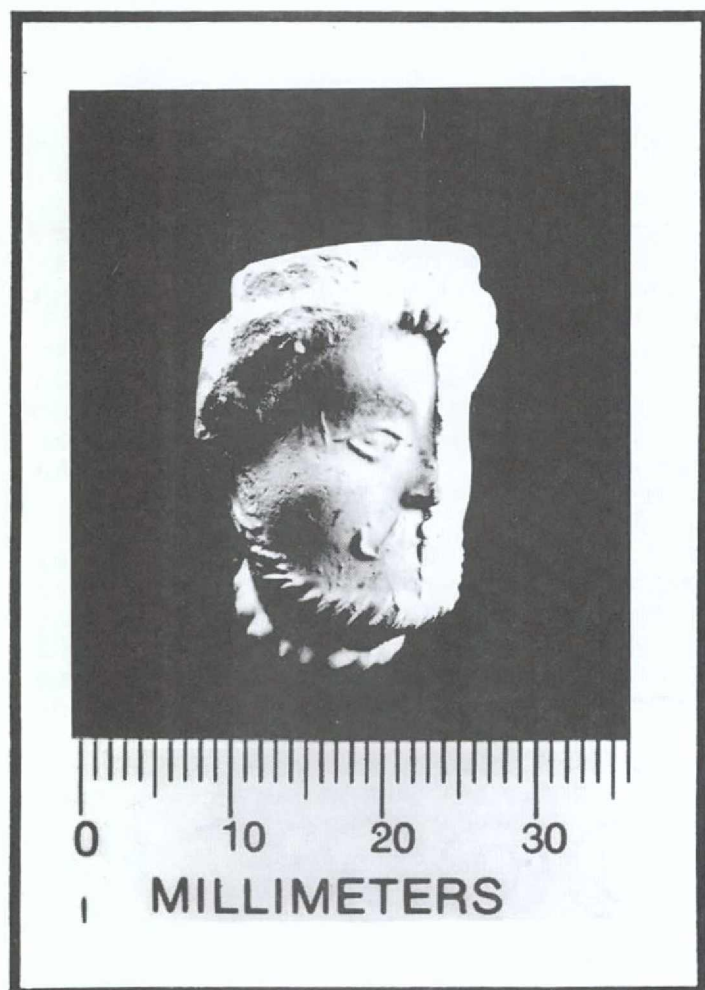


PLATE VII.18
Close-up of pipe from Unit D-2.
The right side of the head is slightly damaged
but the left side has 6 stars in the turban and
"OF AMERICA" around its crown.

1791 to 1794, and at 110 Water Street in 1808. Walker (1966:89) says that TD pipes with letters surrounded by 13 stars, stars around the rim, leaves along the mould line, and a network of lines on the bowl (See #3 and 4, Plate VII.17) have been found in contexts ranging from the late eighteenth century to the mid-nineteenth century. The shapes of the Lot TD bowls are very similar to some dated by Noel Hume to 1780-1820 (1969b:303,#21), and another TD pipe with a simpler decoration (#6, Plate VII.17) closely resembles a bowl shape dated to 1790-1820 (Noel Hume 1969b:303#25). None of the pipes show use. It is probable, therefore, that these pipes are associated with one of the nearby tobacconists, but their location in displaced refuse precludes their application to the project research questions.

Northeast of this area of displaced fills, there is a circular brick well (Feature 52) beneath and truncated by the north lot wall (Figure VII. 6). Though disturbed, accidentally, by backhoe activity, it is possible to identify three distinct strata within the well. Stratum I consists of a mixture of dark brown and grey-brown sand and silt, and has a high artifact density. There are a large number of vessels (48 ceramic, 4 glass); and while most are less than 25 percent complete, three are 75 to 100 percent complete and two are 25 to 50 percent complete. Though the majority of ceramic cross mends in Feature 52 are within Stratum I, there are mends among all three strata within the feature. For this reason, the fill within the well was placed within a single depositional unit (No. 13). The date of this depositional unit is ca. 1820, based on both ceramic and glass TPQs.

Stratum II is a yellowish-brown sandy silt. The artifact density remains high and the dates are consistent with those found in Stratum I. The amount of glass artifacts increases dramatically in this stratum, however, and continues to rise sharply in Stratum III. The glass consists, in large part, of castor/cruet sets (Plates VII.19 and 20). These are tablewares, usually in sets of four cruets, which were designed to sit in a rack (castor) for table use. They generally contain condiments such as catsup, mustard, club sauce, etc. The cruets are made in a process termed 'blown-three-mold'. The blown-three-mold process is a uniquely American development and was created in order to provide an inexpensive alternative to imported cut glass (McKearin and Wilson 1978:352; Spillman 1982, Plate 187).

There are four types of cruets represented in this assemblage, each designed to serve a particular purpose. One type consists of an outside-ground finish, which would accept a press-on metal shaker top. Presumably this type is used for dry condiments. A second type exhibits a somewhat flared finish which is ground on the inside in order to fit a ground-glass stopper. A third type is similar to the second, except that the lip is pinched to form a pouring spout. The presence of such a large number of cruets, which have an 1813 to 1830 date range, suggests that the origin of this deposit may have been a store on Water Street.

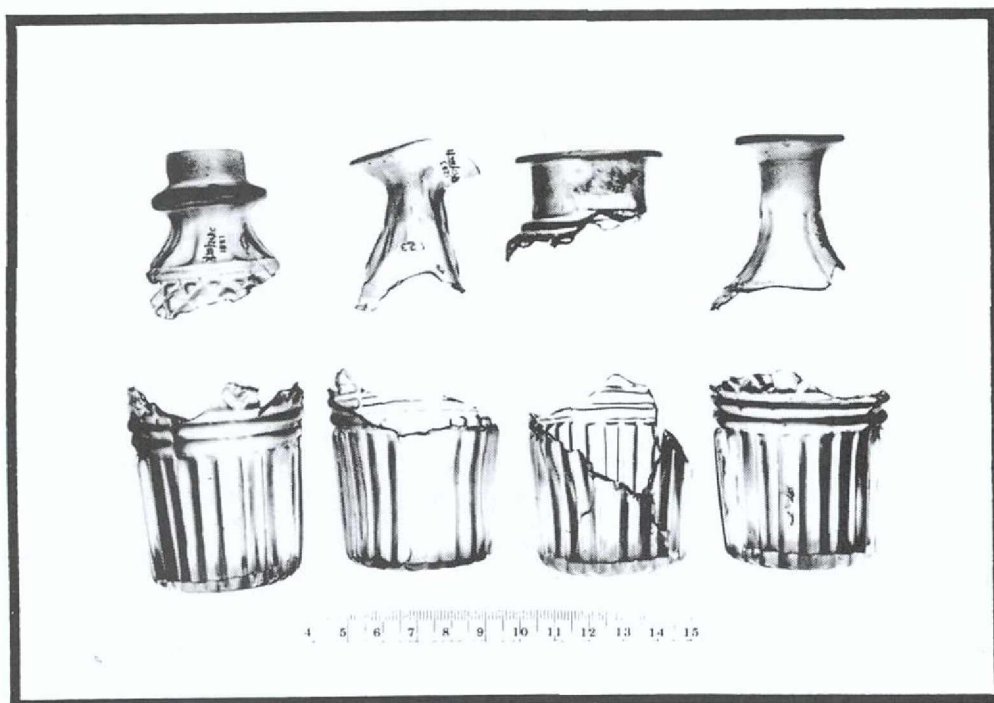


PLATE VII.19 Set of Four Blown-Three-Mold Cruets. Unit D-7, Feature 52.

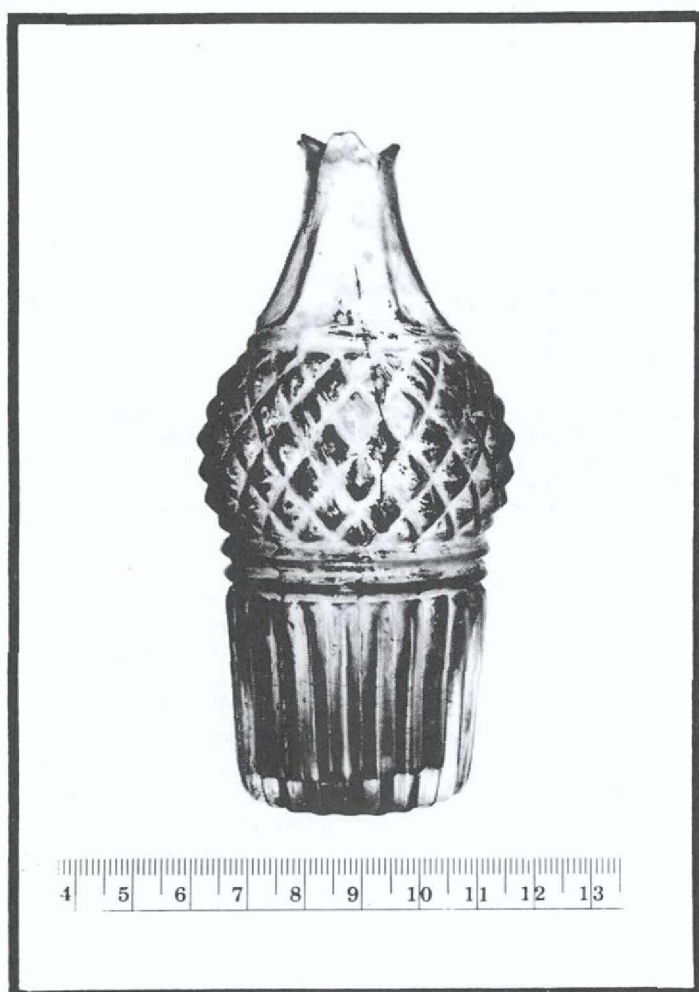


PLATE VII.20
Blown-Three-Mold Cruet.
Unit D-7, Feature 52.

Stratum III is made up of a black silt, mixed with some lighter colored silt. This is the basal level of the well and it contains by far the greatest concentration of artifactual material. Its assemblage dates are almost identical to the upper strata. It is in this stratum that most of the cruet bases occur.

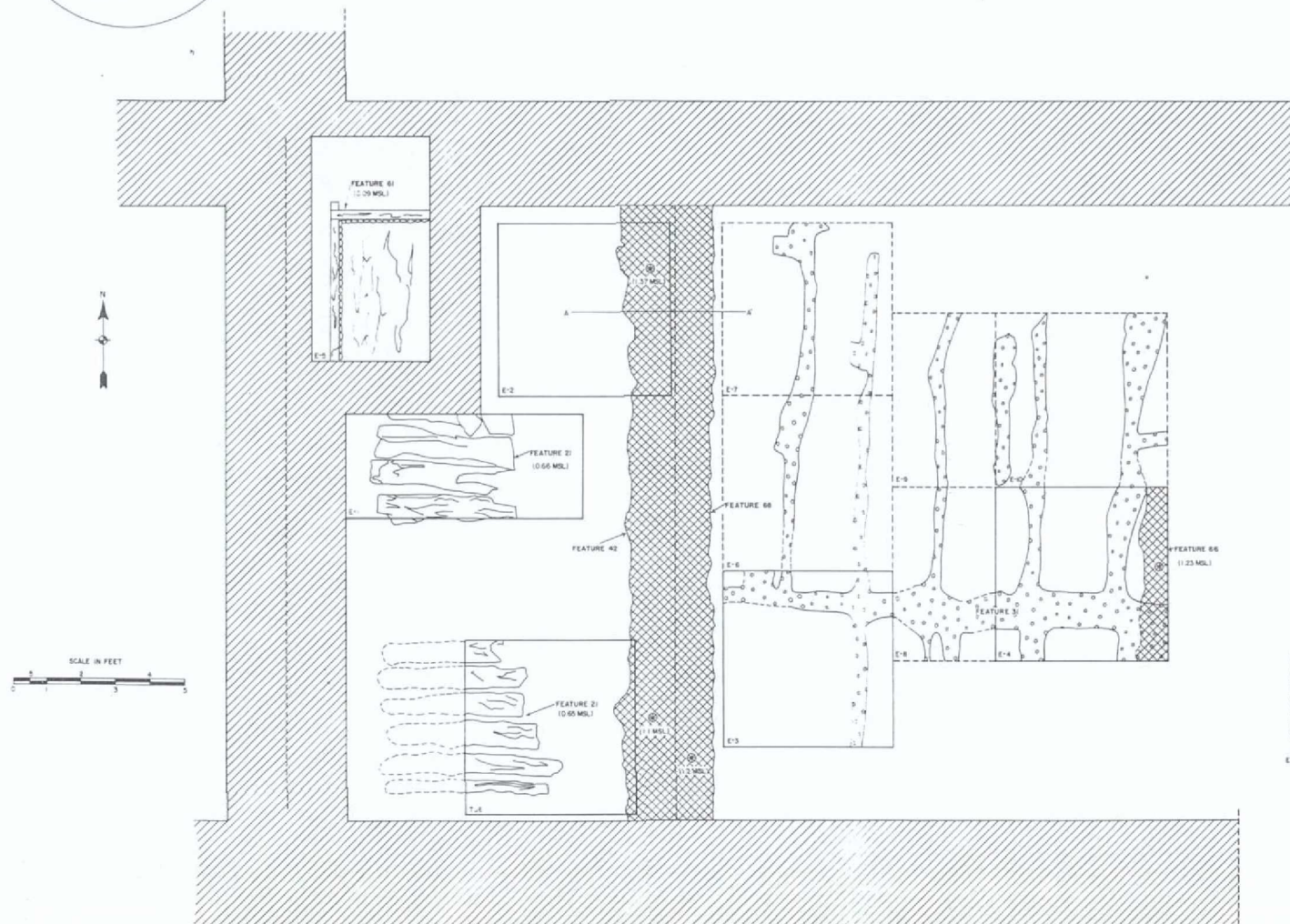
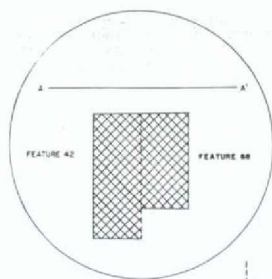
Though the ceramic fragmentation index is low (i.e., 1.11), many of the glass vessels within the feature were reconstructable. This factor, in addition to the high frequency of artifactual materials, suggests that the fill within the well represents secondary refuse. This refuse may have been a result of cleaning activities within a business, or more likely, a change in businesses whereby one commercial establishment is replaced by another (See Table VII.1). The commercial artifacts within the well cannot be used to test the project's research hypotheses. The latter focus on residential/household activities within the block. However, materials from the well can be used to describe the range of items being sold by establishments along the Water Street side of the block. A discussion of these commercial activities will be presented in Section D of this chapter. An association to a specific store along Water Street is not possible, as the well, like Feature 48 in Lots 19 and 18, straddles a lot line (i.e., Lots 17 and 16). Around 1820, 106 Water Street was occupied by Jno. McNeish, a watchmaker, while 108 Water Street was vacant. A store did occupy 108 Water by 1830 (William R. Smith and Company) (See Appendix C, Section 2).

The remaining depositional unit in the lot (No. 6) consists of demolition strata (Appendix D, Table D.4). These deposits are characterized by massive quantities of brick and mortar rubble and temporally mixed artifacts, with a high frequency of modern materials. Given the displaced context of these deposits, they will not be used to address the project's research hypotheses.

5. Lot 26 At 110 Water Street

Field efforts within 110 Water Street identified four general archaeological contexts: river bottom, landfill, occupation deposits, and demolition debris. Several structural features were also defined. The uppermost was a brick pavement, five courses thick, which covered the entire lot. Below the pavement were several walls. Features 68 and 66 (Figure VII.7) were two foundation walls to a building which fronted on Water Street. Within these two walls were floor board remnants (Feature 31). Adjacent to Feature 68 was another north/south oriented wall (Feature 42), possibly associated with a later construction episode within the lot. West of Features 42 and 68 were more wood planks (Features 21 and 69), oriented east/west, which were interpreted as the remains of an outbuilding. In the northwest corner of the lot, in Unit E-5, was the base of a wooden structure, probably a cistern. This feature was similar in construction to Feature 1 in Lot 18. In addition to these structural elements, the lot also contained several pit features.

FIGURE VII.7:
Barclays Bank Site
Structural and Feature Plan View Detail
For Lot 26/110 Water Street



TEST CUT 110/112

LEGEND

- DECOMPOSED WOOD STAINS
- MORTARED STONE (LOT PERIMETER)
- MORTARED STONE (INSIDE LOT)
- WOOD
- ELEVATIONS
- UNIT NUMBERS
- TEST UNIT

Artifact analyses and re-examination of field records necessitated the refinement of these field interpretations. From earliest to latest, the lot appears to contain the following depositional units: (1) riverbottom, (2a) landfill, (2b) landfill with contaminations, (2c) landfill with cellar deposits, (3) cellar deposits with demolition and redeposited materials, (4) Feature 31, remnants of a cellar floor, (5) soils above and within Feature 61, a wood cistern (6) deposits below Feature 56 and above Feature 61, (7a) Feature 56, a wood box or barrel, (7b) a pit feature, (8a) fill below Feature 21, a possible cellar floor or spread footer complex, (8b) Feature 21, and associated soils, (8c) redeposited fill, (9) Feature 49 a pit feature, (10a) demolition debris, and (10b) demolition debris within an air shaft.

Riverbottom was encountered at -7.36 M.S.L in Unit E-4, beneath landfill deposits. It consists of a dark gray sand and silt with no artifacts. Landfill, without later intrusive materials, occurs in Units E-2, E-5, and Test Unit 6. This depositional unit (2a) is characterized by a low artifact frequency and a high degree of artifact fragmentation. The eight historic ceramic vessels identified within these deposits are all less than 25 percent complete. The deposit's 51 ceramic sherds include delft-wares, buff body earthenwares, red body coarse earthenwares, and Rhenish/Westerwald. One piece of creamware, too small to identify its specific form, was also recovered. It is possible that this sherd is intrusive, originating from an upper stratum. The ceramic assemblage provides a TPQ of 1680, which is just prior to the filling of the lot (Appendix C, Section 2) and an MCD of 1720. Glass in this depositional unit is fragmentary, and no specimens are datable. Other artifacts within the landfill deposit include shipping ballast, oyster and clam shell, leather scraps, an oyster drill, brick, mortar, window glass, and nails. The majority of the nails are handwrought, and some have roseheads. Floral specimens consist entirely of large and durable seeds (See Appendix F).

As in all other lots within the block, Lot 26 contains landfill with later intrusive materials. Strata in Units E-1, E-4, E-5, and Test Unit 6 make up this depositional unit (2b). Mean sea level elevations range from .11 to -7.36 (i.e., top of river bottom in Unit E-4). The artifact frequency of these deposits is fairly low, as are the ceramic MNV counts. Forty historic ceramic vessels were recovered from these soils, with a fragmentation index of 1.00. Ware types within the assemblage include delft-wares, buff-body earthenwares, Rhenish stonewares, salmon-body earthenwares, creamwares, Nottingham, Oriental export porcelains, white salt-glazed stonewares and plain stonewares. The glass assemblage is fragmentary, and the majority of sherds are unidentifiable. Other materials from these landfill strata include shipping ballast; oyster, clam, and mussel shell; leather scraps; and oyster drills. Prehistoric materials (5 debitage, 2 ceramics), are also present. Architectural items include brick,

building stone, mortar, slate, plaster, roof tile, nails, and window glass. Small finds consist of shoes, buttons, jewelry parts, bale seals, straight pins, fan parts, and pipe bowls and stems. Intrusive materials within these landfill soils include coal, cinder, linoleum, ceramic pipe/conduit fragments, slag, cut nails, wire nails, ceramic bathroom tile, vinyl/asphalt tile, and vinyl/linoleum. The latter materials contrast with the deposits' 1723 MCD and 1670 glass TPQ. The installation of Feature 61, a possible cistern, is probably responsible for the eighteenth-century intrusive materials. The soil below the cistern dates to 1762 (TPQ). The later materials most likely came from nineteenth- and twentieth-century construction activities.

It should be noted that Depositional Unit 2b is a catchall category, which includes all landfill deposits across the lot, that contain intrusive materials. These strata, which occur in a complex pattern within the lot, cannot be linked by cross mends, dating, or soil type. Only the presence of intrusive artifacts is their common denominator.

The earliest occupational feature within Lot 26 is Feature 61, a truncated wood cistern located at the base of Unit E-5. Unit E-5 is located within the confines of an airshaft, probably for a nineteenth-century five-story building (Figure VII.7 and Appendix C, Section 1). The date of the cistern is based on a ceramic TPQ from the soil beneath the feature (i.e. 1762). The structural elements of the cistern are similar to the other wooden cisterns within the project area (Feature 1 in Lot 20 and Feature 62 in Lot 18). Unfortunately, the construction of this feature cannot be linked to a specific occupancy within the lot because of the lack of owner/occupant data for the period 1732 to 1789.

The deposits within Feature 61 and the strata overlying the feature, all appear to be redeposited fills. As a result, they were combined into Depositional Unit 5. The fills in Feature 61 contain some mortar and building stone, but no brick. There is also wood, nails and window glass. Ceramics within the feature include creamware, delftware, pearlware, Jackfield, Oriental export porcelain, red body coarse earthenware, and white salt-glazed stoneware. Some of the earthenwares are waterworn. Soils above the feature have the same variety of artifacts, but also include brick. One of these upper soils, Stratum XXIII, contains prehistoric debitage, trade beads, shell, oyster drills and shipping ballast. Other materials include an air/enamel twist wine glass stem (1755-1780), a buckle, a button, shoe parts, a gun flint and kitchen utensils. Depositional Unit 5 has a count of 33 ceramic MNVs, producing a fragmentation index of 1.33. The unit's MCD is 1758, and the ceramic TPQ is circa 1820.

Depositional Unit 6 consists of all soils above No. 5, and below Feature 56, a possible wood box or barrel remnant. These soils contain large quantities of brick and mortar, in addition to handwrought and square cut nails, window glass, roof tile, and

slate; clearly demolition debris. Depositional Unit 5 did not contain such a large quantity of architectural materials. Other artifacts in Depositional Unit 6 include wine/liquor bottle fragments, a bridge fluted wine glass (1760-1810), tumbler and snuff bottle fragments; and Nottingham and Nottingham-type, creamware, delftware, pearlware, Oriental export porcelain, red body coarse earthenware, burned earthenware, gray salt-glazed stoneware, buff/yellow body earthenware, sgraffito, and Midlands-mottled ceramics. Slag, coal cinder, shell, leather scraps, a crucible, and an oyster drill are also present. The shell, leather scraps, and oyster drill suggest that Depositional Unit 6 contains redeposited landfill. The ceramic TPQ for this depositional unit is 1800 and the glass TPQ is 1760. There are 65 ceramic vessels, which produced a fragmentation index of 1.05. The MNV count for glass vessels is 11. Four peach pits were the only floral specimens in this depositional unit.

Feature 56 (Depositional Unit 7a) was identified in the field as a wooden box, with associated fills, (Strata XIV and XIX). In subsequent artifact analyses, several barrel hoops were identified within the feature assemblage, suggesting that Feature 56 was the remains of a barrel, that, with various soils, was used to fill the air shaft. These fill soils have a variety of ceramic wares including delftware, creamware, pearlware, gray salt-glazed stoneware, Rhenish/Westerwald, Oriental export porcelain, red-body coarse earthenware, buff/yellow-body earthenware, majolica, and a crucible. This assemblage, which has a 1795 TPQ, contains 29 identifiable ceramic vessels, of which all but one are less than 25 percent complete. Glass artifacts are fragmentary and most sherds are unidentifiable, except for color. Other artifacts include brick, mortar, handwrought and square-cut nails, window glass, hinges and washers, building stone, roofing tile, coal, slag, charcoal, metal, worked wood, one delft tile fragment, and a coarse red earthenware floor tile. These strata also contain landfill related materials such as shell, shipping ballast, one prehistoric ceramic sherd, and one trade bead. Floral specimens are represented by green pepper and raspberry/blackberry seeds.

Adjacent to Feature 56 is Depositional Unit 7b. The latter consists of three strata (XVII, XVIII, and XX) that are similar to Feature 56 in terms of soil type and overall artifact content. However, these three strata do not contain landfill material, and appear to intrude into Feature 56. The TPQ for Depositional Unit 7b is ca. 1800 while the TPQ for Feature 56 is 1795. There is also one sherd of transfer-printed ironstone (TPQ of 1880) in 7b. However, this sherd may be intrusive.

The various fills and features within the air shaft all appear to contain displaced refuse. Soils within and immediately overlaying Feature 61 (the cistern remnant) include both landfill materials and mid-eighteenth-to early nineteenth-century materials. Fills above these soils consist of eighteenth/nineteenth-century demolition debris mixed with landfill-related artifacts. Finally,

Feature 56, and soils adjacent to it, clearly represent mixed artifact contexts. Given the displaced nature of Depositional Units 5, 6, 7a and 7b, they will not be used to address the project's research design.

To the east of the air shaft (Figure VII.7) are two dry laid stone walls running north/south (Features 66 and 68). These may have been the eastern and western cellar/foundation walls for a structure that fronted on Water Street. The lowermost fill within the possible cellar is Depositional Unit 2c, consisting of landfill materials. These deposits are found only in Unit E-4, as none of the other units within the structure extended beyond -1.4 M.S.L. Materials within these soils include prehistoric debitage, trade beads, shipping ballast, shell, and leather scraps. Most of the 12 historic ceramics recovered from these soils are seventeenth and eighteenth century, primarily delftware, red body coarse earthenwares, and buff body earthenwares. There are only two MNVs and both are less than 25 percent complete. The 1720 ceramic TPQ for this unit is based on white salt-glazed stoneware sherds. Whether these soils represent primary landfill deposits or redeposited landfill is unclear. However, the occurrence of these soils between the two walls, both of which do not have builder's trenches, and the 1720 TPQ, suggest that they represent redeposited fills. The location of these fills, and their artifact context (i.e., landfill-like), suggested that they be lumped into a single depositional unit.

Directly above Depositional Unit 2c is No. 3, cellar deposits with demolition debris and redeposited materials. These deposits occur in both Units E-3 and E-4, and are stratigraphically distinct from Depositional Unit 2c, below it, and Feature 31, which intrudes into these deposits. Also, Depositional Unit 3 is characterized by soil colors and textures different from the other two contexts (See Appendix D, Table D.5).

It appears that Depositional Unit 3 was placed into the lot to raise and/or level the cellar floor prior to the construction of Feature 31. As with 2c, Depositional Unit 3 contains landfill materials in addition to later materials. A total of 249 ceramics were recovered, consisting of salmon body earthenwares, brown salt-glazed stonewares, creamwares, delftware, pearlwares, porcelains (both soft paste and Oriental export), red body coarse earthenwares, white salt-glazed stonewares, buff/yellow body earthenwares and plain stonewares. One crucible fragment was also found. These ceramics make up a total of 40 vessels (MNVs), which have a fragmentation index of 1.10. The MCD for this unit is 1770, and the ceramic TPQ is 1880, based on one sherd. The next TPQ, based on two sherds, is 1800.

Feature 40 was originally identified as a builder's trench for Feature 68; however, in profile (See Figure VI.19) this deposit does not continue to the base of the wall. Given that; (a) Features 68 and 66 appear to represent cellar walls/foundations,

and (b) the soils and artifacts in Feature 40 are similar to those in deposits immediately above Depositional Unit 2c, Feature 40 is most likely an isolated pocket of fill within the cellar. Therefore, Feature 40 is included within Depositional Unit 3.

Feature 31, the uppermost deposit within the possible cellar, consists of stains left by rotted wood boards (Depositional Unit 4). This feature is quite unusual in that the stains contain a large number of artifacts, including several nearly whole ceramic vessels. The frequency of materials in the soils surrounding the feature is much lower, and there are no ceramic cross mends between Feature 31 and these adjacent strata. It appears that the feature represents a wood sleeper complex as found in Lot 18/144 Pearl Street. The area between the boards would have been covered by cobbles. At some point, this cobble/wood sleeper complex was covered with a refuse deposit containing a high frequency of artifactual material. Over time, the wood in this complex deteriorated, allowing the artifacts to fall into the lower wood trenches, and not into the soil surrounding the boards, which would have been covered by the cobbles as in Lot 18. Then, the entire complex was truncated by modern cellar construction, leaving behind only the very bases of the artifact bearing trenches.

Depositional Unit 4 contains 983 ceramic sherds, and has a ceramic MNV count of 114 and a fragmentation index of 1.41. However, there are seven vessels which are 76 to 100 percent complete, and two which are virtually whole. This ceramic assemblage includes delftware, creamware, gray salt-glazed stoneware, Nottingham, pearlware, Oriental export porcelain, red body coarse earthenware, red body slipware, brown salt-glazed stoneware, soft paste porcelain, scratch-blue stoneware, buff/white body earthenware, Jackfield, and other earthenwares. The ceramic TPQ is 1800, based only on two small pearlware sherds, and the feature's MCD is 1772, based on 881 sherds. The glass TPQ is 1780. One striking aspect of the feature's ceramic assemblage is the presence of a set(s) of several delftware vessels. There are six white-glazed delftware cups and two saucers, all decorated with the same blue hand-painted floral pattern (Plates VII.21 and 22), but in three different variations. This probably reflects three different decorators. Each of the vessels has a number on its base, and the vessels with the same number have the same variation of the floral pattern. There is also a blue handpainted, floral pattern drainer with chamfered corners. This vessel would be used as an insert in a serving dish. Fish or meat would be placed on the drainer, allowing the juices to collect in the serving dish below. These delftware artifacts are especially unusual because of their high percentage of completeness.

Depositional Unit 4 also contains brick, mortar, nails, window glass, coal, charcoal, white clay pipes, shell, leather scraps, shipping ballast, trade beads, ceramic bathroom tile, linoleum, buttons, prehistoric debitage, and kitchen utensils. The presence

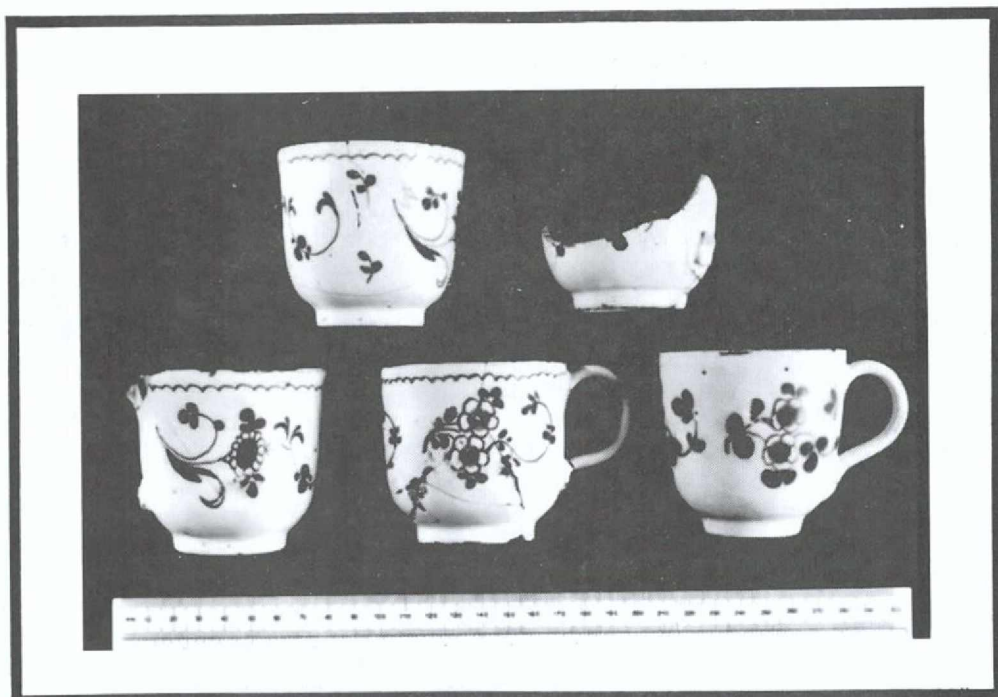


PLATE VII.21 Matching delftware cups from Feature 31. Probably English, circa 1760.



PLATE VII.22 Delftware saucers with blue floral motifs from Feature 31, Lot 26/110 Water Street. Note the individual painter's styles.

of modern materials mixed in with landfill related items may be explained by the lot leveling and construction activities related to the installation of the modern basement and concrete floor.

Despite the large number of vessels, and the occurrence of the unusual delft teawares, the historical association (circa 1772) of these materials is unknown. The utility of this feature for hypothesis testing is further hampered by the mixing of modern and landfill deposits into the area of decomposed boards. As a result, Depositional Unit 4 cannot be confidently used to address the project's research design.

Directly abutting the west side of Feature 68, is Feature 42, a north/south dry laid stone wall. The exact function of this wall is unknown; however, it probably served as a structural wall, possibly for an addition to the main structure fronting on Water Street. Originally, Feature 42 was interpreted as a fill retaining feature. Its shallow depth (-1.7 M.S.L.) compared to other walls on the block does not support this earlier interpretation.

To the west of Feature 42 and south of the air shaft is a dark brown and very dark grayish brown sand and silt that makes up Depositional Unit 8a. The latter underlies Feature 21, which consists of wood planking oriented east/west. Depositional Unit 8a probably represents a group of fill soils used as a bedding for the planks. Ceramics within 8a include delftware, red body coarse earthenware, buff/yellow body earthenware, some with combed lines, white salt-glazed stoneware and creamware. Only four MNVs are present and all are less than 25 percent complete. Since the sample size is so small, a reliable date for this deposit cannot be calculated. Other artifacts present are brick, mortar, nails, (handwrought and cut) roofing tile and window glass. White clay pipe stems and bowls, miscellaneous metal fragments, leather fragments, shell and one fragment of ceramic bathroom tile complete the assemblage. The tile may have entered these strata during unit flooding.

The wood and soils directly above the planks are grouped within Depositional Unit 8b. Based on initial field interpretations, the wood was identified as part of an outbuilding located in the back yard. Subsequent analyses redefined Feature 21 as a possible spread footer complex for a cellar floor or structural support. The soils directly above the planks vary from excavation unit to excavation unit, and include dark reddish brown, very dark grayish brown and very dark brown silts and sands. The ceramic assemblage within these soils include delftware, creamware, some pearlware, red-body slipware, gray salt-glazed stoneware and buff/yellow body earthenware. The unit's MCD is 1766, and the ceramic TPQ is 1780. None of the glass artifacts are datable. Other artifacts recovered from these soils include brick, mortar, shell, nails, and window glass. There is also some shipping ballast.

Below Feature 21 in Unit E-2 is an area of fill (Depositional Unit 8c). Within this fill, there are a total of 18 ceramic MNVs, all less than 25 percent complete. The MCD is 1743, while the ceramic TPQ is 1790 (based on one sherd) or 1762 (based on seven). Other artifactual materials include brick, mortar, shell, leather scraps and shipping ballast. Based on its artifact assemblage, ceramic MNVs, and percent of ceramic vessel completeness, this fill appears to represent a redeposited context. This fill also contains intrusive materials from demolition layers that lie above it (e.g., electric wire, plastic). The origin and function of this fill remains unclear.

Overlying Feature 21 and 31 is a demolition deposit (Depositional Unit 10a), which in turn is directly below a concrete and brick floor that covered the entire lot, with the exception of the air shaft. As expected, architectural remains are numerous, with large quantities of brick and mortar. Other architectural materials include nails (all varieties), screws, tacks, plaster, slate, building stone, ceramic tile, wood, and window glass. The remaining artifacts represent extensive mixing of early and modern soils, consisting of shell, leather scraps, trade beads, buttons, merchant's bale seal, white clay pipes, delftware, ironstone, vinyl/asphalt tile, safety glass, and plastic.

Depositional Unit 10b is demolition debris within the air shaft, exposed in Unit E-5. Five strata make up this depositional unit (Appendix D, Table D.5), and all exhibit a wide variety of artifacts, ranging from plastic to shipping ballast. The most frequent materials are brick and mortar. Within this depositional unit is Feature 49 (Depositional Unit 9), a circular stain surrounded by mortar. Artifacts within the feature include brick, mortar, window glass, shell, coal, slag, and late nineteenth/twentieth-century ceramics. The assemblage's MCD is 1811, while the ceramic TPQ is 1880 and the glass TPQ is 1903. There are only five identifiable ceramic vessels, and all but one are 25 percent complete. Several of these vessels cross mend with vessels found in Depositional Unit 10a. Feature 49 was originally interpreted as a truncated privy; however, based on its soil and artifact content it appears to be a pit intruding into the demolition debris. The function of the pit is unknown.

In summary, the deposits in Lot 26 at 110 Water Street have, overall, been severely truncated by the installation of a deep cellar/basement, a pattern which is prevalent in most lots along Water Street. As a result, few deposits within Lot 26 can be used to address the project's research design. These depositional units either are too fragmentary, contain too few artifacts, represent displaced refuse, cannot be linked to a documented lot occupancy, or are from unknown sources. The various structural elements and features within the lot also cannot be linked to specific, or even general lot occupations. Therefore, they cannot be used to test Hypotheses 1 and 2. Only the landfill soils, without later intrusive materials, are suitable for testing one of the project's research hypotheses.

6. Lot 25 at 112 Water Street

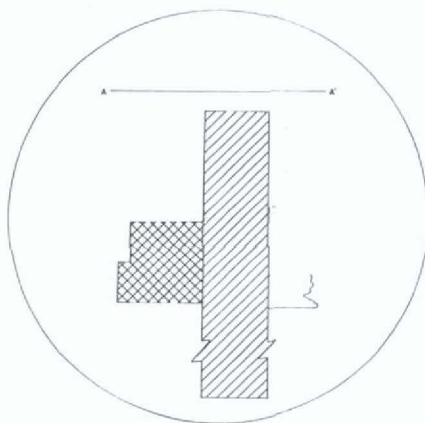
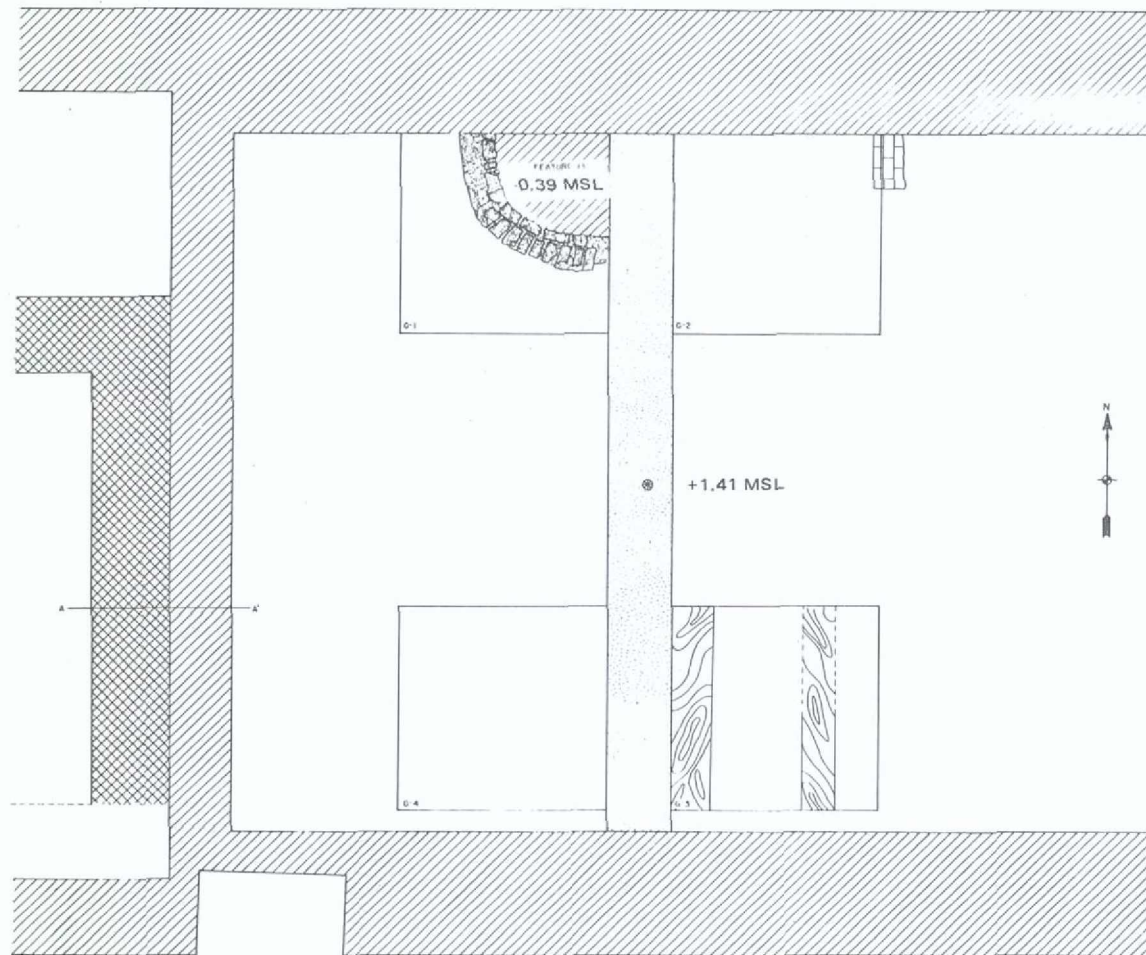
The four excavation units placed within Lot 25 exposed a wide variety of occupational deposits, sandwiched in between landfill and a concrete cellar floor which covered the entire lot. The variability in these shallow deposits (i.e. 1 to 2 feet thick) was the result of several different building episodes within 112 Water Street. Beneath the north and south lot walls were deep fill retaining walls. A third deep wall ran perpendicular to these two walls, bisecting the area under investigation (Figure VII.8). Unit G-1 exposed a one-quarter circular, yellow brick cistern, and its builder's trench. The feature was built against the intersection of the north/south running wall and the north lot wall. Other structural elements within the lot included a brick and mortar wall, or foundation, in Unit G-2; and a group of decayed boards in Unit G-3 (Figure VII.8). The total extent of the brick and mortar wall was not evident during field efforts; therefore, the wall's function could not be determined. The wooden boards were oriented north/south, and were located only to the east of the north/south trending wall. Their location and orientation suggested a flooring within a cellar.

Subsequent artifactual analyses refined these preliminary field interpretations, identifying five depositional units within Lot 25: (1a) landfill, (1b) landfill with later intrusive materials, (2) builder's trench for the north/south trending wall, (3) wood planking/flooring (4) fill associated with Feature 13, (5a) secondary fill (5b) secondary fill with redeposited landfill, (5c) more secondary fill, and (5d) demolition debris. Appendix D, Table D.6 presents the soil descriptions for each strata within these depositional units.

The landfill soils without intrusive materials (Depositional Unit 1a) consist of yellowish red sands, located between -0.33 and -0.99 feet M.S.L, in Units G-3 and G-4. In general, the artifact assemblage is low in density and highly fragmentary. Historic ceramics are present, but in quantities too small to calculate a reliable MCD. Other artifacts include four glass fragments, four miscellaneous architectural items, a small quantity of red and yellow brick, and about 1.2 kilos of shell. The fragmentary nature of the artifact assemblage is demonstrated by the absence of any identifiable ceramic vessels. Also, these soils contain no floral or faunal materials.

Depositional Unit 1b is comprised of landfill with later intrusive materials, and is restricted to Unit G-2. These strong brown sands, with mica, contain an artifact assemblage slightly higher in density than Depositional Unit 1a. Architectural materials include 2 kilos of brick, in addition to building stone, mortar, square cut nails and window glass fragments. Small finds artifacts are primarily white clay pipe fragments; however, there are also small quantities of charcoal, slag, charred wood, and melted glass. The glass assemblage consists of non-datable

FIGURE VII.8:
 Barclays Bank Site
 Structural and Feature Plan View Detail
 For Lot 25/112 Water Street



LEGEND

- WOOD
- CONCRETE
- DRY LAID (UNMORTARED) STONE
- MORTARED STONE (LOT PERIMETER)
- MORTARED STONE (INSIDE LOT)
- YELLOW BRICK
- RED BRICK
- ELEVATIONS
- UNIT NUMBERS



wine/liquor bottle sherds and a tumbler fragment. The six historic ceramic sherds recovered from these sands include delft-wares, buff earthenwares and redwares typical of landfill deposits, in addition to a single creamware sherd. This sherd produced a 1762 TPQ for the depositional unit. The assemblage contains no identifiable ceramic vessels. Prehistoric artifacts and floral remains are also absent. Documentary research has established that the landmaking activities on this lot occurred between 1694 and 1721 (see Appendix C, Section 2). By 1721, the lot contained two structures. Thus, the later materials (i.e. the creamware sherd and cut nails) in Depositional Unit 1b are intrusive. An alternative interpretation is that the entire deposit represents redeposited landfill.

In all cases, the deep landfill retaining walls within Lot 25 were used as foundations for subsequent structural walls. Several soil strata adjacent to these walls were identified in the field as possible builder's trenches; however, after artifact analyses, only one deposit, adjacent to the north/south trending wall, appeared to be a builder's trench. This trench is associated with the construction of the upper sections of this deep-fill retaining wall. The artifact assemblage within this builder's trench (Depositional Unit 2) is fragmentary and contains a high frequency of building materials. Architectural items include over 6.0 kilos of brick, in addition to nails, window glass, ceramic roof tiles and wood fragments. Four non-diagnostic glass sherds and fifteen historic ceramic sherds were also recovered. The depositional unit has a TPQ of 1750 based on a single sherd of coarse red-bodied agate ware. It is not possible to calculate a reliable MCD from the six datable sherds within the trench, which include delftwares, red-bodied earthenwares, a Bellarmine/Tiger stoneware sherd and piece of Oriental export porcelain. The fragmentary nature of this assemblage is illustrated by the occurrence of only two identifiable vessels, each less than 25 percent complete. Small finds contain a variety of artifact types such as a printing plate, leather scraps, fifteen white clay pipe fragments, a trade bead, buttons, pins, and a gun flint. Two intrusive materials were also recovered, i.e. ridged glass and rubber fragments. These materials could have been mixed into this stratum as a result of the flooding problem encountered during excavation.

In Unit G-2, there is a construction which appears to be related to the above-mentioned upper wall section. It consists of a slate footing underlain by a thick mortar lense. This footing, which is at the same depth as the builder's trench to the upper portion of the north/south wall (see Figure VI.22), extends out from the north lot wall. Its function is unknown; however, it may have supported a structure, east of the north/south wall, which has been removed by the excavation of the modern basement within the lot.

Depositional Unit 3, located in Unit G-3, consists of highly decomposed woodplanks, appearing primarily as soil stains (Figure

VII.8). Within these stains are a small quantity of artifacts, including three historic ceramic sherds, five glass fragments, a gun flint, two clay pipe stems, and unidentifiable metal fragments. the only datable item is one of the historic ceramic sherds, with has a TPQ of 1790. The artifacts recovered from within these decomposed planks are most likely from surrounding deposits.

These wood planks may represent a cellar floor associated with a structure fronting on Water Street. The foundation wall of this building would have been the north/south trending wall. The elevation of the planks, .76 to .96 M.S.L, supports the cellar interpretation. The wood may not have been the actual flooring to the cellar, but may have served as a support for the flooring. An alternative explanation is that the wood is a spread-footer complex for a structure no longer extant within the lot. Both uses for wood planking occur within the project area (i.e., in Lots 19 and 26, and possibly Lot 18).

The fill within Feature 13 comprises part of Depositional Unit 4. This yellow brick, one-quarter circular structure appears to have been a cistern (Figure VII.8). The walls of the cistern are built upon a footing of yellow brick and schist, and its interior floor is mortared stone. The top of the cistern is at 2.10 M.S.L; however, this is not the original extent of the structure, as its upper portion was truncated by later construction. The feature abuts and is mortared to both the northern lot wall and the north/south trending wall, forming a tight, waterproof seal.

Based on field observations, it appeared that the feature had a builder's trench. Subsequent analyses showed that this was not the case. The numerous ceramic cross mends (i.e. among nine vessels) and similar mean ceramic and TPQ dates among strata inside and outside of the cistern suggest that both the feature and area outside the feature were filled simultaneously. In addition, the quantity of yellow brick recovered from deposits outside the cistern's walls suggests that this filling occurred at the same time that the feature's top was truncated. These fill strata outside the cistern, in Unit G-1, are also included within Depositional Unit 4.

Depositional Unit 4 contains a large number of different artifact types, of which the architectural group is the most dominant. There are 114.2 kilos of red and yellow brick outside Feature 13, in comparison to 18.6 kilos from inside the cistern. The remainder of this artifact group is comprised of nails (handwrought and square cut), window glass, redware roofing tiles, delftware tiles, and mortar. Small finds include 78 white clay pipe fragments, 4 gunflints, and prehistoric debitage. The aboriginal artifacts indicate some inclusion of landfill deposits within this fill. The glass assemblage is primarily wine/liquor bottle fragments, with a few vial sherds. No datable glass specimens were recovered. A variety of ceramic ware types are repre-

sented, as well as a large number of vessels. A total of 58 MNVs have been assigned to this assemblage. The degree of fragmentation is high, with an index of 1.11. The MCD for these strata is 1776 and the TPQ is 1810. The 1810 date is based on black and brown transfer-printed pearlware sherds. The ceramic ware groups within the fill include creamwares, pearlwares, delftware, red-bodied earthenwares, salt-glazed stoneware and Oriental export porcelains. These wares are in the form of serving vessels, bowls, plates, and a chamber pot. Floral remains include fig/strawberry, pepper, raspberry/blackberry and elderberry seeds, each in relatively small amounts (see Appendix F).

The specific date of the cistern's construction is unknown. If built at the same time as the north/south trending wall, the cistern may date to the eighteenth century. This early date is also suggested by the use of yellow bricks to build the feature. The soils inside and outside of Feature 13 appear to represent a single filling episode. The 1776 MCD and 1810 TPQ for this depositional unit suggest that the filling took place while Amos Underhill, Hugh Stocker, or George B. Miller owned the lot. At the time of their ownership, the property was occupied by a series of tenants. Two of these tenants were tobacconists, and George B. Miller is listed as having a tobacco shop at 112 Water Street in 1813 (see Appendix C, Section 2).

The reason why similar fill deposits occur both inside and outside of Feature 13 may be as follows. It appears that the area around the cistern had been dug out, possibly in anticipation of extending a structure over the rear of the lot. This activity involved the truncation of the feature and the deposition of its upper brick courses to the west and south. This is reflected in the high yellow brick count in the fill outside of the cistern. The source of these fills, however, cannot be determined. They may have been from yard deposits within the lot, or may represent soils brought into the property for filling and leveling purposes. Given that the origin of these deposits cannot be linked to an occupancy within Lot 25, they cannot be used to address the project's research design.

The remaining depositional units within Lot 25 consist of secondary fills and demolition debris. The secondary fills found in Units G-2, 3 and 4, could not be linked to a single depositional event. Also, the source and function of these fills within each of the units was unclear. As a result, all secondary fills within an excavation unit were lumped into a single depositional unit. In most cases, these fills overlay previously discussed deposits. Depositional Unit 5a is located within Unit G-2. It is composed of strata containing a variety of artifactual materials. These include creamware, pearlware, red-bodied earthenware, porcelain, and stoneware ceramics, and wine/liquor bottle and glass tableware sherds. There are 12 ceramic MNVs, and only two vessels are more than 25 percent complete. The MCD for this depositional unit is 1769. There is only one datable glass artifact: a

post-1903 crown closure. Other modern artifacts within the unit include ceramic bathroom tile. These modern materials may have been mixed into Unit 5a during the removal of the overlying cement floor, by machine, or during unit flooding. They may also have entered the fill during the construction of the concrete floor.

The dominant characteristic of the strata in Depositional Unit 5a is the high frequency of yellow and red brick. The red brick may have come from the red brick structure located in the northeast corner of Unit G-2 (Figure VII.8). This possible pier or wall appears to have been truncated by later construction. The yellow brick is probably linked to the truncation of Feature 13. Thus, the same activity which destroyed the upper portion of the brick structure in Unit G-2, also impacted the cistern. This scenario is supported by the presence of ceramic cross mends between Depositional Units 4 and 5a.

Depositional Unit 5b, which is located in Unit G-3, contains three strata of secondary fill and redeposited landfill. The artifact assemblage is highly fragmentary, as demonstrated by a high number of MNVs, most of which are less than 25 percent complete. The ceramic ware types include delftwares, red-bodied earthenwares and a few stonewares. A MCD of 1712 was calculated for this assemblage, and the TPQ is 1740. The glass assemblage is comprised of wine/liquor and unidentifiable bottle glass fragments. Depositional Unit 5b also contains redeposited landfill materials, including three prehistoric ceramic sherds and a single flake. The unit also has some modern intrusive materials, i.e., safety glass.

The secondary fill in Unit G-4 comprises Depositional Unit 5c, which also contains some redeposited landfill. This assemblage is highly fragmentary and contains large quantities of building materials. The total brick weight (both yellow and red) is 76.2 kilos. Additional architectural materials include nails (handwrought and square cut), window glass, wood fragments, roofing slate, building stone and mortar. Other artifacts recovered include leather shoe pieces, shipping ballast, prehistoric artifacts, gun shot, a variety of ceramic wares, and ten glass sherds. The MCD for these strata is 1717, and the ceramic TPQ is 1740.

Depositional Unit 5d consists of several demolition strata spread across the lot. These strata contain large amounts of brick, mortar and other building materials; in fact, over 150 kilos of brick were removed from these deposits. There is also a large number of glass and ceramic artifacts. The latter include creamwares, pearlwares, stonewares, red-bodied earthenwares, porcelains and delftwares. This assemblage produced a MCD of 1776, a ceramic TPQ of 1835, and a glass TPQ of 1891. There are 47 ceramic and ten glass MNVs. Most of the ceramic vessels are less than 25 percent complete and three are between 25 and 50 percent

complete. One vessel is intact. Several ceramic vessels within 5d cross mend with other depositional units. These cross mends are probably the result of construction and levelling activities within the lot.

In summary, most of the deposits and features in Lot 25 cannot be used to address the project's research design, as they represent displaced fills, soils of unknown origin and demolition debris. Also, the structural elements in this lot, including the yellow brick cistern (Feature 13), cannot be used to examine Hypotheses 1 and 2, which consider the use of space within urban lots. These elements could not be linked to specific occupations within 112 Water Street or any adjacent properties. Depositional Unit 1a (landfill deposits without intrusive materials), however, will be used in testing the landfill hypothesis, which compares and contrasts landmaking activities in New York City.

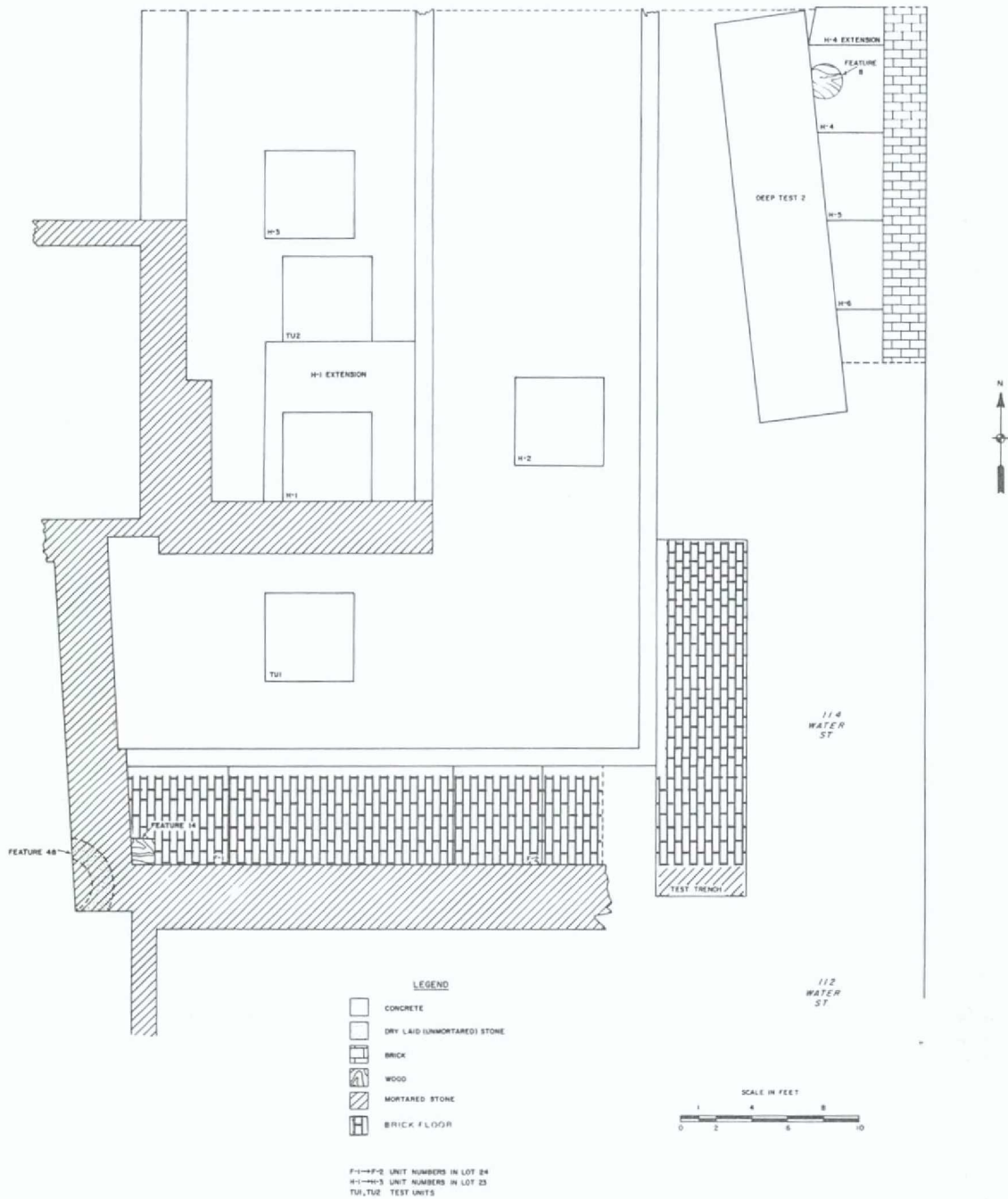
7. Lot 24 at 114 Water Street

As with most lots within the block, the lowermost deposits within Lot 24 consisted of landfill strata. These deposits were encountered in both Units F-1 and F-2, and Test Unit 1. Associated with these landfill deposits was a possible wooden fill retaining structure (Feature 14), located in the southwest corner of Unit F-1 (Figure VII.9). Feature 50, situated to the east of this structure, was interpreted as a possible trash pit. The feature, which extended into the landfill deposits, was located under a mortared, brick floor. Later occupational remains were identified in the uppermost strata of Units F-1 and F-2. These remains were associated with the mortared, brick floor and the twentieth-century construction which truncated this floor in the interior of the lot.

Analysis of artifactual materials and re-evaluation of certain stratigraphic relationships led to a refinement of the above field interpretations. Seven distinct depositional units have now been identified (Appendix D, Table D.7). They are: (1a-e) landfill, (2) fill inside Feature 14, (3) Feature 50, (4) building rubble and foundation stones to the south and west walls, (5) rubble with a concrete slab, (6) a concrete footing to the north wall, and (7) demolition/disturbance debris.

Landfill is the major component in Lot 24. Deposits are characterized by generally low artifact densities and a high degree of fragmentation. Architectural materials are present in these deposits in varying quantities, and include red and yellow brick, roofing tile, delft tile, window glass, nails, spikes, mortar, and plaster. Clay pipe fragments appear consistently throughout. Small finds artifacts such as charcoal, wood, and shell occur with similar frequencies. Glass artifacts are very sparse, as are floral and bone specimens. Historic ceramics include redware, slipware, coarse earthenware, stoneware, delftware, majolica and Oriental export porcelain. All identifiable ceramic vessels are

FIGURE VII.9:
 Barclays Bank Site
 Structural and Feature Plan View Detail For
 Lot 23/116 Water Street and Lot 24/114 Water Street



less than 25 percent complete. Datable ceramics are few in number, but generally date to the seventeenth and very early eighteenth centuries.

Landfill within Lot 24 consists of five distinct deposits, based on frequency of prehistoric, historic, and modern materials, soil matrices and overall configuration (e.g., horizontal banding, mounding etc.). Depositional Unit 1a is a 0.5-foot-thick strong brown silty sand layer, confined to the extreme southern portion of Test Unit 1, and extending to a depth of -3.07 feet M.S.L. This deposit (Stratum IV) contains very few artifacts, including one prehistoric debitage fragment, a clay pipe stem fragment, mortar, a wrought nail, sheet metal, shell and a peach pit. The TPQ of 1640 for this deposit is based on a single sherd of white-glazed delft. It is not possible to calculate a reliable MCD for this deposit because of the low frequency of datable ceramic sherds. This dating problem occurs among all landfill soils within the lot.

Strata I through III in the test unit comprise Depositional Unit 1b. Soil matrices vary from a strong brown sand and clayey sand to silty clay. This approximately 3.5-foot-thick deposit is encountered over the entire unit, extending to -3.07 feet M.S.L. to the north of the 1a deposit. Prehistoric materials within these strata include seven debitage fragments, one ceramic sherd and one trade bead. The full range of historic ceramics are represented, including coarse earthenware, redware, delftware, stoneware, porcelain and Nottingham. Also present is one sherd of bottle glass, twenty-six clay pipe fragments, small amounts of charcoal, wood and shell, miscellaneous metal fragments and a wrapped head straight pin. Floral specimens include some peach pits and hazelnuts. Although this deposit exhibits a significantly higher artifact density than 1a, the relative proportion of the above-mentioned artifact types are similar. Unit 1b does, however, have a higher proportion of architectural remains; the largest concentration appearing in the lower portion of the deposit. Sixty sherds of red bodied, unglazed roofing tile account for approximately 75 percent of the architecturally related artifacts, which also include brick, delft tile, window glass, nails, a spike, mortar and plaster.

Depositional Unit 1b has a ceramic TPQ of 1700. However, the lower portion of the deposit contains bathroom tile, while other modern materials are extant throughout the remainder of the depositional unit (i.e., plastic and safety glass). These intrusive materials may have been the result of disturbances from either the construction of the concrete floor which originally overlay Stratum I, or the machine removal of the floor prior to excavation of the test unit.

Depositional Unit 1c occurs in the extreme southwestern portion of the lot, and includes Strata V through VIII in Unit F-1. These strata surround Feature 14. The two lowest layers, a dark

greyish brown clayey silt and sand, are sterile, except for a single fragment of yellow brick. The upper soil matrices consist of dark yellowish brown sands with a clay band and gravel inclusions. The deposit is approximately 4.5 feet thick, reaching -3.0 feet M.S.L. at its lowest depth. The artifact assemblage includes one debitage fragment, coarse earthenware, delftware and slipware ceramics, six sherds of bottle glass, one sherd of mirror glass, eight clay pipe fragments, and small amounts of charcoal, wood and shell. Architectural materials include brick, roof tile, window glass, mortar, nails and a spike. Plastic in the uppermost layer can be attributed to contamination from the twentieth-century rubble which directly overlies these soils.

Feature 14, located in Unit F-1, consists of Strata IX and X. These strata, designated as Depositional Unit 2, range from a mottled dark greyish to yellowish brown clay with reddish brown sand pockets, to an underlying, very dark greyish brown clay. The artifact frequency within this depositional unit is extremely low. Historic ceramics include coarse earthenwares, redwares, white-glazed delftware, majolica and a bellarmine face fragment. The MCD for these strata is 1672 and the TPQ is 1640. Small finds in Feature 14 are represented by two clay pipe fragments, five miscellaneous shoe parts, small amounts of charred wood, charcoal, worked wood, and shell. A peach pit and pepper seed are the only floral specimens present. Architectural materials in this fill deposit include both red and yellow brick, glazed brick, mortar and unidentified wood fragments.

The artifact density of the fill in Feature 14 is similar to the surrounding Depositional Unit 1c deposit. The differing soil matrices, however, indicate a separate filling episode. The differences in the soil, the location of the structure within landfill, and its location along a water lot grant line, all support the interpretation of Feature 14 as a fill-retaining structure.

Depositional Units 1d and 1e are in Unit F-2, and both are truncated by Feature 50 (discussed below). Strata V and VI, which make up 1d, are the deepest in the unit. Soil matrices range from a mottled pale brown and very dark greyish brown sand and silt to a very dark greyish brown silty clay with ash. The mounded configuration of this deposit is the main criterion used for defining this as separate landfill deposit. Artifact density is relatively low, and historic material in the assemblage is similar to other landfill contexts. Architectural remains include red and yellow brick, roof tile, mortar, nails and a spike. Also present are seventeen clay pipe fragments, small amounts of shell and charred wood and a large number of miscellaneous worked wood fragments. Floral specimens include charred hickory nut and coconut shell. Historic ceramics consist only of undatable redware sherds. A localized landfill episode is suggested by the presence of thirty-two shoe parts, leather scraps and one piece of woven cloth within the deposit.

Depositional Unit 1e (Stratum II in Unit F-2) overlies the mounded 1d deposit. The matrix is a brown/dark brown sand, with a concentration of clay surrounding Feature 50. Historic materials include redware, stoneware, delftware, majolica, burned earthenware and slipware ceramics; eight clay pipe fragments and a small amount of charred wood and shell. Brick, mortar, nails and a spike comprise the full architectural assemblage. The ceramic TPQ for the deposit is 1720, based on only one sherd. It should be noted that there are small amounts of cement/concrete throughout the 1d and 1e deposits. These materials, which appear to be intrusive, are probably from the twentieth-century rubble fill above the deposit.

Feature 50, a 1.2 x 1.8 foot pit, intrudes into the landfill deposits within Unit F-2. The fill within the pit (Depositional Unit 3) contains delftware, Oriental export porcelain, redware, buff-bodied slipware, and stoneware ceramics; clay pipes, bottle glass, a vial fragment, a portion of a wine glass stem, worked wood, and metal fragments. All identifiable ceramic vessels are less than 25 percent complete. Architectural items include window glass, brick, mortar, and plaster. The feature fill also contains materials generally found in landfill contexts such as leather scraps, shell, wood fragments, and an oyster drill. Though quite variable, the artifact assemblage is not large, and the bulk of material is architectural. The fill appears to date to ca. 1745, based on a glass TPQ. It is not possible to calculate a reliable MCD.

Feature 50 was first interpreted as a trash pit. However, the fragmentary nature and overall size of the artifact assemblage suggest that the material within the pit is displaced refuse. This refuse may represent redeposited landfill in addition to various occupational deposits, either from household sweepings or from open-air deposits in a rear yard. The function of the feature, therefore, remains unknown. Given these characteristics, the fill materials in Feature 50 cannot be used to address the project's research design.

The remaining depositional units within the lot consist of various structural elements and demolition/disturbance strata. Depositional Unit 4, which overlaid Feature 14, consists of building rubble and foundation stones associated with the construction of the south and west lot walls, in Unit F-1. The artifact assemblage within this depositional unit is very fragmentary and sparse (totalling 25 items). It is not possible to assign a reliable date to this context. Depositional Unit 5 consists of a concrete slab and a heavy concentration of brick and mortar. Depositional Unit 6 is a concrete footing for the interior east-west running wall. Both depositional units are related to the construction of the "L"-shaped, deep basement within Lots 23 and 24 (Figure VII.9), and contain construction debris and refuse displaced by this activity. For example, Depositional Unit 5 has an MCD of 1786. This date is too early, given the "L"-shaped basement was probably constructed when 116

and 114 Water Street were consolidated into a single property (i.e. between 1931 and 1954).

Depositional Unit 7 contains demolition and disturbance debris, and is located beneath the mortared brick flooring in Unit F-2. This deposit has a high artifact content, e.g. over 770 small finds of which 118 are clay pipes. Depositional Unit 7 has a MCD of 1744, a ceramic TPQ of 1765, and a glass TPQ of 1700. However, it also contains modern material, including plastic, safety glass, and formica, and a high quantity of brick, mortar, and stone. Clearly this deposit consists of building demolition and displaced refuse, the latter possibly from earlier deposits that were once extant within the lot. Artifact mixing within this depositional unit may be related to the installation of the basement with the brick flooring, which predated the 1931-1954 "L" shaped basement.

In terms of addressing the project's research design, only the landfill deposits and possible fill retaining structure (Feature 14) are of value. All other depositional units within Lot 24 represent displaced refuse and disturbances from multiple basement constructions.

8. Lot 23 at 116 Water Street

Phase III excavations in Lot 23 at 116 Water Street identified three archaeological contexts: landfill, demolition and construction debris, and isolated occupational deposits. Landfill deposits contained waterfront-related materials (e.g., ship ballast) in addition to several prehistoric artifacts, both ceramic and lithic. Deposits above landfill varied across the lot. In the central area, (Unit H-2), demolition debris covered a deep, twentieth-century basement which extended into landfill, removing any traces of earlier occupations. The northwest quadrant (Units H-1 and extension, H-3, and Test Unit 2), yielded no yard deposits or features but did contain evidence of a nineteenth-century building episode. Nineteenth-century construction activities also seemed to characterize the easternmost portion of the lot, (Units H-4 and extension, H-5 and H-6). This area contained a complex of stone and brick walls, stone piers, and builder's trenches. The majority of this complex was located along the eastern sides of Units H-4, 5, and 6. (See Plate VI.6). A truncated wooden barrel (Feature 8) and its stone-lined builder's trench were encountered in Unit H-4. (See Plate VI.7 and Figure VII.9). This feature appeared to be for drainage, given its depth and the presence of holes in its sides and bottom.

Subsequent artifact analyses resulted in a somewhat finer division of depositional units; however, they did not significantly alter the field interpretations. The modified depositional units are: (1a) landfill with intrusive materials, (1b) landfill, (2) a stone floor, (3) a compact mortar deposit with footing stones, (4) demolition debris and displaced refuse, (5) a brick floor, (6) cellar fill with redeposited landfill, (7) soil associated

with a brick wall, (8) isolated fill deposits with charcoal, (9) builder's trench for footing stones to the east wall complex, (10) fill deposits surrounding Feature 8, the barrel, (11) builder's trench for Feature 8, (12a and b) deposits within Feature 8, (13) builder's trench for the east wall complex, (14) fill with occupation and landfill materials in the eastern side of the lot and (15) fill with occupational and landfill materials in a cellar of a structure fronting on Wall Street (See Appendix D, Table D.8). The depositional units are not listed here in any chronological order. It was not possible to date all depositional units because of the mixed nature of most of the strata in the lot.

Landfill without intrusive materials is extant only in the lowest strata of Unit H-4 and Test Unit 2 (Depositional Unit 1b). In H-4, the M.S.L. elevations for landfill are 0.06 to -1.59. The matrix is similar in both units: strong brown sand in H-4 and reddish brown to dark reddish brown sand with some silt in Test Unit 2. Artifact density is extremely low. In the test unit, only prehistoric materials are present. These consist of one fragment of lithic debitage and one ceramic rim sherd, possibly Late Woodland (See Appendix I). In Unit H-4, a total of 15 historic artifacts were recovered. These consist of glass, clay tobacco pipes, architectural material and one ceramic sherd. There is a small amount of modern material in H-4, however, which is attributed to machine excavation of Deep Test 2, immediately to the west. Although no datable artifacts were recovered, elevations, soil matrices, and artifact density and makeup, all support the interpretation of this depositional unit as landfill.

Landfill containing intrusive artifactual materials, located in Units H-1, 2, 5, and 6, are all combined into Depositional Unit 1a. These soils have a combined MCD of 1770, and a ceramic TPQ of 1820, dates that are inconsistent with documented landfill dates. In addition, there are some twentieth century materials mixed in with these eighteenth and nineteenth century artifacts.

Along the eastern boundary of the lot is a complex of brick and stone walls and stone piers (see Plate VI.6). The main wall is oriented north-south with remnants of an east-west trending wall attached. Below this wall remnant is Depositional Unit 14, a fill with occupation and landfill materials. This deposit has a MCD of 1785, a ceramic TPQ of 1825 and a glass TPQ of 1780. The assemblage within the deposit is very fragmentary, but contains a wide range of artifact types. These include delft tiles, shipping ballast, a trade bead, and lithic debitage, in addition to historic ceramic and glass sherds. The diverse and fragmentary nature of the assemblage associated with this deposit suggests that it represents displaced refuse and redeposited landfill.

The lower portion of the main east wall is made of stone. Atop this stone wall is another wall, but made of red brick. Builder's trenches were identified for both walls. The trench to the lower stone wall (Depositional Unit 9) contains only seven clay pipe

fragments. The trench to the red brick wall (Depositional Unit 13), however, has a much higher artifact count, particularly in terms of window glass. Ceramics within this second trench include creamwares, delftwares, pearlwares, grey salt-glazed stonewares, Oriental export porcelains, and transfer-printed and dipped whitewares. There are 12 ceramic MNVs, all less than 25 percent complete. The MCD for Depositional 13 is 1792, but the ceramic TPQ is 1825. In all probability, the brick wall is part of a late eighteenth- or early nineteenth-century structure. This structure (at 116 Water Street and/or 87 Wall Street) may have been associated with Hoffman and Glass's ownership of the property (1808-1820s). It appears that during their tenure, the lot contained an auction house and store (See Appendix C, Section 2).

The central area of the lot contains two concrete walls which enclose an "L" shaped basement area. This deep basement contains a mixture of eighteenth- to twentieth-century materials. Excavations within Unit H-2, located in this deep basement area, revealed only the basement floor itself and landfill deposits with later intrusive materials. Though containing later material, the landfill in Unit H-2 appears to be stratigraphically similar to landfill in Test Unit 1.

The area northwest of the "L" shaped basement contains a stone floor, comprised of schist rocks (Depositional Unit 2), overlain by a compact mortar layer (Depositional Unit 3). The floor occurs in Units H-1 and H-3. A remnant of the floor is also present in Unit H-2. In Unit H-3, the floor is covered by a possible brick pavement (Depositional Unit 5). No diagnostic artifacts were recovered in association with this brick pavement. Artifacts found in association with the mortar layer in Unit H-1 yielded a MCD of 1799, a ceramic TPQ of 1840, and a glass TPQ of 1789. There is, however, a scattering of modern material in all of Unit H-1. In addition to the stone floor, Unit H-1 contains the remains of a north-south oriented stone wall, situated east and west of the floor. This wall extends north into Test Unit 2.

The stone flooring appears to be the base of a cellar to a building fronting on Wall Street. Within this cellar, is a wide range of fill deposits, ranging in date and artifact context. Depositional Unit 15 (Stratum I, Levels 3 and 4 in Unit H-3), is directly above the cellar flooring, and contains predominately late eighteenth century materials. The deposit's MCD is 1770, the ceramic TPQ is 1795, and the glass TPQ is 1780. There are no modern materials. The assemblage in Unit 13 is extremely fragmentary, and consists of a large quantity of brick (i.e. 102 kg). The soils above Depositional Unit 13, and those in the uppermost portions of Unit H-1 and Test Unit 2, contain demolition debris and displaced refuse (Depositional Unit 4). As in most deposits in H-1, these uppermost soils also contain modern materials. The occurrence of these later artifacts may represent later disturbances within the rear of the property, a pattern seen in almost all lots within the project area.

Another distinct depositional unit within the cellar fill is Depositional Unit 6 in Test Unit 2. The soils in this depositional unit all have similar soil matrices (reddish brown to dark reddish brown sandy silt), a low artifact density, no identifiable ceramic vessels, and a high quantity of brick rubble. One prehistoric ceramic sherd was also recovered from these soils. The occurrence of the prehistoric artifact and the reddish color of the soil matrices, suggest that Depositional Unit 6 contains redeposited landfill. Also within Test Unit 2 is a small pocket of soil which contains a high concentration of charcoal (Depositional Unit 8). Artifact frequencies in this soil are almost negligible: one clay pipe fragment and small amounts of architectural debris. Given this dearth of artifacts, it is difficult to identify a temporal association for this latter depositional unit. Test Unit 2 also contains a depositional unit consisting of soil immediately adjacent to the north-south oriented wall. This deposit (Depositional Unit 7) has one sherd of unidentified bottle glass, one fragment of window glass, small amounts of brick, and roofing slate.

These various fill deposits contain little artifactual material, and when extant, it is fragmentary in nature. Except for the landfill deposits without intrusive materials, all of the above referenced depositional units have little potential to provide data useful in addressing the project's research design, and therefore do not require additional analyses. There is, however, one context within the lot that is somewhat intact and appears to be associated with occupational activities within 116 Water Street.

A truncated wooden barrel (Feature 8) was encountered in Unit H-4 at an elevation of 0.10 M.S.L. The barrel was set into a stone-lined builder's trench (Depositional Unit 11), which has a MCD of 1750, a ceramic TPQ of 1780 and a glass TPQ of 1745. The barrel had several holes in its bottom and sides. This, along with the elevation at which the barrel was found, suggest a drainage function. There was no staining inside or below the barrel, as would be expected if it had once contained night soils. Fill deposits surrounding the barrel's trench (Depositional Unit 10) were similar to those within the trench itself.

Soils within the feature (Depositional Units 12a and b) consist of two strata, both of which were present in the Phase II Deep Test as well as in Unit H-4. The uppermost stratum consists of a layer of coal and ash. This overlays a coarse dark brown sand with coal. The artifacts in both strata, while fragmentary, did yield a date of ca. 1820 (MCDs of 1776 and 1789, a ceramic TPQ of 1820 and a glass TPQ of 1770). Materials within the two depositional units appear to represent domestic refuse. Ceramics consist mainly of creamwares, pearlwares and Oriental export porcelains in the form of bowls, plates and a teapot lid, but all less than 25 percent complete. There are also a number of olive green wine/liquor bottle sherds present in the lower stratum. However, these sherds appear to be from a single bottle. The

floral assemblage includes several peach pits and some coconut shells. These food items also suggest that the refuse in the barrel came from a household.

Based on the fragmentary nature of the materials in the barrel, and the matrix of coal and ash, Depositional Units 12a and b may represent: (1) gradual or rapid accumulation of trash from open-air deposits within the lot; (2) gradual accumulation of trash from within a household or business, e.g. floor and fireplace sweepings; or (3) displaced refuse from outside the lot brought in to fill the barrel feature after it was no longer being used for drainage purposes. Because the barrel's assemblage is fragmentary and of an unknown source, Depositional Units 12a and b cannot be confidently used in addressing the project's research design.

D. ANALYSIS OF DEPOSITIONAL UNITS

1. Introduction

Table VII.3 summarizes the depositional units within the project area that can either be used to test the project's research hypotheses, or will provide data on the different types of commercial and residential activities that occurred within the block, especially those related to the chemists/druggists. In this section, the various depositional units will be examined in more detail, and subjected to different levels of analyses in order to better describe the assemblages, and to obtain the data sets required to test the hypotheses. Actual hypotheses testing will be presented in the Synthesis Chapter (VIII).

Prior to discussing the various depositional units, the analytical techniques that will be used to investigate these units will be reviewed.

2. Methods of Depositional Unit Analysis

a. Ceramic Economic Scaling Analysis (Artifact Quality)

Historical archaeologists have used ceramics as the primary means to measure the economic value of a household assemblage. The most useful method to measure this value is currently Miller's economic scaling index (1980). Miller's scale is based on the index value assigned to certain types of refined wares, expressed in relation to CC, or cream colored wares. In his research, Miller found that CC ware was consistently the least expensive ceramic on nineteenth-century price fixing lists. With these data, he gives CC a value of 1.00 through time, and expresses the value of other wares in relation to the 1.00 index value of CC at different times in the nineteenth century (see Miller 1980 for further discussion). Indices are calculated for cups, plates, and bowls. Vessels, not sherds, are used in these calculations.

TABLE VII.3

DEPOSITIONAL UNITS INVOLVED IN ADDITIONAL
ARTIFACT ANALYSES

<u>DEPOSITIONAL UNIT (D.U.)</u>	<u>DATE</u>	<u>HISTORICAL ASSOCIATION</u>
<u>Lot 19/146 Pearl Street:</u>		
D.U. 6 (Feature 44)	ca. 1820	Hull and Bowne, drug firm Oliver Hull and/or John Hull, Hugh Gaine, Philip Ten Eyck, Richard Bowne, and/or Calvin Baker (residences)
D.U. 5a (Feature 48)	ca. 1800	
<u>Lot 18/144 Pearl Street:</u>		
D.U. 12 d, e, f, g and 13	ca. 1780/90	Daniel Van Voorhis, gold, silver and jewelry shop, and possible residence Joel and Jotham Post D. Dunham Store
D.U. 17a and b	1793-1797	
D.U. 18a and b	ca. 1820	
<u>Lot 16/106 Water Street:</u>		
D.U. 13 (Feature 52)	ca. 1820	Store(s) on Water Street
<u>Landfill:</u>		
Lot 20, D.U. 2	1695-1702	(See Appendix C, Section 2)
Lot 19, D.U. 1a	1695-1702	(See Appendix C, Section 2)
Lot 18, D.U. 1a and b	1695-1702	(See Appendix C, Section 2)
Lot 16, D.U. 1	1695-1702	(See Appendix C, Section 2)
Lot 26, D.U. 2a	1695-1702	(See Appendix C, Section 2)
Lot 25, D.U. 1a	1695-1702	(See Appendix C, Section 2)
Lot 24, D.U. 1a, c, d, and e	1695-1702	(See Appendix C, Section 2)
Lot 23, D.U. 1b	1695-1702	(See Appendix C, Section 2)

In his 1980 article, Miller calculates a series of indices for several sites and then graphically portrays the results for comparative purposes. It is often difficult to compare these graphs and the values resulting from the index calculations. As a result, researchers (Klein and Garrow 1984, Cheek 1984, Shephard 1985) have used a mean index value to compare one ceramic assemblage to another. This value is simply a summation of the separate indices for cups, plates, and bowls, divided by the total number of ceramic vessels used in the separate index calculations.

Though very useful, the data presented in Miller's article are often not complete. For example, there are many years for which no index data are available. Therefore, the researcher must decide not to include certain ware types for a given year, or to extrapolate from the data present in Miller's tables (1980:26, 30, and 33). In this study, a few extrapolations are made in calculating the indices. The majority are indicated on the tables showing the calculations. It should be noted that when a plate is nine inches in size, the value for an eight-inch plate is used, as nine-inch values are not listed in Miller's tables. Further, if the size of a plate is unknown, it is given the eight-inch value, as recommended by Miller (personal communication 1986).

The MCD for a given deposit determines the date and subsequent index used in calculating Miller's scaling values. Miller's indices are based on price at time of selling, not final deposition in a feature. Also, comparisons between deposits will be restricted to ten-year periods, when possible, given the problems of changes in the overall cost of ceramics in the middle and late nineteenth century. Cheek (1984) suggests that comparisons across time may lead to misidentification of similarities and differences due to what he refers to as "index inflation." The cost of ceramics decreases in the middle and late nineteenth century. Ceramics that were once expensive become more accessible due to lowered cost. However, all ceramic wares decrease together, including CC. This, then, makes the indices across time not comparable. As a result of this "index inflation," the assemblages from households "who have the same economic position in two different decades would show that the later one had a higher position than the earlier" (Cheek 1984:7).

To further examine the issue of ceramic scaling analysis in urban households, a relative ceramic ranking scheme is also used. This method has been employed by Beidleman et al. (1983) in Alexandria, Virginia, Thompson (1984) in Bridgeboro, New Jersey, by Exnicios and Pearson (1985) in New Orleans, and LBA (1985) in Wilmington, Delaware. This relative ranking allows researchers to use a larger sample of ceramic vessels than possible under the current Miller (1980) ceramic economic scaling method. This relative ranking is derived from the Miller analysis and it assigns rank values to ceramic vessels as follows:

Ware	Rank Value
Undecorated	1
Minimally decorated	2
Hand painted	3
Transfer-printed and Ironstone	4
Porcelain	5

The types of ceramic forms used in this analysis include plates, platters, cups, bowls, serving bowls, and miscellaneous serving vessels.

In order to better compare the results of this relative scaling analysis, an index is calculated for each deposit. The vessels in each deposit are placed in these categories and the percentage of vessels in each category is multiplied by the rank value. The sum of these products is then divided by 5 and multiplied by 100 to yield the index. This index ranges from 25 to 100, with greater values reflecting the most costly ceramic assemblages.

b. Pattern and Function Analysis (Artifact Quantity and Variability)

The use of the artifact pattern analysis is to organize an assemblage and provide a description of its contents. This description, which has become somewhat standardized in historical archaeological research, allows comparisons to be made among different sites' assemblages and, of course, the assemblages within a single project area. Most importantly, the pattern analysis assists in identifying the presence of commercial, domestic, and/or mixed refuse deposits within a lot. The results of the pattern analysis thus aid in characterizing depositional units (e.g., domestic, commercial, mixed, type of commercial activity, etc.). It should be noted that not all commercial activities produce refuse deposits within urban lots (See Chapter II). What the pattern analysis does best is to highlight domestic activities, construction activities, and commercial enterprises that result in the disposal of high quantities of kitchen, furniture, personal, and activity category items.

The artifact pattern analysis used in this study follows the work of South (1977), Garrow (1983), and Klein and Garrow (1984), with some modifications. For a detailed discussion of the analysis, see Klein and Garrow (1984:176-185). The majority of the modifications concern ceramics, which are assigned to a class and group based upon their form. Most remain in the Kitchen group, but chamber pots, wash basins, slop jars and shaving mugs are in Personal-Hygiene; candle sticks and stands, grease lamps, figurines and vases are included in Furniture; tiles and knobs are in Architectural; toy tea or dinner sets and gaming pieces are in Activities-Toys; ink wells and bottles are in Activities-Commercial; crucibles are a separate class within the Activities group; and a new group, Pharmaceutical, was created for all drug related forms. The latter was done because of the presence of the

drug shops within the project area. Drug shop-related glass forms (vials, patent and proprietary medicines, chemical and poison bottles, carboys, demijohns, specie and ring jars, glass slides, tubings and rods, graduated cylinders, funnels, nursing paraphernalia) are also in the Pharmaceutical group. Other glass forms are in the Furniture, Architectural, Personal or Activities groups as appropriate, but most remain in the Kitchen group. All beverage bottle glass is lumped into the class "bottles" within this latter group. Under South's Clothing group, bale seals and beads are moved to Activities and Personal respectively. Finally, shoes are added to the Clothing group.

A supplement to the artifact pattern analysis is the analysis of ceramic and glass vessel forms within an assemblage. This functional analysis takes the Kitchen Group category, and other groups, and examines the artifact classes within them more closely. These data provide more detailed information on the types of activities that occurred within a shop or household, and aids in the description and evaluation of the household's consumer behavior. Specifically, this analysis examines the proportions of functional categories within an assemblage. The analysis follows work by Beidleman et al. (1983), and Klein and Garrow (1984), and LBA (1985). The categories used in this analysis are as follows:

Ceramic Vessels

- | | |
|-------------------------|--------------------|
| 1. Teawares | 7. Toys |
| 2. Tablewares | 8. Miscellaneous |
| 3. Food Preparation | 9. Unknown |
| 4. Food Storage | 10. Pharmaceutical |
| 5. Hygiene | 11. Crucibles |
| 6. Household Decoration | 12. Bottles |

Glass Vessels

- | | |
|-------------------------|-------------------------------|
| 1. Wine/Liquor | 7. Tumbler |
| 2. Malt | 8. Wineglass |
| 3. Soda/Mineral Water | 9. Miscellaneous Tablewares |
| 4. Pharmaceutical | 10. Lamp |
| 5. Culinary/Condiment | 11. Kitchen, Non-Food Related |
| 6. Bottle/Miscellaneous | |

The study of vessel functions and proportions within these categories should indicate to what extent the full range of domestic and/or commercial activities are represented within an assemblage, and thus what activities can be discussed in an analysis of household consumerism and commercial enterprises. For example, if an assemblage consists predominantly of teawares and hygiene-related vessels, then this assemblage cannot be confidently used in a study of household purchasing power, since only part of the total behavioral assemblage is represented.

c. Curation Analysis

This analysis examines the process of ceramic and glass vessel curation within both commercial and residential occupations. To determine whether the curation process has occurred, the dating of various artifact groups are compared (e.g. ceramic and glass TPQs to MCDs), the standard deviations for calculated MCDs are examined, and assemblage dates are evaluated in terms of the stratigraphic and historical data associated with the deposits that contain these assemblages. For example, if an 1820 deposit associated with Richard Bowne's household contains a set of salt glazed stoneware plates, which have a TPQ of 1720 and a MCD of 1763, then these vessels are most likely curated items. Also, if a MCD for a given domestic deposit has a high standard deviation, it is possible that sherds from curated vessels are present in the deposit and thus skewing the MCD. An alternative explanation is that ceramics from both early and late occupations are all mixed within a single deposit. Thus, the high standard deviation becomes a marker for redeposited and displaced refuse.

The importance of this analysis is to define the types of items that are curated within households and businesses. What is the patterning of curation activities? Can these patterns be controlled for, when dating and interpreting deposits from these households and businesses?

d. Landfill Analysis

To analyze the landfill deposits within the lots, and especially the original water lot grants, comparisons will be made of soil types and the proportions of artifact classes within these soils. Specific artifact classes that will be examined are prehistoric materials, shipping ballast, weights of architectural items, including brick and mortar, and ceramics, glass, leather and bone. In Chapter VIII, comparisons will be made with other landfill sites in the city, to determine temporal and locational patterning in New York landmaking; and thus test Hypothesis 6.

3. Depositional Unit Analysis

a. The Chemist/Druggist Shop: Hull and Bowne, and Joel and Jotham Post

Feature 44 (Depositional Unit 6) in Lot 19/146 Pearl Street is a builder's trench filled with refuse from the drug firm of Hull and Bowne, ca. 1820. Feature 58 (Depositional Units 17a and b) is one of two barrels in the southern yard area of Lot 18/144 Pearl Street. Approximately 60 percent of the glass and ceramic vessels in this barrel are pharmaceutical-related, deposited during Joel and Jotham Post's tenure within the lot (i.e. 1793 to 1797). These two contexts provide information on the disposable items within late eighteenth and early nineteenth century drug shops, and suggest the range of activities that occurred within these shops.

The pattern analysis on Joel and Jotham Post's deposit clearly shows the high proportion of pharmaceutical items within the assemblage (see Appendix M). The lower deposit in the barrel (Depositional Unit 17a) contains 813 artifacts, of which 53 percent fall into the Pharmaceutical group. The next largest group is Kitchen (42 percent), most of which consists of bottle glass. As will be noted below, druggists often sold wine and spirits in addition to drugs. This would account for the high bottle class count (i.e. 36 percent among all classes). The upper deposit in Feature 58 (Depositional Unit 17b) exhibits almost the same proportions of artifact groups and classes as Depositional Unit 17a (Appendix M).

Sixty pharmaceutical vessels were recovered from Joel and Jotham Post's deposit. The high number of items and their relatively low level of fragmentation suggest that the barrel was filled during a cleaning of the shop, or possibly when the Posts moved from 144 Pearl Street in 1797. Their assemblage can be grouped into two categories: drug preparation/storage/display and drug dispensing. Vessels falling within the first category include drugstore/apothecary bottles, specie jars (cylindrical wide mouthed glass vessels for displaying drugs), a funnel, a stopper, and a glass rod. Dispensing vessels consist of proprietary medicine bottles, vials, and ointment pots. The latter take on many forms, such as cup shaped and cylindrical; and are either of creamware or delftware. Some of these pots have inverted rims and pedestaled feet. The larger forms of ointment pots were used for storage. In addition to these creamware and delftware vessels, the assemblage contains four small and large mouthed stoneware jars, and five similar jars made of red-bodied earthenware. Although these jars are not clearly drug related, they are probably associated with chemist/druggist activities. This hypothesis is based on their association with pharmaceutical vessels. It is assumed that they are locally made, functional equivalents of more expensive European ceramics.

In addition to the above vessel types, approximately 1300, very thin walled, long neck green glass fragments were recovered from Feature 58. These neck fragments appear to be very similar in form to the swan-necked globes found in the Wellcome collection (Poynter 1972). Although these vessel forms are very fragmentary, there appear to be at least 16 MNVs in the Post's assemblage. Poynter (1972:49) suggests that these vessels would have been used for display purposes, as would specie jars.

Vials make up a major portion of the collection, i.e. 52 percent. There are both square and rounded-shaped vials, and they range in size from approximately 1 and 1/2 inches to six inches in height. These vessels would have been used for dispensing individual prescriptions, and for holding drugs inside a medicine chest. In fact, the Post's advertise the selling of medicine chests in their December 25, 1793 ad in the Daily Advertiser (see Chapter IV). This, and subsequent notices, also advertised a few items

which were recovered from Feature 58. These include Essence of Peppermint and Turlington's Balsam of Life.

Depositional Units 17a and b also contain several non-pharmaceutical vessels. Of special note are seven wine/liquor bottles and several carboys. Poynter (1972) and Crellen and Scott (1970) note that it is not uncommon for chemists/druggist to sell wine and spirits. This is confirmed by correspondence between a druggist within the project area and a druggist in Alexandria, Virginia (See Chapter IV).

Unlike Joel and Jotham Post's assemblage, the material from Hull and Bowne's feature does not have a high proportion of items in the Pharmaceutical group (see Appendix M). The latter feature contains mostly Kitchen group materials (80 percent), followed by Architecture (13 percent). Within the Kitchen group, the artifact class with the highest percentage is bottle glass. However, the functional analysis shows that drug-related items make-up the greatest proportion of those vessels whose function can be identified (see Appendix N).

The number of drug-related vessels in the Hull and Bowne deposit is much lower than in the Post's assemblage (Table VII.4). Though smaller, the proportion of vessel forms is similar. As with the Post's materials, vials are the most frequent. In addition, some of the same patent medicines are present in this 1820s deposit (i.e. Essence of Peppermint).

Based on this review of the vessel forms within the two assemblages, the following can be said about late eighteenth and early nineteenth century druggists occupying the project area. The majority of disposable items within the shops appear to be related to dispensing drugs. Vessel forms include very small vials that may have been used to dispense individual doses of medication, and vials probably used in medicine chests. Individual prescriptions were also dispensed in small creamware ointment pots. Those with inverted rims would be covered with paper (cf. Noel Hume 1969b:204) for "take-out" service. Clearly, both the Posts and Hull and Bowne were in the retail business. They also appear to have kept a supply of drugs and other necessary materials in stock (e.g. in the ointment pots and the stoneware and red-bodied earthenware jars). Their shops would have been decorated with various display items, as most eighteenth- and nineteenth-century apothecary shops would be. Such display items include the specie jar and the possible swan-necked globes, which the Post's appeared to have in abundance.

Both shops sold the popular patent medicines of the time (e.g., Essence of Peppermint and Turlington's Balsam of Life), in addition to possible cures for maladies that continue to plague men up to the present day (e.g., baldness). Two creamware transfer printed cylindrical ointment pots (Plate VII.15) were recovered from the barrel feature, both with the following label:

BY THE
KINGS AUTHORITY
PATENT ASIATIC BALSAM
Thickening, Strengthening, Nourishing & Promoting
the Growth of Hair, & for restoring it upon
parts become through Age, Indiffpotition
Change of Climate or other causes, and to
prevent it ever falling off. Prepared only
by the patentee.

ANDREW JOHNSTONE
PERFUMER TO HIS ROYAL
HIGHNESS the PRINCE of WALES
Ballcourt, Lombard Street, London
PRICE TWO SHILLINGS AND SIX PENCE

Whether both the Posts and Hull and Bowne were also involved in wholesale selling of drugs is not clear. Both features did not contain large storage vessels that may have held great amounts of drugs. However, large-scale storage may not have involved the use of ceramic or glass vessels, or these vessels may have been disposed of differently.

b. Feature 48, Depositional Unit 5a in Lot 19/146 Pearl Street

The large assemblage within this privy/well is the only major deposit from the project area that is clearly from a household(s) that occupied the block. The problem is in identifying which household placed the materials into the privy/well. As noted earlier, it may have been the household of Oliver Hull, and/or his sons; of Hugh Gaine; of Philip Ten Eyck; Richard Bowne; or possibly Calvin Baker.

The difficulty lies in the dating of the deposits. The ca. 1800 date is too imprecise, given that around 1800 the lot occupants in both 144 and 146 Pearl Street change. (It should be remembered that the well straddles the lot line dividing both properties). In order to address the project's research hypotheses, it is important to identify the nature of the household that used the feature. For example, did the lots contain more than one family? What was the age-scale of the household occupants? These and other variables should all be examined in order to confidently test the hypotheses presented in Chapter III of this volume. Unfortunately, in the case of Feature 48, the dating of the deposits and changing lot occupancies make this extremely difficult. Detailed histories (i.e., investigations of church records, wills, probate inventories, etc.) of each possible household would be required, a task beyond the current study.

LBA's experience with urban sites suggests that privies are usually abandoned during a change in occupation within a lot. Thus, Depositional Unit 5a may represent the end of a gradual accumulation of household refuse occurring around 1800, the time when Hugh Gaine, and possibly Oliver Hull, leave the block. If this scenario is true, then the materials within the well would represent the consumable goods of these wealthy households (See Chapter IV). However, this process of privy abandonment has not been explicitly tested, and it is only assumed to have occurred in urban sites. Therefore, Depositional Unit 5a cannot be confidently linked to Hull and/or Gaine.

In her dissertation research, Wall took a two percent random sample of individuals listed in the 1790, 1800, 1810, 1820, 1830, and 1840 New York City directories, and traced these individuals in the appropriate tax records. Based on the value of their assessed property and their occupations, Wall assigned them to three economic groups: "poor," "middle class," and "elite" (Wall 1987). As noted earlier, Wall included the households that occupied 146 and 148 Pearl Street (between 1790 and 1840 in her study. Based on her research on 144 Pearl Street, Ten Eyck, Bowne, and Baker fell into the "elite" category. For the purposes of this current study, LBA will equate these individuals to the economic level of Hull and Gaine, as Wall has also done.

As noted above, Depositional Unit 5a appears to be a domestic deposit. This is supported by both the pattern and functional analyses. In the pattern analysis, the predominant group (60 percent) is kitchen. This group is comprised of 61 percent ceramic, 16 percent bottle glass, and 22 percent tumbler and wine glass fragments. Other notable artifact classes are window glass (16 percent of the entire assemblage), shoes (4 percent of the entire assemblage), sewing items (3.7 percent of the assemblage), and pharmaceutical (3.6 percent of the assemblage). However, the largest artifact class within the collection is the ceramics, that is 36 percent of the total (Appendix M).

Most of the ceramic vessels that have identifiable functions are either teawares (11 percent) or tablewares (30 percent). The full range of other functions are also present, including those for food storage, food preparation, hygiene, and pharmaceutical. Interestingly, 7.7 percent of the vessels are for hygiene. Among the glass vessels with identifiable functions, tumblers are most frequent, i.e., 42 percent. The remaining functional categories include wine/liquor, pharmaceutical, culinary/condiment, and miscellaneous tablewares (Appendix N).

The most striking aspect of the Feature 48 assemblage is these ceramics. These materials provide important information on the quality, quantity, and variability of goods used by the household(s) within 148 and 146 Pearl Street, circa 1800. The following discussions, therefore, focus on the ceramic artifacts.

The most precisely dated artifacts within the assemblage are three transfer printed pearlware vessels: an egg cup, a 7-1/2 inch diameter plate, and a 5-inch shallow bowl with a single handle and three small ornamental feet, all with a brown printed floral design which Godden (1975:148) attributes to Ralph Wedgwood. The mark used by Ralph Wedgwood, a nephew of Josiah, was "Wedgwood & Co." (Godden 1970:132). The plate from this set in Feature 48 is impressed, rather indistinctly, with "Wedgwood & ..." and the floral design matches the pattern illustrated in Godden. Godden (1975:148) dates this mark to 1785-1796 when Ralph Wedgwood worked at Burslem; but, both Towner (1978:166) and Coyshe and Henrywood (1982:397) date the mark to 1798-1801 when Ralph Wedgwood was in the firm Tomlinson, Foster, Wedgwood & Co. at the Ferrybridge Pottery, Yorkshire. Godden (1970:132) illustrates a creamware harvest jug and beaker with the impressed "Wedgwood & Co." which are decorated with farmer's tools and the name "Rich'd Lewis 1796". The decoration is handpainted and its style resembles that of underglaze polychrome painted pearlwares which are common from about 1795-1815. This jug and beaker are probably part of the basis for Godden's 1785-1796 dating, but it is possible that these vessels were made at a later date to commemorate an event which took place in 1796. Another piece of evidence which points to the later (1798-1801) date for this mark is the presence of simple stipple engraving on the transfer print used on the three Feature 48 vessels. The first engravings used for transfer prints were done using lines only, and the technique of employing stipple along with lines was introduced sometime before 1807, and probably after 1800 (Coyshe and Henrywood 1982:9). Stippling enables the engravers to create gradations of colors with more realistic effects. The floral print on the Feature 48 vessels uses lines to fill in the shading on the leaves, but simple stippling is also used between the leaves to create soft outlines. The centers of the flowers are filled in with handpainted blobs of light blue, orange, light green and yellow, all colors used on underglaze polychrome handpainted vessels.

Two small (six inch diameter) pearlware plates with a true Willow transfer printed pattern are also in this assemblage. Noel Hume (1973:248-249) says that the true Willow pattern (which includes a bridge with three figures and a pagoda at its end, a boat and two birds) was first used about 1810. Coyshe and Henrywood attribute the emergence of this standardized pattern to "the first decade of the 19th century" (1982:402). These data suggest that the TPQ for Depositional Unit 5a may be 1810. However, given the ambiguity in these sources, the 1800 TPQ is used.

Other pearlwares in the Feature 48 assemblage include additional tea and tablewares. Underglaze polychrome handpainted floral and floral/geometric patterns are seen on handleless tea cups and saucers and a creamer, along with an underglaze brown handpainted sugar bowl and a small silver luster pitcher. Some blue transfer printed chinoiserie designs are also found on tea wares, but the majority of the decorations are underglaze polychrome. A child's

mug has a polychrome decoration and the stencilled legend "My dear Coufin."

Tablewares used for food consumption include blue and green shell-edged plates which range in size from 6 to 9 inches. One of the blue edged plates is marked Herculaneum (1793-1841), (Godden 1964:321). Several of the green edged plates are marked simply "B" or "C." One of the 9 inch green edged plates is marked "B.B.9." The BB mark has been found on pearlwares and creamwares from other New York City sites, and its maker has not been identified. It is possible that the mark was used by James and Fletcher Bolton, who worked circa 1797-1812, and who reputedly "depended largely on an export trade to America" (Coyshe and Henrywood 1982:47). It is also possible that the mark might have been used by various members of the Baddeley Family, who worked in Staffordshire from circa 1772 to 1807; however, their known marks do not include the double B, although John and Edward Baddeley occasionally used a single impressed B (Coyshe and Henrywood 1982:31).

Tablewares used for food serving are also primarily edge wares. A blue shell edged oval serving dish and an oval tureen or dish lid are present along with green shell edged oval platters and two gravy boats - one in the elongated boat shape and the other formed like a very small tureen. There is also an 8-inch tall blue transfer printed pitcher, with a Willow-like design. The design includes a "staple-roofed pagoda ... [which is] an essentially early feature that never occurs on the standard willow, and which seems to have ended by about 1815" (Noel Hume 1973:249). Both this pitcher and an 8-inch diameter deep bowl with blue chinoiserie transfer print have brown lines around the rims, an element copied from Chinese porcelains. A slightly larger (8-1/2 inch) dipped pitcher is decorated with swirled slips and both blue and brown mocha motifs.

Tablewares from Feature 48 are also made of creamware. Plain plates (10 to 8 inches), oval platters, and deep and shallow bowls are among the reconstructable forms. One 10-inch plate is marked "DD & Co." (David Dunderdale 1790-1820) (Godden 1964:224).

The majority of creamwares, however, are toilet forms, especially chamber pots. There are at least 23 chamber pots of different sizes and proportions. Some are rather tall and straight sided while others are squatter with more rounded sides. Rims are either rolled or quite flat. None of the chamber pots, as far as could be determined, are marked. Basins are also present in the assemblage, along with plain and barrel shaped pitchers (bulbous bodied vessels with horizontal molded bands). These pitchers could have been used as serving vessels on the table, but it is just as likely that they were used, along with the basins, for personal washing. Several ointment pots, both cylindrical and cup shaped, of plain creamware are also in the Feature 48 assemblage. These may have contained drugs, eye ointments and/or cosmetics (Noel Hume 1969b:205).

The porcelains in this assemblage are all teawares, and include handleless tea cups, handled coffee cups (taller and narrower than tea cups), saucer/bowls, at least one tea caddy, and a possible tea pot tray. Decorations are in both underglaze blue and overglaze enamels, but the majority of the reconstructable vessels are overglaze decorated. There are at least three sets with matching tea cups and saucers; and, one set (Plate VII.1) has tea and coffee cups, saucers and a tea caddy. These sets are decorated in what has been called "European style neo-classical," which has been broadly dated to 1750 - 1840. One of these motifs consists of love birds with a flower spray above a bar (Plates VII.2 and 3). This particular motif is illustrated in Howard (1984:95-96) and can be dated to circa 1795. He states that "such pairs of lovebirds in the form of pseudo crests are common on Chinese porcelain sets of this period", and were often given as marriage gifts (Howard 1984:95).

The other overglaze decorative motifs on the Feature 48 Oriental porcelains include gilded dental borders (Plate VII.1), gilded floral sprays, black ("pencilled" or "en grisaille") floral sprays, gilded pseudo armorial central designs and various polychrome and gilded dot, band, chain, and cross hatch borders. They resemble motifs illustrated in Howard, and date to circa 1790 to 1810 (1984:87-116). New York City merchants were active in the China trade during this period; therefore, it is not unexpected to find such an extensive collection of teawares.

The underglaze blue decorated porcelains give some indications that earlier vessels were curated by their owners. A sugar bowl (Plate VII.4) is similar in decoration to two vessels from 7 Hanover Square, which were dated by Howard to circa 1755 and 1765, (1984:65-66), although the bowl has a body shape which was common between 1770 and 1820 (Howard 1984:118). However, the handles on the sugar bowl are less elaborate than the ones shown by Howard, and might indicate an earlier date.

Depositional Unit 5a contains relatively few coarse earthenware vessels. There are red bodied slip-decorated "pie plates," small mouthed jars, and an almost intact black glazed pipkin. These bulbous bodied, tripod vessels are not common on New York City sites of this time period, and its disposal while in working condition might indicate a lack of use. Another rare, for New York City, vessel is a crude black glazed redware cup, which is also almost intact.

Stonewares are relatively scarce in Feature 48. There are several small mouthed jars, two small wheel made bottles, and at least one of the wine/liquor shaped wheel made bottles which are so numerous in the fill within Feature 46 (Lot 18/144 Pearl Street) (see below). No large, reconstructable storage jars are present in the stoneware assemblage.

In order to determine the relative economic value of this ceramic collection, both the Miller analysis and the relative index were

calculated. To be able to compare the results of these analyses with other sites, both the Miller and the relative indices were calculated with and without porcelains. Most site analyses do not include porcelains because prices for porcelains in this time period are not yet available. Table VII.4 presents the Miller analysis for Depositional Unit 5a without porcelains, and Table VII.5 is with porcelains. The average values are relatively low, and the mean index value is only 1.39. These low values are the result of the high frequencies of undecorated creamware bowls and minimally decorated pearlware plates. This probably indicates that everyday tablewares were plain, relatively inexpensive wares. It is unclear if the bowls are in fact tablewares, as they could have been used for food preparation. Current procedure for the Miller analysis is to include all bowls.

Table VII.5, which includes porcelains, does not show significantly higher values, in fact the mean index value only increases to 1.88 from 1.39. This is due to two factors. First, it is probable that the actual values of porcelains in this time period (ca. 1800) are much higher than the values used in the calculations for Table VII.5. This problem will be discussed further in Chapter VIII.

Secondly, since it is standard procedure to use only cups when calculating the ceramic economic index (Miller 1980), saucers are not used, and thus, only nine porcelain vessels could be added to the 5a assemblage. The majority of the porcelain vessels in this collection, however, are saucers and not cups. Therefore, the mean index value is clearly deflated. As an experiment, LBA recalculated the index using porcelain cups, and porcelain saucers which had decorations not found on these cups. The rationale for using these saucers is that cups and saucers were bought in pairs (Miller 1980). The index values calculated with and without these saucers are presented in Table VII.5.

The average value for cups increases from 3.72 to 4.27 when the saucers are included. The mean index value also increases, from 1.88 to 2.26. With the porcelain saucers, the inclusion of porcelains increases the economic value of the Feature 48 ceramic assemblage. In fact, the feature then exhibits the highest ceramic economic value of all the Barclays Bank Site's assemblages.

As in Miller analysis, the relative ceramic ranking also produces relatively low values. Calculations without porcelains (Table VII.6) indicate that the majority of vessels are undecorated and minimally decorated, as noted in the Miller analysis. However, when porcelains are included in the relative ranking, the index value does increase (Table VII.7). This is due to the addition of twenty-five porcelain vessels to the sample. The relative ceramic values suggest that the Feature 48 household(s) chose to purchase both relatively inexpensive tablewares and expensive teawares.

In order to determine the amount of artifact curation within the Feature 48 household(s), the glass and ceramic TPQs and the mean

TABLE VII.4

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 FEATURE 48, DEPOSITIONAL UNIT 5a, LOT 19 AT 146 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups				
(unhandled)	CC	1.00	2	2.00
(unhandled)	Painted	1.80*	<u>4</u>	<u>7.20</u>
			6	9.20
			Average Value: 1.53	
Plates*				
	CC	1.00	9	9.00
	Edged (8")	1.29	13	16.77
	(7")	1.33	2	2.66
	(6")	1.40	2	2.80
	Willow**	3.86	2	7.72
	Other Transfer	.		
	Printed (7")	4.00	<u>1</u>	<u>4.00</u>
			29	42.95
			Average Value: 1.48	
Bowls				
	CC	1.00	21	21.00
	Painted***	2.33	2	4.66
	Printed****	2.80	<u>2</u>	<u>5.60</u>
			25	31.26
			Average Value: 1.25	

Mean Index Value: = 1.39

- * 1796 Index
- ** Index Value for 8" Other Transfer Printed
- *** 1802 Index
- **** 1814 Index

TABLE VII.5

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 FEATURE 48, DEPOSITIONAL UNIT 5a, LOT 19 AT 146 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups				
(unhandled)	CC	1.00	2	2.00
(unhandled)	Painted	1.80*	4	7.20
	Porcelain**	5.18	<u>9</u>	<u>46.62</u>
			15	55.82
			Average Value: 3.72 ¹	
Plates*				
	CC	1.00	9	9.00
	Edged (8")	1.29	13	16.77
	(7")	1.33	2	2.66
	(6")	1.40	2	2.80
	Willow**	3.86	2	7.72
	Other Transfer			
	Printed (7")	4.00	<u>1</u>	<u>4.00</u>
			29	42.95
			Average Value: 1.48	
Bowls				
	CC	1.00	21	21.00
	Painted****	2.33	2	4.66
	Printed*****	2.80	<u>2</u>	<u>5.60</u>
			25	31.26
			Average Value: 1.25	

Mean Index Value: = 1.88¹

* 1796

** Highest Index Value listed for 1795

*** Index Value for 8" Other Transfer Printed

**** 1802 Index

***** 1814 Index

¹ If porcelain saucers, with decorations not found on the cups, are included with the porcelain cups in calculating the index, the resulting value for cups becomes 4.27, while the Mean Index value becomes 2.26.

TABLE VII.6
RELATIVE CERAMIC VALUE INDICES*

<u>DEPOSIT</u>	NUMBER OF VESSELS BY CATEGORY				<u>TOTAL</u>	<u>RELATIVE INDEX</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>		
Hull and Bowne drug firm	No Value**					
Hulls/Gain deposit or TenEyck, Bowne and Baker deposit	38	31	10	7	86	48
Van Voorhis Shop/ Residence	57	6	13	4	80	39
Joel and Jotham Post	No Value**					
D. Dunham Store	11	4	3	10	28	61
Store on Water Street	8	5	3	3	19	21

Category 1: Undecorated
Category 2: Minimally Decorated
Category 3: Handpainted
Category 4: Transfer Printed

* Calculated without Procelains
** Insufficient Sample Size

Relative ceramic values were calculated by multiplying the percentage of vessels in each category by the rank value. The sum of these products was then divided by 4 and multiplied by 100 to yield the index. The indices range from 33.33 to 100; the greater values reflect the most costly ceramic assemblage.

TABLE VII.7
RELATIVE CERAMIC VALUE INDICES*

<u>DEPOSIT</u>	NUMBER OF VESSELS BY CATEGORY					<u>TOTAL</u>	<u>RELATIVE INDEX</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Hull and Bowne, drug firm	No Value**						
Hulls/Gain deposit or TenEyck, Bowne and Baker deposit	38	31	10	7	25	111	51
Van Voorhis Shop/ Residence	57	6	13	4	45	124	56
Joel and Jotham Post	No Value**						
D. Dunham Store	11	4	3	10	5	33	56
Store on Water Street	8	5	3	3	3	22	49

Category 1: Undecorated
Category 2: Minimally Decorated
Category 3: Handpainted
Category 4: Transfer Printed
Category 5: Porcelains

* Represents the total vessel assemblage
** Insufficient Sample Size

Relative ceramic values were calculated by multiplying the percentage of vessels in each category by the rank value. The sum of these products was then divided by 5 and multiplied by 100 to yield the index. The indices range from 25 to 100; the greater values reflect the most costly ceramic assemblage.

ceramic dates are compared. The standard deviation of the mean ceramic date is also examined. The MCD calculations for all the depositional units within the site (Appendix J) show that the standard deviations range from 12.8 to 80.0. The average standard deviation is approximately 20 to 30. The Feature 48 assemblage has the lowest standard deviation (i.e., 12.8). This suggests that the ceramic dates cluster around the 1795 MCD, that the artifacts were deposited in a relatively short period of time, and that there are few curated ceramic vessels in the collection. The few curated pieces are underglaze blue Chinese porcelains which probably date from the third quarter of the eighteenth century (See Plate VII.4). The remainder of the porcelain vessels date to the last decade of the eighteenth century, based on illustrations in Howard (1984). The relative absence of curated items is also supported by the similar glass and ceramic TPQs. The glass TPQ is 1800 and the ceramic TPQ is 1800.

c. The Van Voorhis Silver, Gold, and Jewelry Shop
(Depositional Units 12 d, e, f, and g, and 13)

The soil matrices making up these depositional units, which date to 1780/1790, include a charcoal layer and brick and mortar rubble. Mixed within these soils are a variety of domestic items and materials from metallurgical activities, i.e. ceramic crucibles.

The pattern analysis indicates that the crucibles make up 11.2 percent of all artifact classes in Depositional Unit 12d, and 7.8 percent in 12e, and 15.3 percent in 12g. There are no crucibles in 12 f, and only .2 percent of the Depositional Unit 13 assemblage consists of these vessels. The crucibles range from 1 inch (2.5 cm) to 6 inches (15.6 cm) in size, and have rounded or flat bases, with flaring sides and triangular mouths. Some are cylindrical. The range of sizes is interesting, especially since many of the crucibles can be nested (Plate VII.10), probably for easy storage. The crucibles appear to be made of a cement-like clay, and have small quartz-like inclusions in their paste. Some vessels show no interior use at all, while others have crusty deposits of various colors, probably metallic in nature. A small portion also have a glassy deposit on their exteriors, as if something spilled or dripped onto the exteriors during firing.

Crucibles have also been found in the Lodge Alley Site in Charleston, South Carolina (Zierdan et al. 1983). The size and shape of the crucibles from Lodge Alley are similar to those from the Barclays Bank Site. The Lodge Alley Site is also from the same time period (late eighteenth-early nineteenth century). Many of the crucibles from Charleston are made of clay, but Zierdan et al. (1983) report that several are also made of graphite. Another difference in the crucibles among the two sites is the occurrence of maker's marks in the Charleston collection. No marks are present on the vessels from New York.

Overall, the crucibles from the two sites are similar. The Lodge Alley Site, however, has a much larger assemblage: 6,133 fragments and a MNV count of 481, while the Barclays deposits contain 669 fragments, with a MNV count of 125. These types of vessels have also been found at other archaeological sites (e.g., Newburyport, Massachusetts (Faulkner et al. 1978)), and some have been recovered from contexts clearly associated with metallurgical activities (Noel Hume 1970b).

The crucibles would have been placed into fires of intense heat to melt the metal contained within. As noted earlier, these fires would probably be within an oven/furnace within the cellar. Crucibles of all sizes would be required, depending on the amount of metal to be melted down, and thus the size of the object being created. Given that the crucibles from Lot 18 are not very large, Van Voorhis and his partners were probably making small objects, or large objects constructed of many small pieces of metal or metal plate.

The pattern analysis on Depositional Units 12d,e,f, and g, and 13 (Appendices M and N) does not show any unusual values except for the large number of crucibles. The high architectural counts for 12f, g, and 13 are not unexpected, given that the soil matrices are predominantly brick and mortar rubble. One artifact group that does stand out are the numerous Oriental porcelain vessels, particularly in Depositional Unit 12d. The latter contains 34 of these vessels.

The Oriental export porcelain in 12d whose forms could be identified, are almost entirely teawares, and include handleless tea cups and saucers. The assemblage contains underglaze blue, polychrome overglaze decorated, and "Imari style" vessels. There are no apparent sets (two or more matching pairs of cups and saucers) but several tea cups and saucers show underglaze blue waterscape scenes; and there are a variety of small-scale floral overglaze patterns. It is possible, however, that the assemblage originally contained some matching vessels as at least two saucers have rose pink diaper borders with swags and floral motifs. The one non-teaware vessel, a plate of indeterminate diameter, has an "Imari-style" decoration. The assemblage as a whole, based on styles of decoration, consists predominantly vessels purchased during the late eighteenth century. It also includes two British soft paste porcelain tea cups and a saucer with underglaze blue transfer prints. The two cups have identical floral motifs and borders and might have been part of a tea service.

The apparent lack of sets among the porcelain vessels does not imply that Van Voorhis and/or his partners did not purchase sets and whole tea services. It is possible that the porcelain vessels in these deposits represent only a part of Van Voorhis's overall ceramic assemblage; in which case, the other matching vessels of the service were deposited elsewhere on the lot, and their place of deposition was subsequently removed (i.e.,

destroyed) by later construction activities. An alternative scenario is that these vessels were not used within a residence, but in Van Voorhis's shop, where they were used to "entertain" clients. It is possible that in this type of social environment, a merchant did not serve tea with a complete, matching tea service, given the small number of individuals that would be served at one time. Clearly, the use of teawares and other ceramics in a business environment requires additional historical and archaeological research.

The results of the Miller analysis on the 12d deposit, and 12g, are rather surprising. Without porcelains, the mean index value for 12d is 1.08 (Table VII.8), while the index with porcelains increases to 2.05 (Table VII.9). The latter value is higher than that for Feature 48. The mean index values for 12g, a rubble deposit above 12d, are similar to the 12d values (1.41 without porcelains and 1.93 with porcelains) (Table VII.10 and 11). The porcelains in the 12d and g depositional units have, as noted above, a variety of forms and include plates, cups, and bowls, unlike the Feature 48 assemblage. However, the relative indices (See Tables VII.6 and 7) for the 12d and g deposits and those in Feature 48 are similar. This is to be expected since the relative index makes use of more forms than the Miller analysis. Separate tables are not calculated for Depositional Units 12e,f and 13 because of the low vessel counts in each. Table VII.12 and .13 present the Miller analysis for the entire Van Voorhis assemblage. The index value remains, relatively high.

The glass and ceramic TPQs for 12d are 1780. The MCD for this deposit is 1783 with a standard deviation of 22.8. Depositional Unit 12g has the same glass and ceramic TPQs, and the MCD is 1782 with a standard deviation of 18.7. This indicates that, in spite of the rubble matrix of 12g and the unusual character of 12d (the burn layer), these ceramics can be viewed as a single assemblage with few curated items or intrusions. The exceptions are some of the underglaze blue porcelains, which might have been made in the early eighteenth century.

The Van Voorhis assemblage is one of the more unusual contexts within the project area. The majority of important deposits within the block are from sealed features, such as Feature 48, a privy/well. The Van Voorhis materials were recovered from fills that appeared to have been placed within the cellar of a main house and an attached ell during what may have been lot-wide leveling of structures. However, the Van Voorhis artifacts exhibit the same characteristics as artifacts recovered from a sealed feature, e.g., high proportion of vessel completeness, high MNV counts. These characteristics suggest that the materials in Depositional Units 12d,e,f, and g, and 13 were either taken directly out of the Van Voorhis residence/shop and deposited in the cellars, or were deposited in a sealed feature and then redeposited in the cellars during lot leveling. Regardless of the depositional sequence, these artifacts provide an opportunity to examine the domestic/commercial activities of a late eighteenth-century gold/silversmith and jeweler.

TABLE VII.8

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 DEPOSITIONAL UNIT 12d, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups (unhandled)	Painted	1.80*	2	3.60
Average Value:				1.80
Plates*	CC	1.00	14	14.00
	Edged (9"/8")	1.29	<u>1</u>	<u>1.29</u>
			15	15.29
Average Value:				1.02
Bowls	CC**	1.00	5	5.00
Average Value:				1.00
Mean Index Value = 1.08				

* 1796 Index

** 1802 Index

TABLE VII.9

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 DEPOSITIONAL UNIT 12d, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups				
(unhandled)	Painted	1.80*	2	3.60
	Porcelain**	5.18	<u>14</u>	<u>72.52</u>
			16	76.12
			Average Value:	4.75
Plates*	CC	1.00	14	14.00
	Edged	1.29	1	1.29
	Porcelain***	4.33	<u>1</u>	<u>4.33</u>
			16	19.62
			Average Value:	1.23
Bowls	CC****	1.00	5	5.00
	Porcelain*****	2.80	<u>7</u>	<u>19.60</u>
			12	24.60
			Average Value:	2.05

Mean Index Value = 2.73

* 1796 Index

** Highest Index Value listed for 1795

*** Highest Index Value listed for 1796

**** 1802 Index

***** Second Highest Index Value listed for 1814. (The highest Index Value is for Black Basalts. However, this ware type is listed only for bowls and only for the years 1814 and 1846. If the value for Basalts were used in calculating porcelain values, then the resulting indices among porcelain cups, plates and bowls would not be comparable).

TABLE VII.10

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 DEPOSITIONAL UNIT 12g, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1796)	NUMBER	PRODUCT
Plates	CC	1.00	9	9.00
Average Value:				1
Bowls	CC*	1.00	1	1.00
	Painted*	2.33	3	6.99
	Printed**	2.80	<u>1</u>	<u>2.80</u>
			5	10.78
Average Value:				2.16
Mean Index Value = 1.41				

* 1802 Index
 ** 1814 Index

TABLE VII.11

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 DEPOSITIONAL UNIT 12g, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1796)	NUMBER	PRODUCT
Cups	Porcelain*	5.18	<u>1</u>	<u>5.18</u>
			1	5.18
Plates	CC	1.00	9	9.00
	Porcelain**	4.33	<u>2</u>	<u>8.66</u>
			11	17.66
Average Value:				1.60
Bowls	CC	1.00	1	1.00
	Painted***	2.33	3	6.99
	Printed****	2.80	1	2.80
	Porcelain*****	2.80	<u>3</u>	<u>8.40</u>
			8	19.19
Average Value:				2.40
Mean Index Value = 2.10				

* Highest Value Listed for 1795
 ** Highest Value listed for 1796
 *** 1802 Index
 **** 1814 Index
 ***** Second Highest Index Value listed for 1814

TABLE VII.12

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 DEPOSITIONAL UNIT 12c,d,e,f,g, and 13,
 LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups				
(unhandled)	Painted	1.80*	2	3.60
			Average Value:	1.80
Plates*	CC	1.00	23	23.00
	Edged (9"/8")	1.29	<u>1</u>	<u>1.29</u>
			24	24.29
			Average Value:	1.01
Bowls	CC**	1.00	6	6.00
	Painted**	2.33	5	10.33
	Printed***	2.80	<u>1</u>	<u>2.80</u>
			12	19.13
			Average Value:	1.59

Mean Index Value = 1.24

* 1796 Index
 ** 1802 Index
 *** 1814 Index

TABLE VII.13

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 DEPOSITIONAL UNIT 12c,d,e,f,g, and 13,
 LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1795)	NUMBER	PRODUCT
Cups				
(unhandled)	Painted	1.80*	2	3.60
	Porcelain**	5.18	<u>16</u>	<u>82.88</u>
			18	86.48
		Average Value:		4.80
Plates*	CC	1.00	23	23.00
	Edged	1.29	1	1.29
	Porcelain***	4.33	<u>3</u>	<u>12.99</u>
			27	37.28
		Average Value:		1.38
Bowls	CC****	1.00	6	6.00
	Painted****	2.33	3	6.99
	Printed*****	2.80	1	2.80
	Porcelain*****	2.80	<u>10</u>	<u>28.00</u>
			20	43.79
		Average Value:		2.19

Mean Index Value = 2.58

* 1796 Index
 ** Highest Index Value listed for 1795
 *** Highest Index Value listed for 1796
 **** 1802 Index
 ***** 1814 Index
 ***** Second Highest Index Value listed for 1814. (The highest Index Value is for Black Basalts. However, this ware type is listed only for bowls and only for the years 1814 and 1846. If the value for Basalts were used in calculating porcelain values, then the resulting indices among porcelain cups, plates and bowls would not be comparable).

The occurrence of the crucibles and charcoal within the Van Voorhis deposit suggests that metal objects (e.g., gold and silver) were manufactured within the shop at 144 Pearl Street. Also the crucibles were clearly an important tool in this metallurgical work; and a constant supply of crucibles was kept on hand, as indicated by the many which lacked burned and modified exteriors and interiors. Also, metal objects of different sizes appear to have been manufactured in the shop, thus requiring crucibles of different sizes.

Given the address of the Van Voorhis shop, it most likely served the wealthy households of Pearl Street and other streets to the west (See Chapter IV for an economic profile of area). This was confirmed in a visit to the Museum of the City of New York by an LBA staff member. The museum displayed several silver pieces manufactured by Van Voorhis and his partners. One set of shoe buckles was identified as having been worn by Henry Rensen. Another set of shoe buckles belonged to John Jay (1745-1829), the first chief justice of the United States. Other objects included a spoon for Ebenezer Crossy, engraved with the date of 1788; a silver ladle engraved for Henry White; and two sugar tongs, one engraved "H A" for Henry White and his wife Ann Van Courtland. Finally, there was a candle snuffer made by Van Voorhis and Schanck for a member of the Thurston family.

As noted above, the Van Voorhis assemblage contains a large number of porcelain vessels. This porcelain assemblage is different than the assemblage recovered from the domestic deposit in Feature 48. The latter contained several tea sets while the former did not. This may either be the result of different depositional activities (See above) or purchasing patterns. It is possible that the porcelains from Depositional Units 12d,e,f, and g, and 13 were used in the shop and not a residence. In such a social environment, i.e., entertaining clients, it may not have been necessary to use whole, matching tea services. On the other hand, Van Voorhis may have simply made a decision not to purchase complete tea services, and thus kept down the cost of his ceramic expenditures. The latter explanation is not supported by the occurrence of porcelain plates in his ceramic assemblage. It should be pointed out that no porcelain plates were recovered from the deposits associated with the wealthy households of 146 and 148 Pearl Street (i.e., from Feature 48). Regardless of whether the porcelains were from the shop or residence, Van Voorhis and his partners clearly served the wealthy of late eighteenth century New York, crafting silver and gold objects, and possibly entertaining their wealthy patrons in their shop.

d. D. Dunham Store (Depositional Units 18a and b)

There is a wide variety of glass and ceramic artifacts within Depositional Units 18a and b. Glass vessel forms within 18a include carboys, numerous wine/liquor bottles, a snuff bottle and a bell jar. This context also contains 70 ceramic

vessels. Of these, 22 are stoneware wine/liquor shaped bottles. Other forms are teawares, tablewares, and sanitary vessels. Teawares consist of Oriental export porcelain and transfer printed pearlwares. The majority of tablewares are creamware plates with the Royal rim pattern. There are also shell-edged and transfer-printed pearlware plates. Sanitary vessels include creamware pitchers and a basin, and a blue transfer-printed pearlware chamber pot.

The Oriental porcelain tea cups and saucers are overglaze decorated in European-style floral and geometric motifs. The pearlware transfer printed teawares have designs which appear to date to the first ten or fifteen years of the nineteenth century. One willow-like saucer has features (moths in the border and a steeple-roofed pagoda) which Noel Hume (1973:249) dates to before 1815. An elaborate floral design on another saucer resembles prints dated to the first decade of the century (Coyshe and Henrywood 1982). Two handleless tea cups, one fluted and one plain, have an identical, rather crudely executed, "landscape with ruins" pattern which is unusual because it is in dark green. The use of green for transfer prints is usually dated post-1825 (See Appendix H), but these vessels have characteristics which date them to the first ten or twenty years of the nineteenth century (e.g., tall, square-cut "eighteenth century style" foot rings, deep blue-green glaze puddling). These vessels, therefore, are dated post-1800.

Two small (5-inch diameter) deep bowls (or possible breakfast cups) from the D. Dunham deposit, have prints which are very similar to some identified by Coyshe and Henrywood as "copied from wood engravings by Thomas Bewick in his 'History of British Birds'" published between 1797 and 1804 (Coyshe and Henrywood 1982:230). The maker of these bowls is unknown. The assemblage also includes an engine-turned redware coffeepot, with a pedestal foot, and a three-gallon, wide-mouthed, straight-sided stoneware jar, which is marked "C. Croluis, Manufacturer, Manhattan-Wells, New York." This mark can be attributed to Clarkson Croluis, Sr. and is dated between 1800 to 1814 (Janowitz and Botwick 1986).

Depositional Unit 18b has fewer vessels than 18a. Of the twelve vessels in the former deposit, five mend with 18a. The remaining seven are fragmentary and include two delftware bowls, a stoneware jar, and a redware jar. Only the latter vessel is more than 25 percent complete.

The ceramic economic scaling analyses produced some interesting results. The Miller analysis without porcelains yields a mean index of 1.26; with porcelains the index is 2.25 (Tables VII.14 and 15). The latter value is among the highest of the four contexts examined through the Miller analysis. The relative economic ranking shows a similar pattern (Tables VII.6 and 7). These comparisons, however, must be viewed cautiously because of the more than ten year spread between the MCDs of the contexts listed in Tables VII.6 and 7.

TABLE VII.14

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 DEPOSITIONAL UNIT 18a, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1796)	NUMBER	PRODUCT
Cups				
(unhandled)	Printed	3.40*	4	13.60
				Average Value: 3.40
Plates	CC	1.00	9	9.00
	Edged**	1.23	4	4.92
	Other Transfer			
	Printed**	3.43	<u>1</u>	<u>3.43</u>
			14	17.35
				Average Value: 1.24
Bowls	CC	1.00	1	1.00
	Printed***	2.33	<u>2</u>	<u>4.66</u>
			3	5.66
				Average Value: 1.89
Mean Index Value = 1.26				

* 1796 Index

** 8" Size

*** Painted Index Value

TABLE VII.15

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 DEPOSITIONAL UNIT 18A, LOT 18 AT 144 PEARL STREET

FORM	TYPE	SCALE (1802)	NUMBER	PRODUCT
Cups (unhandled)	Printed	3.40*	4	13.60
	Porcelain	4.20**	<u>2</u>	<u>8.40</u>
			6	22.00
			Average Value: 3.67	
Plates	CC	1.00	9	9.00
	Edged***	1.23	4	4.92
	Other Transfer			
	Printed	3.43	<u>1</u>	<u>3.43</u>
			14	17.35
			Average Value: 1.24	
Bowls	CC	1.00	1	1.00
	Printed****	2.33	2	4.66
	Porcelain*****	2.80	<u>2</u>	<u>5.60</u>
			5	11.26
			Average Value: 2.25	
Mean Index Value				= 2.02

* 1796 Index

** Highest Index Value listed for 1796

*** 8" Size

**** Painted Index Value

***** Second Highest Index Value listed for 1814

The MCD (1806), the ceramic TPQ (1825), and the glass TPQ (1813) for Depositional Unit 18a indicate that some vessels might be curated or that this is a temporally mixed deposit. The unit's standard deviation, 20.73, could support either scenario. A similar dating pattern is found in Depositional Unit 18b.

As noted above, a number of gray bodied stoneware bottles with brown slipped surfaces were recovered from Feature 46. These bottles are wheel-made and are approximately quart-sized. Their shapes resemble those of wine/liquor bottles of the late eighteenth and early nineteenth centuries. Webster (1971:193) illustrates a similarly shaped bottle which he dates to ca. 1810 to 1830. Ketchum (1983, Plate 76) also dates long necked wheel made bottles between 1800 and 1830, and notes that these bottles are rare compared to glass ones of this period.

All of the bottle bases are either "plain cut" or sponge smoothed (Greer 1981:68). Most have small concentric circular marks in the center of the base, and many are slightly depressed at the center. The majority also have a beveled rim at the edge of the base. Necks are elongated, usually with double or single incised lines just above the widest part of the shoulder. The mouths are applied collars, which are wide and often slightly indented. The bottles' brown exterior slips are various shades of medium to dark brown, and are generally saltglazed. Interiors are generally unslipped.

Webster (1971:191) notes that stoneware bottles had one distinct advantage over lighter, cheaper glass bottles - they could keep liquids cool for longer periods and thus were suitable containers for beer or early soft drinks. He also states that "the great majority of stoneware bottles were made not for ultimate sale to individuals but in quantity for brewers and soft drink producers, or on order for tavern keepers and store owners" (1971:192).

Both Depositional Units 18a and b have been identified as commercial deposits. In the pattern analysis, the majority of the collection is within the Kitchen Group, with glass bottle sherds the predominant artifact class (see Appendix M). The high bottle glass count (40 per cent of all artifact classes within the 18a assemblage) is unusual for a residential deposit. The fill in Feature 46 also has a high frequency of stoneware bottles (28 percent of ceramic vessels identifiable by function), a pattern not seen in any other deposits within the block. However, 16 percent of the ceramic vessels in 18a are teawares and 35 percent are tablewares. The glass assemblage contains 72 tumblers, which is 43 percent of all identifiable glass vessels (Appendix N). Units 18a and b also contain a large amount of bone. These observations do not correlate with the documented uses of the lot in the first twenty years of the nineteenth century. The firms that occupied the lot were auctioneers and commission merchants. There were no documented residences, or taverns, at 144 Pearl Street between 1800 and 1830 (See Section C.3 of this chapter). However, a domestic occupation is suggested by the table and teawares and

the bone count; but the ceramic and glass bottle frequencies might just as well indicate either a tavern, a store which dispensed liquids by the bottle, a manufacturer of beer, ale or soda or mineral waters, or a warehouse storing such bottles.

Given the uncertain origin of the materials within Feature 46 and the difficulty of linking the materials to a specific individual or store owner, it is not possible to describe the types of goods sold by auctioneers and commission merchants, as had been expected.

e. Depositional Unit 13, Lot 16/140 Pearl Street and 106
Water Street

The assemblage within Depositional Unit 13 (Feature 52), which dates to ca. 1820, was unique within the block because of the large numbers of castor bottles. These bottles, which make up 65 percent of the identifiable glass forms (Appendix N) have been described in the lot discussion in Section C of this chapter.

Unlike the glass assemblage, the ceramic assemblage from Feature 52 is small, but it does contain a variety of vessel types. The vessels whose form could be determined include tablewares (plates and a small platter), teawares (cups, saucers, and a tea pot in underglaze polychrome and a cup in early transfer printed pearlware), a redware small mouthed jar, a redware chamber pot, and slipware "pie plates." The small platter is oval shaped with squared corners and has a medium blue Willow print. It is marked "WEDGWOOD" and can be attributed to Josiah Wedgwood's pottery. This platter and a redware chamber pot are the only vessels which are almost complete. The rest of the vessels are less than 25 percent complete, except for the teapot and a red slipware "taster" (a small plate with pie crust edge) which are between 25 and 50 percent complete. Fragments of a Castleford type stoneware vessel with an embossed American eagle are also in this assemblage. This vessel is probably a paneled tea pot. The American eagle motif is common on such wares.

In terms of the ceramic vessel functional analysis, Depositional Unit 13 exhibits proportions similar to those of Feature 48, which is clearly a domestic deposit. Therefore, at least based on ceramics, Feature 52 contains domestic refuse. The Miller analysis on the Feature 52 ceramics produced relatively low mean index values (Tables VII.16 and 17). The relative ranking, particularly the calculation without porcelains, was also low (Tables VII.6 and 7).

Pattern analysis for Depositional Unit 13 (Appendix M) shows that the miscellaneous glassware category (i.e., castors) contains the highest proportion of materials. No other deposit within the site has this characteristic. Based on the high frequency of glass castors, the material in Unit 13 is most likely from a store on Water Street. No other items within the assemblage point definitely to commercial activities. Unfortunately, as noted earlier,

TABLE VII.16

CERAMIC ECONOMIC SCALING ANALYSIS (WITHOUT PORCELAINS)
 DEPOSITIONAL UNIT 13, LOT 16 AT 140 PEARL STREET

FORM	TYPE	SCALE (1796)	NUMBER	PRODUCT
Cups	Printed	3.40	1	3.40
				Average Value: 3.40
Plates	CC	1.00	5	5.00
	Edged	1.29	<u>4</u>	<u>5.16</u>
			9	10.16
				Average Value: 1.13
Bowls	CC	1.00	1	1.00
	Painted*	1.60	2	3.20
	Printed*	2.80	<u>1</u>	<u>2.80</u>
			4	7.00
				Average Value: 1.75
				Mean Index Value = 1.50

* 1814 Index

TABLE VII.17

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 DEPOSITIONAL UNIT 13, LOT 16 AT 140 PEARL STREET

FORM	TYPE	SCALE (1796)	NUMBER	PRODUCT
Cups	Printed	3.40	1	3.40
	Porcelain*	4.20	<u>1</u>	<u>4.20</u>
			2	7.60
			Average Value: 3.80	
Plates	CC	1.0	5	5.00
	Edged	1.29	4	5.16
	Porcelain*	4.23	<u>2</u>	<u>8.66</u>
			11	18.82
			Average Value: 1.71	
Bowls	CC	1.00	1	1.00
	Painted*	1.60	2	3.20
	Printed**	2.80	<u>1</u>	<u>2.80</u>
			4	7.0
			Average Value: 1.75	
Mean Index Value				= 1.96

* Highest Index Value listed for 1796

** 1814 Index

it is not currently possible to link these glass vessels to a specific store.

f. Landfill

The landfill deposits on the block exhibit high degrees of variability in soil colors and texture (Appendix D). However, the properties north of Water Lot Grant 4 (i.e., Lots 19, 20, 23, 24, and 25, see Appendix C, Section 1) tend to have more sands and silts and lighter colored soils than those in Water Lot Grant 4 (i.e. Lots 16, 18 and 26). These observations support the findings of the archaeological monitoring: Water Lot Grant 4 contains fills that are different than those in the lots to the north. As noted in Chapters 4 and 6, Water Lot Grant 4 was granted two years later than the other water lots in the project area.

The distinctions between Water Lot Grant 4 and the other water lots are not evident when comparing the distribution of brick, mortar and shell weights. The analysis of weights (Appendix O) shows great variability among the lots. The distribution of pre-historic materials (Appendix P) is also inconclusive. The overall frequencies among the different water lots are too low for valid comparisons. These artifacts occur in all lots throughout the project area, with slightly higher frequencies in Water Lot 3 (i.e., Lots 19 and 25).

Appendix Q shows distributions of glass, ceramics, and leather scraps in landfill. Table VII.18 summarizes the data presented in Appendix Q, and includes counts for all bone from these landfill depositional units. It should be noted that bone scraps are included in these counts. Floral remains are not included in this tally for two reasons. First, the floral materials analyzed in Appendix F include seeds from both flotation samples and soils screened during field excavations. Secondly, flotation samples were processed immediately after the completion of fieldwork, and were selected based on field results, and not subsequent artifact analyses. Therefore, several contexts that had not been identified as landfill during the field effort, but were assigned this designation based on subsequent artifact analyses, were not processed.

In most of the landfill depositional units within the Barclays Bank Site (Table VII.18), ceramics make up the greatest proportion of the artifact assemblages. The few exceptions include Depositional Unit 2a in Lot 26/110 Water Street, where the proportion of bone is similar to the proportion of ceramics, and Depositional Units 1d in Lot 24/114 Water Street, which exhibits a high frequency of leather. In fact, the latter deposit contains the greatest proportion of leather among all the landfill depositional units. It should be noted that even though all of these depositional units were examined through hand excavation, the amount of soil that comprises each is quite variable. Thus, the patterns seen in Table VII.18, must be interpreted with caution,

TABLE VII.18

PROPORTION OF CERAMICS, GLASS,
LEATHER AND BONE AMONG LANDFILL
DEPOSITIONAL UNITS

Lot		Depositional Unit	Ceramics		Glass		Leather		Bone		Total
			#	%	#	%	#	%	#	%	#
Lot 20/148	Pearl Street	2	7	64.00	-	-	3	27.00	1	9.00	11
Lot 19/146	Pearl Street	1a	243	72.00	46	14.00	7	2.00	43	13.00	339
Lot 18/144	Pearl Street	1a	22	54.00	5	12.00	5	12.00	9	22.00	41
Lot 18/144	Pearl Street	1b	162	66.00	57	23.00	-	-	27	11.00	246
Lot 16/140	Pearl Street	1	152	63.00	21	9.00	11	5.00	58	24.00	242
Lot 26/110	Water Street	2a	54	44.00	26	21.00	4	3.00	40	32.00	124
Lot 24/114	Water Street	1a	1	50.00	-	-	-	-	1	50.00	2
Lot 24/114	Water Street	1c	7	64.00	2	18.00	-	-	2	18.00	11
Lot 24/114	Water Street	1d	22	37.00	-	-	32	53.00	6	10.00	60
Lot 24/114	Water Street	1e	14	64.00	-	-	-	-	8	36.00	22
Lot 25/112	Water Street	1a	4	57.00	2	29.00	-	-	1	14.00	7
Lot 23/116	Water Street	1b	1	25.00	3	75.00	-	-	-	-	4

given this possible sample bias. Unfortunately, this problem occurs with all archaeological landfill studies within New York. No researcher has attempted the huge tasks of calculating the artifact density of landfill deposits for each site in the city. Until this is done, any comparisons between and within sites remain problematical.

As noted above, monitoring and hand excavation suggested that the soils in Water Lot 4 were darker and more organic in appearance than soils in the other water lots. Assuming for the moment that the proportions among artifact classes on Table VII.18 are representative of the landfill deposits within the Barclays Bank Site, it would appear that no major differences exist between those lots falling into Water Lot Grant 4 and those north of Lot 4, in terms of artifact classes. Also, a higher frequency of organic materials (i.e., leather scraps and bone) is not evident when Lot 4 is compared to the other Water lots (Table VII.19). In fact, Table VII.19 shows that there is virtually no significant difference among these groupings of lots. This suggests that even though different sources of soil were used to fill the water lots, the artifact content of these soils was similar.

TABLE VII.19

PROPORTION OF CERAMICS, GLASS,
LEATHER, AND BONE FROM LANDFILL IN
WATER LOT GRANT 4 AND OTHER WATER LOTS ON BLOCK

	Water Lot 4 140/144 Pearl Street, 110 Water Street		Other Water Lots 146/148 Pearl Street 112/114/116 Water Street	
	#	%	#	%
Ceramics	305	65.00	384	60.00
Glass	57	12.00	105	17.00
Leather	42	9.00	20	3.00
Bone	<u>67</u>	14.00	<u>129</u>	20.00
Total	471		638	

VIII. SYNTHESIS

A. INTRODUCTION

The primary research objectives of the Barclays Bank archaeological project are: (a) to describe the consumer behavior of eighteenth- and nineteenth-century merchants and skilled craftsmen who occupied the block, (b) to study how these individuals used space within their respective lots, (c) to describe the activities in late eighteenth- and early nineteenth century chemist/druggist shops, and (d) to identify the processes of landmaking used to create the block and compare these processes with those used to create other blocks within the city. As a result of both the field and artifactual analyses, these research goals have been modified. The project area contains only one definite domestic deposit, i.e., Feature 48, which is associated with one or more wealthy households that occupied 148 and 146 Pearl Street circa 1800. In terms of the use of space within the lots, it is not possible to link construction and use of buildings and features to specific occupants, although general patterns and trends in use of space can be identified. As for description of commercial activities, it is possible to describe the contents of a late eighteenth- and early nineteenth-century drug shop using materials from two features within the block. In addition, the project area contained the remains of another, unexpected, commercial activity: metallurgy. The fill within a cellar at 144 Pearl Street yielded a large number of clay crucibles along with domestic refuse. These materials are most likely from the shop/residence of Daniel Van Voorhis, a silver/goldsmith and jeweler. Finally, processes of landmaking are identified through an examination of soil types. An analysis of artifact distributions within these landfill soils demonstrates that the different soils contain the same types and proportion of materials.

Another aspect of the project's research goals is to use these data to test several hypotheses about past activities within the block. One aspect of the hypotheses testing is to compare lot use, consumer behavior, and landmaking within the Barclays Bank Site to other sites in the city and the Northeast region. All but one of the sites involved in this comparison are from urban contexts (Table VIII.1). The two other New York City sites, the Telco Block and 175 Water Street Sites, have been described in Chapter II. As shown in Table VIII.1, the Telco Block contexts used in this comparison include a stone-lined privy (Test Cut AT) and a wooden box structure (Test Cut AX). Materials in the stone-lined privy are associated with wealthy fur merchants who occupied the lot circa 1820 [which is the depositional date of the materials in the feature (Wall 1987)]. The fill within the wooden box structure (AX), which dates to circa 1810, contains refuse from households headed by grocers (Wall 1987). The 175

TABLE VIII.1

DEPOSITS USED IN BARCLAYS BANK SITE COMPARATIVE ANALYSES

<u>Household</u>	<u>Date</u>	<u>Location</u>	<u>Occupation of Head of Household</u>	<u>Owner or Tenant</u>	<u>Size of Household</u>
Van Voorhis Shop/ Residence	1780-1790	Barclays Bank Site New York City	Silver/goldsmith, jeweler	?	?
Lot 21, Feature 43, Level 2 Household(s)	1795-1820	175 Water Street Site New York City	Merchants, tailors	Owner	?
Lot 20 Feature 49 Household(s)	1795-1820	175 Water Street Site New York City	Shop keepers, grocery firm, merchants	Owner	?
Thomas Hamlin	1790-1810	Warren County, New Jersey	Farmer	Owner	4-5
Feature 48 Households	ca. 1800	Barclays Bank Site New York City	Druggist, printer & book- sellers, merchants	Owner and Tenants	Oliver and John Hull (1790) = 14 Oliver Hull (1800) = 7 Hugh Gain (1790) = 8 Richard Bowne (1810) = 7 Philip Ten Eyck (1800) = 5 * Baker (1811) = ?
Lot 37/38 Test Cut AT Household(s)	ca. 1820	Telco Block New York City	Fur merchants	Tenants	?
Lot 38 Test Cut AX Household(s)	ca. 1810	Telco Block New York City	Grocers	Tenants	?
John Hamlin	1810-1856	Warren County, New Jersey	Farmer	Owner	(1830) = 10 (1840) = 10 (1850) = 3
John Richardson	1810-1816(?)	Christina Gateway Project Area, Wilmington, Delaware	**	Owner	?

*Baker leaves before 1820; therefore, he is not recorded in 1810 or 1820 census at this address.

**Richardson owned many properties in Wilmington and the surrounding county. He appears to have been wealthy.

Water Street features consist of a stone-lined privy (Feature 43, Level 2) and a structure which was identified as a wooden box/coffer dam (Feature 49) (Geismar 1983:64 and 65). The historical association of the two 175 Water Street features is not clear, as each lot had a series of owners over a short period of time. Also, there is some question as to whether the materials within Feature 49 are from the lots within the 175 Water Street block or represent fill brought into the site (Geismar, personal communication 1986). For the purpose of this study the former scenario is assumed. This is supported by the very high frequency of reconstructable ceramic vessels within the feature. With these caveats in mind, Feature 43 appears to be associated with merchants and tailors, while Feature 49 is linked to shop keepers, a grocery firm, and merchants.

The various Wilmington, Delaware, households were investigated in the Christina Gateway (Louis Berger & Associates, Inc. 1985) and the Wilmington Boulevard archaeological projects (Klein and Garrow 1984). All deposits from the Wilmington sites are from privy/wells or cisterns. The one rural site included in this sample is the Hamlin farmstead in Warren County, New Jersey (Louis Berger & Associates, Inc. 1986). This site was occupied by two generations of the Hamlin family: Thomas Hamlin from 1790 to 1810, and his son John from 1810 to 1850. Based on his landholdings, Thomas Hamlin was one of the most wealthiest farmers in Warren County. John's economic status is unclear. The Hamlin deposits consisted of sealed sheet refuse. These rural households are included in the comparative analyses since they date to the same time periods as the urban sites. Sites from Miller's study (1980) are also included in the economic scaling analyses. As a result, the sample of rural households is increased.

B. RESEARCH HYPOTHESES

Hypotheses 1 and 2 examine internal lot configurations and the processes that might influence these configurations.

Hypothesis #1

Among all the lots occupied by small-scale merchants such as the chemist/druggist, the internal configuration and use of space within the lots will be similar.

Hypothesis #2

The internal configuration and use of space within the lots will change as a result of change in the lot function, change in the household type occupying the lot, and/or the introduction of city services.

It is not possible to link changes in lot configurations to the small-scale merchants who occupied the block. The linkages that can be made are between historical occupations and the fills

within structures and features and not with the structures and features themselves. However, a newspaper advertisement provides an opportunity to associate the use of the cistern in Lot 20/148 Pearl Street with Hugh Gaine's tenure. It is also not possible to identify a relationship between changes in lot configuration and lot function (See Chapter VII). Water was the first major utility service that was available to the block's occupants. Dates of access to the water system for each of the lots within the project area are listed in Table IV.2. Given that all excavated wells and cisterns within the block appear to have been filled prior to dates of accessibility to the water system, it is not possible to test this aspect of Hypothesis #2.

Even though it is not possible to test Hypotheses Numbers 1 and 2 as stated, archaeological and historical data from the block do provide a picture of general internal lot configuration and how it changed over time. The first buildings on the block did not cover the entire lot. Within the rear yard areas of these lots, there was often a wooden cistern placed directly into landfill soils. These cisterns were usually near the corners of the rear foundation wall of the original structures. These features appear to date to the early eighteenth century, and, at least in the case of the cistern at 148 Pearl Street, continued to be used into the latter half of the century. Similar wood structures have been identified at the 7 Hanover Square Site (Nan Rothschild, personal communication 1986). Cisterns in both the Telco and 175 Water Street sites were made of stone. These features date later than those in the Barclays Bank Site, and some continued to be used during the nineteenth century. The reasons for this change from wood to stone cisterns is unknown; however, it may be related to decreasing wood supplies within the area.

In almost every lot, extensions were added to the original structures, usually in the form of an "ell" with a cellar, leaving the remainder of the lot as an open yard. By at least the mid-nineteenth century, some of the lots were completely covered by buildings. Others retained constricted yards. Lot 18/144 Pearl Street has the best preserved yard area within the block. Located to the south of the ell extension, the yard contained several cobble pavements, each representing changes in elevation of the yard. It is hypothesized that these pavements covered the entire yard. The uppermost cobble surface was associated with two barrel features. The original function of these features is unknown, but their final use was for trash disposal. Lot 16/116 Water Street contained a barrel feature that appears to have been used for drainage purposes, as both its sides and bottom were perforated. The wood of the two barrels in Lot 18 was so deteriorated that it was not possible to determine if they too were perforated.

In 1780/1790 or later, the buildings within the block were demolished, cellars and features were filled, and the lots leveled. This is most evident in Lots 19 and 18. There are several scenarios that may explain this radical change in lot

configurations. The project area had been destroyed by at least two major fires, one in 1778 and one in 1835. The earlier fire predates the demolition/leveling episode within the block. A correlation between the 1835 fire and this episode is possible; however, there is no evidence for a catastrophic fire within the block. Such evidence may have been removed during nineteenth-century foundation and cellar construction. An alternative scenario is that the lot leveling occurred as the result of changes in lot ownership and use. It is possible that as the commercial character of the block increased, property owners demolished the ca. 100 year old buildings on the block to make way for new structures, e.g., warehouses. This change may have taken place in the late eighteenth century. Historical research shows that by the 1820s this transition to commercial land use was virtually complete.

In addition to these internal lot uses and changes, field investigations within the block revealed two unusual structural elements. Within Lot 25/112 Water Street there was a yellow brick cistern of unknown date. Its shape was unusual, consisting of only one-quarter of a circle. Yellow bricks are generally considered to be early, i.e., seventeenth or early eighteenth centuries. It was not possible to associate this feature with a lot occupancy, due to the absence of a builder's trench and the effects of later construction activities within the lot.

Beneath several of the lot walls were deep stone or brick wells (See Figure V.1). These features are unusual because they straddle lot lines and are located in landfill. As noted in Chapter VI, these wells may have been used to supply water for fire fighting. It is also possible that the water from these wells was used for commercial activities, such as printing and metallurgy. Regardless of their use, these features represent communal activities within the block. Water from the wells was probably shared either by the occupants of the two adjacent lots or the entire block. Historical research shows that the street provided the focus for the neighborhood (See Chapter IV). The location of the wells within the center of the block implies that the street face may have only been one aspect of neighborhood cohesion.

Hypotheses Numbers 3, 4, and 5 examine the consumer behavior among different household types in New York City and the Northeast region.

Hypothesis #3

Controlling for household structure and wealth, the consumer behavior of the block's skilled craftsmen, chemists/druggists, and other small-scale merchants will be similar. Further, the consumer behavior of these households will be similar to that of contemporaneous and economically comparable households in New York City or other coastal cities in the Northeast region.

Hypothesis #4

As the economic base in New York City changes, or if fluctuations occur in economic activity, there will be changes and fluctuations in the consumer behavior of the block's small-scale merchants, such as the chemists/druggists, and skilled craftsmen. These same consumer changes and fluctuations would be observed among economically comparable households in the city and among those in other eastern coastal cities, where these economic changes and fluctuations also occurred.

Hypothesis #5

Households contemporaneous with the block's small-scale merchants and skilled craftsmen, but of different economic standing, will exhibit different consumer behavior patterns. Also, as the economic base of New York City, or any coastal city in the Northeast region, changes or fluctuates, the consumer behavior of these households of different economic standing will also change and fluctuate, but in a different pattern than the block's skilled craftsmen and small-scale merchants.

Only one definite household(s) deposit could be identified within the block; and this deposit appears to be associated with one or more wealthy households. As a result, it is not possible to test Hypothesis #3. In terms of Hypothesis #4, historical research has shown that the period between circa 1780 and the Civil War was one of continual and rapid economic growth. There do not appear to be any major changes in the economic base in the Northeast, nor were there any major fluctuations except for a brief interruption in trade during the War of 1812 (See Chapter IV). All the archaeological assemblages listed in Table VIII.1 date to this ante-bellum period. As a result, Hypothesis #4 cannot be tested. Any observed changes in consumer behavior must be viewed in the context of a growing, not changing, economic base. Portions of Hypothesis #5 can be tested, as the sample of households includes a landed gentleman in Wilmington, Delaware, the Feature 48 households and the Telco Block and 175 Water Street households.

In order to be more confident in the results of the hypothesis testing, it would be ideal to be able to control for the size, composition, and life cycle of the households used in this study. Such data, unfortunately, are not available for most households. However, whenever this information is available, it is included on Table VIII.1. Most households in Table VIII.1 have seven or more individuals, including family members, servants, and sometimes slaves or apprentices, and only three households have five or fewer people. The greatest number of individuals (14) is found in the combined Oliver and John Hull households, and the smallest number (3) in John Hamlin's diminished 1850 household.

As part of the hypothesis testing, assemblages from different time periods are compared to each other. Based on current

historical archaeological research, it is not clear what influence time has on consumer behavior, particularly in the ante-bellum period. One exception is Miller's research (1980) and Cheek's (1984), which identify the problems of comparing ceramic economic values from assemblages of wide ranging dates. In fact, Miller recommends that deposits that date more than ten years apart should not be compared (Miller personal communication 1985). Given this uncertainty on the importance of time in a study of consumer behavior in the ante-bellum period, it is assumed, for the sake of this current study, that time is not a factor, i.e., a sort of null hypothesis. If differences are observed among assemblages of different time periods, then it will be clear that time is a factor, and that the processes and events that distinguish the periods associated with these assemblages must be investigated further.

Table VIII.2 provides the results of the Miller analysis, which is used to test Hypothesis #5. The Van Voorhis assemblage is not included in these and other ceramic economic analyses in Chapter VIII because it is not clear whether these materials were from a residence or from a shop, or both. The two Water Street assemblages have the lowest value, while Thomas Hamlin, a wealthy farmer, has the highest value of the pre-1810 assemblages. Wall (1987) categorizes the households associated with Feature 49 as both "elite" and "middle class." The Feature 48 households, from the Barclays Bank Site, have an index value comparable to the 175 Water Street assemblages. The differences between all of the four pre-1810 households is not that great (though Hamlin does have a relatively higher index value), and is not unexpected if indeed all of the households are comparable in terms of wealth. What is surprising, however, is that the values are not that high (e.g., 2.00 and up), given the economic level of these individuals. It is also interesting that there is no significant difference between the one rural household and the three urban ones. The small difference that does exist between Thomas Hamlin and the three urban sites disappears when porcelains are included in the analysis (Table VIII.3). Except for the Feature 49 households, all the pre-1810 households remain comparable. However, it should be noted that the Thomas Hamlin assemblage does not contain porcelain vessels.

Three of the households in Table VIII.2 date to the period 1810-1820. Of these, Telco Test Cut AX has the lowest value, but this value is not at the low end of the scale (e.g., less than 1.50). Both Richardson (Wilmington, Delaware) and Telco Test Cut AT exhibit high values, which is expected given both represent wealthy households. The post 1820 households generally show low index values. The one household that does not have a low value, i.e., the Franklin Glass Works, is surprisingly high, especially since John Hamlin is documented as being a fairly well-to-do farmer (Louis Berger & Associates, Inc. 1986). An explanation for this pattern is presented below.

TABLE VIII.2
CERAMIC ECONOMIC SCALING INDICES
CALCULATED WITHOUT PORCELAINS

Household	Cups	Plates	Bowls	Mean Ceramic Index
Thomas Hamlin (ca. 1790-1810)	1.67	1.19	2.14	1.68
Feature 48 Households (ca. 1800)	1.53	1.48	1.25	1.39
175 Water Street, Fea. 43 (1795-1820)	1.80	1.19	1.29	1.33
175 Water Street, Fea. 49 (1795-1820)	1.46	1.00	1.28	1.26
*Telco: Test Cut AX (ca. 1810)	1.65	2.02	1.39	1.68
John Richardson (1810-ca. 1816?)	3.40	1.93	2.53	2.31
*Telco: Test Cut AT (ca. 1820)	2.54	2.35	1.87	2.17
Franklin Glass Works House Area (ca. 1824-1832)	2.15	1.86	1.54	1.90
John Hamlin (1810-1856)	1.50	1.31	1.86	1.45
Tenant Farmer #1 (1800-1840)	1.44	1.46	1.29	1.42
Hale Cabin (1810-ca. 1830)	1.45	1.23	1.36	1.34

*These calculations are from Rockman et al. 1983, and not Wall 1987. In her dissertation, Wall recalculated the Miller index values for the Telco features using porcelains. These data are presented in Table VIII.3. However, Wall did not recalculate the Miller index whereby the porcelains were excluded from the analysis, as done in Table VIII.2. As a result, the index values for the Telco features on Table VIII.2 cannot be compared to those for the Telco features on Table VIII.3. As can be seen, the vessel counts apparently changed during Wall's recalculation.

TABLE VIII.3
CERAMIC ECONOMIC SCALING INDICES
CALCULATED WITH PORCELAINS

Household	Cups	Plates	Bowls	Mean Ceramic Index
Feature 48 Households (ca. 1800)	3.72	1.48	1.25	1.88
175 Water Street, Feature 43 (1795-1820)	2.02	1.28	1.60	1.56
175 Water Street, Feature 49 (1795-1820)	1.44	1.00	1.42	1.30
John Richardson (1810-ca. 1816)	3.80	3.19	2.53	3.01
*Telco, Test Cut AX (ca. 1810)	3.00	1.20	1.63	1.77
*Telco, Test Cut AT (ca. 1820)	2.77	1.93	2.80	2.34

*The Telco assemblages were calculated using a 3.00 value for blue and white porcelains and a value of 4.5 for overglaze porcelains.

The Miller analysis presented in Table VIII.2 is calculated without porcelains. In order to determine whether the inclusion of porcelain vessels would alter these results, Table VIII.3 was created. Not all the sites could be included because data on frequencies of porcelain vessels were not readily available. Since the artifact assemblages from the 175 Water Street Site had been inventoried with the ARDVARC system, it was possible for LBA to recalculate the Miller analysis with porcelains. The calculations for the two 175 Water Street features are presented in Tables VIII.4 and VIII.5. The value for Feature 49 does not change significantly with the inclusion of porcelains, but the value for Feature 43 rises by .23 points. The value for Feature 48 increases even more (.49 points) and Richardson's value increases still more (.86). In the case of the Richardson household, the high value results from the presence of porcelain tablewares, which are absent in all other assemblages within the sample.

Tables VIII.6 and 7 present the results of the relative ceramic ranking. It should be noted that the undecorated and minimally decorated categories have been combined in order to compare the Feature 48 household(s) with households reported in other studies. Also, as can be seen on the two tables, the relative values were calculated first with all vessels and then without porcelain and teawares. This was done in order to examine the purchasing patterns for everyday tablewares versus teawares and special occasion dinnerware. The Telco and 175 Water Street features are not included in these tables because Wall used porcelains in calculating the relative ranking and did not combine undecorated and minimally decorated vessels as done for the assemblages in Tables VIII.6 and 7.

In Tables VIII.6 and 7 Richardson again stands out. Surprisingly, the Tenant Farmer #1 and Hale Cabin households have virtually the same value as the Feature 48 household(s); but, these sites date to different periods. This similarity disappears when porcelains and teawares are included in the analysis (Table VIII.7). The Feature 48 household(s) exhibits a higher relative value than the other two, but one that is still lower than Richardson. However, the Glass Factory workers have virtually the same relative index value as the Feature 48 assemblage, even though they have no porcelains; but again, this may be due to the dates of the sites.

The Feature 48 households appear to have purchased and disposed of relatively inexpensive ceramic tablewares. Rural households exhibit a similar pattern, including Thomas Hamlin, a wealthy farmer. From the study of the Hamlin Site (Louis Berger & Associates, Inc. 1986), it appears that Thomas Hamlin was using his wealth to purchase land, livestock, and farm equipment, and not personal items. This could explain the similar pattern with the other rural households. As noted earlier, the Hamlin artifact assemblage contained few porcelain vessels. This may have been a result of the source of the archaeological materials from this site, i.e., sheet trash and not sealed deep features like the majority of the other sites used in this comparison.

TABLE VIII.4

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 FEATURE 43.2 175 WATER STREET SITE

FORM	TYPE	SCALE (1814)	NUMBER	PRODUCT
Cups				
(unhandled)	Painted	1.50	7	10.50
(unhandled)	Printed	3.00	2	6.00
(unhandled)	Porcelain	3.67*	<u>1</u>	<u>3.67</u>
			10	20.17
		Average Value:		2.02
Plates				
	CC	1.00	2	2.00
	Edged (10")	1.33	10	13.30
	(9")	1.29**	<u>6</u>	<u>7.74</u>
			18	23.04
		Average Value:		1.28
Bowls				
	CC	1.00	8	8.00
	Painted	1.60	6	9.60
	Printed	2.80	3	8.40
	Porcelain	2.80***	<u>1</u>	<u>2.80</u>
			18	28.80
		Average Value:		1.60
Mean Index Value:				1.56

* Highest Index Value Listed for 1814

** Index Value for 8" Edged

*** Second Highest Index Value Listed for 1814

TABLE VIII.5

CERAMIC ECONOMIC SCALING ANALYSIS (WITH PORCELAINS)
 FEATURE 49.1, 2, 3 175 WATER STREET SITE

FORM	TYPE	SCALE (1814)	NUMBER	PRODUCT
Cups	(unhandled) CC	1.00	1	1.00
	(unhandled) Painted	1.50	<u>8</u>	<u>12.00</u>
			9	13.00
			Average Value: 1.44	
Plates	CC	1.00	12	12.00
			Average Value: 1.00	
Bowls	CC	1.00	10	10.00
	Painted	1.60	9	14.40
	Porcelain	2.80*	<u>2</u>	<u>5.60</u>
			21	30.00
			Average Value: 1.42	
Mean Index Value:				1.30

* Second Highest Index Value Listed for 1814

TABLE VIII.6
RELATIVE CERAMIC VALUE INDICES*

<u>Deposit</u>	Number of Vessels by Category			<u>Total</u>	Relative <u>Index</u>
	1	2	3		
Feature 48 Households (ca. 1800)	64**	4	7	75	41.33
Thomas Hamlin (ca. 1790-1810)	45	34	8	87	52.49
Richardson (1810-ca. 1816?)	11	3	13	27	69.13
Franklin Glass Works House Area (ca. 1824-1832)	41	3	17	61	55.33
John Hamlin (1810-1856)	36	7	18	61	56.83
Hale Cabin (1810-ca. 1830)	24	0	4	28	42.86
Tenant Farmer #1 (1800-1840)	11	0	2	13	43.59

Category 1: Undecorated and minimally decorated

Category 2: Hand-painted

Category 3: Transfer-printed and ironstone

* Calculated without teawares or porcelain

** Calculated without undecorated chamber pots

TABLE VIII.7
RELATIVE CERAMIC VALUE INDICES*

<u>Deposit</u>	Number of Vessels by Category				<u>Total</u>	<u>Relative Index</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>		
Feature 48 Households (ca. 1800)	69***	10	7	25	111	47.00
Thomas Hamlin (ca. 1790-1810)	49	63	10	0	122	42.01
Richardson (1810-ca. 1816?)	11	3	13	12	39	66.67
Franklin Glass Works House Area (ca. 1824-1832)	41	21	32	0	94**	47.61
John Hamlin (1810-1856)	37	18	19	0	74**	43.92
Hale Cabin (1810-ca. 1830)	29	11	5	0	45**	36.67
Tenant Farmer #1 (ca. 1800-1840)	11	3	2	0	16**	35.94

Category 1: Undecorated and minimally decorated

Category 2: Hand-painted

Category 3: Transfer-printed and ironstone

Category 4: Porcelain

* Represents the total vessel assemblage

** Represents those vessels utilized by Miller (1980) to determine the ceramic index vessels. Some vessels not included because they did not fit into any scale.

*** Calculated without undecorated chamber pots

The inclusion of porcelain and teaware vessels in the relative ranking does alter the values of some assemblages. However, the most interesting difference among the assemblages is not in the actual values but in the presence or absence of porcelains, and the proportions of these vessels within the assemblages. Both the Feature 48 household(s) and Richardson have high proportions of porcelains, while the other households have few or no porcelain vessels. Interestingly, Wall's own calculations of the relative ranking of ceramics for the two Telco features also show a high proportion of porcelain vessels when she compares the features to other assemblages (Wall 1987). These data and those from Table VIII.7, suggest that the relatively high proportion of porcelain vessels is an attribute found in the ceramic assemblages of wealthy urban households during the early nineteenth century; and, as noted in both the Miller analysis and the relative ranking, this higher proportion of porcelains is often not apparent in the resulting index values.

It is interesting to note that even though both Richardson and the Feature 48 households have a higher proportion of porcelain vessels, as do the Telco features, Richardson still exhibits both a higher Miller index value and relative ranking index. Unfortunately, there are no economic data to determine if the actual "wealth" of all these households is truly comparable, and whether Richardson would fall into the uppermost end of the economic scale.

Some of the anomalies in the ceramic economic analyses (Tables VIII.2 through 7) might be related to other factors besides economic standing. These include access to the market place, purchasing of second-hand ceramics, "homogenization" of goods due to mass production, inheritance patterns, social requirements (e.g., the need to entertain as may have been the case with Richardson), social standing, and choices of how to use one's wealth (cf. Louis Berger & Associates, Inc. 1985 and 1986).

In addition to the ceramic economic scaling analyses, pattern analysis is also used to test Hypothesis #5. The purpose of the pattern analysis is to examine the quantity and variability of goods which consumers bought and discarded. The pattern analysis is also employed for intrasite comparisons, focusing on domestic versus commercial assemblages. These comparisons are presented in Table VIII.8. Commercial deposits can be identified by comparing different groups to each other. For example, the Post's assemblage is immediately recognizable as coming from a drug shop. The metallurgical artifacts within the Van Voorhis assemblage are apparent in the Kitchen to Activities ratio. Finally, the extremely high proportion of Kitchen group artifacts, compared to Activities, in the D. Dunham assemblage suggests a specialized commercial activity.

TABLE VIII.8

SUMMARY OF PATTERN ANALYSIS

	<u>Kitchen to Archi- ecture Group Ratios</u>	<u>Percent of Ceramics Within Kitchen Group</u>	<u>Percent of Bottle Glass Within Kitchen Group</u>	<u>Kitchen to Pharmaceu- tical Group Ratios</u>	<u>Kitchen to Activ- ities Group Ratios</u>	<u>Pharmaceutical to Activities Group Ratios</u>
<u>Households</u>						
Hull and Bowne	6:1	17%	83%	18:1	78:1	4:1
Hulls/Gain or Ten Eyck, Bowne and Baker	3:1	61%	16%	-	9:1	-
Van Voorhis Shop/ Residence	2:1	67%	31%			
Joel and Jotham Post	5:1	30%	72%	.6:1	42:1	70:1
D. Dunham Store	2:1	23%	62%	21:1	114:1	5:1
Store on Water Street	2:1	20%	40%	42:1	25:1	.6:1

Table VIII.9 summarizes the pattern analyses from Feature 48 and the Hamlin and Richardson assemblages. The other households which were used for the ceramic economic analyses could not be included because pattern analyses information was not readily available for these other households. Both Hamlin households have high percentages of ceramics because a large part of their assemblages are made up of redware storage jars (Louis Berger & Associates, Inc. 1986). Richardson's high bottle glass frequencies are due to a large number of wine/liquor bottles. This may be related to entertainment of guests at his Wilmington townhouse.

The final analysis used to examine consumer patterns is the proportions of vessel forms and functions. Tables VIII.10 and 11 provide information on assemblages within the Barclays Bank Site. One would expect greater variability among the proportions of tea and tablewares than is shown in Table VIII.10, i.e., these vessels would be expected to be proportionately higher in the domestic deposit, Feature 48. Instead, the proportion of teawares is equal in Feature 48 and the store on Water Street, and is greatest in the D. Dunham store deposit. Tableware proportions are almost identical in all three deposits and are relatively high in all but the Hull and Bowne deposit. The differences between the domestic and commercial deposits do become apparent in the proportions of pharmaceutical vessels, crucibles, and ceramic bottles: the Hull and Bowne and Joel and Jotham Post deposits have high percentages of pharmaceutical vessels; the crucibles are dominant in the Van Voorhis assemblage and the ceramic bottle proportions are highest in the D. Dunham store deposit. The high proportions of food storage vessels in Joel and Jotham Post's assemblage is due to the presence of redware and stoneware jars. These vessels are generally used for food storage but they could have also been used for the storage of drugs and other pharmaceutical ingredients.

Table VIII.11 provides information on the glass vessels within the Barclays Bank Site. Like the table and teawares, the domestic assemblage (i.e., Feature 48) does not have the highest proportion of wine/liquor bottles. However, the latter does exhibit the highest proportion of wine glasses and the second highest proportion of tumblers. The D. Dunham deposit has the highest proportion of tumblers. As discussed in Chapter VII, this deposit may have been from a tavern located within the block, or may represent both a commercial and residential assemblage. It is also possible that the tumblers in the D. Dunham assemblage represent the serving of drinks to clients, and not drinking within a residence. This use of domestic items in a commercial establishment will be explored further at the end of this chapter.

The commercial nature of the Hull and Bowne and Post contexts is apparent in the proportions of pharmaceutical glass, as shown in Table VIII.11. The large number of castor/cruets within the Water Street store deposit is seen in the high proportion of miscellaneous tablewares.

TABLE VIII.9

SUMMARY OF PATTERN ANALYSIS

	<u>Kitchen to Archi- tecture Group Ratios</u>	<u>Percent of Ceramics Within Kitchen Group</u>	<u>Percent of Bottle Glass Within Kitchen Group</u>
Feature 48 Households	3:1	61%	16%
John Richardson	8:1	50%	23%
Thomas Hamlin	4:1	94%	4%
John Hamlin	3:1	90%	7%

TABLE VIII.10

PERCENTAGE OF VESSELS BY FUNCTIONAL GROUP (CERAMICS)

<u>Functional Groups</u>	Hull and Bowne	Hulls/Gain or Ten Eyck, Bowne and Baker	Van Voorhis Shop/Residence	Joel and Jotham Post	D. Dunham Store	Store on Water Street
<u>Ceramic Vessels</u>						
Teawares	-	13.10	9.80	2.23	16.00	13.10
Tablewares	11.80	34.80	24.00	22.30	35.00	37.70
Food Preparation	11.80	3.00	2.50	2.23	0.11	3.30
Food Storage	-	1.90	2.50	24.40	5.30	4.90
Hygiene	-	9.00	2.50	-	2.11	6.60
Household Decoration	-	-	0.30	-	-	-
Toys	-	-	-	-	-	-
Miscellaneous*	-	0.70	20.30	-	-	-
Unknown**	58.90	34.10	25.50	17.70	13.00	31.10
Pharmaceutical	17.60	1.50	2.80	31.14	2.11	1.60
Crucibles	-	-	28.00	-	-	-
Bottles	-	1.90	1.80	-	26.30	1.60

* "Miscellaneous" includes ink wells and bottles, and flower pots and saucers.

** "Unknown" includes sherds which were assigned a MNV but whose precise form could not be determined.

TABLE VIII.11

PERCENTAGE OF VESSELS BY FUNCTIONAL GROUP (GLASS)

<u>Functional Groups</u>	Hull and Bowne	Hulls/Gain or Ten Eyck, Bowne and Baker	Van Voorhis Shop/Resi- dence	Joel and Jotham Post	D. Dunham Store	Store on Water Street
<u>Glass Vessels</u>						
Wine/Liquor	18.20	12.10	56.0	12.0	36.0	28.8
Malt	-	-	-	-	-	-
Soda/Mineral Water	-	-	-	-	-	-
Pharmaceutical	50.00	18.20	24.0	71.0	5.3	1.9
Culinary/Condiment	-	5.10	-	-	0.6	-
Bottle/Miscellaneous	4.50	4.00	10.0	7.6	10.0	-
Tumbler	-	42.40	5.0	5.0	44.0	1.9
Wineglass	-	16.20	3.0	-	1.2	-
Miscellaneous Tablewares	-	2.00	1.0	2.0	3.0	65.4
Lamp	-	-	1.0	3.0	-	1.9
Kitchen-non-food Related	-	-	-	-	-	-
Unknown*	27.30	-	-	-	-	-

* "Unknown" includes sherds which were assigned a MNV but whose precise form could not be determined.

The functional analysis among the four sample households is presented in Table VIII.12. There is little difference between the Feature 48 assemblage and those from the Hamlin Site, except for the high proportion of food storage vessels in the latter. As discussed above, the Hamlin Site yielded a large number of storage vessels, undoubtedly used in farm-related commercial activities, e.g., apple butter production. Richardson has the highest proportion of food service/consumption (tablewares) and food preparation vessels. It is hypothesized that these values are also the result of his entertaining guests.

As noted above, the proportion of porcelain vessels within the Richardson and Feature 48 household(s) was greater than in the other households (Table VIII.7). It was hypothesized that this may represent a pattern among wealthier households. Interestingly, both households also have a high proportion of tumblers. Tumblers comprise 42.4 percent of the Feature 48 glass vessel assemblage and 34.3 percent of Richardson's. More comparative contexts are needed, but it appears that a high proportion of tumblers, in clearly domestic deposits, may also be a consumer pattern among wealthier households during this time period.

The Wilmington Boulevard project area contained a mixed deposit associated with a wealthy household and a second-hand clothing store (Feature 1, Area D) (Klein and Garrow 1984). Interestingly, this deposit exhibited a high proportion of tumblers, i.e., 37.2 percent of the total glass vessel assemblage (Klein and Garrow 1984:294). It appeared that the majority of the artifact assemblage in Feature 1 was associated with the earlier, wealthy household. If this is true, then this Wilmington feature supports the hypothesis that the high proportion of tumblers in a domestic context may be an indicator of consumer behavior among wealthier households.

The sites used in the above pattern analyses (Tables VIII.8 and 9) all date prior to the mid-nineteenth century. In the Christina Gateway project (Louis Berger & Associates, Inc. 1985), several mid- and late nineteenth-century households were compared in terms of the pattern analyses. The results of these comparisons are presented in Table VIII.13. This table includes the Feature 1 assemblage from the Wilmington Boulevard project, which has been discussed above. Also from the latter project are two households headed by laborers, and the assemblage from the domestic portion of the Joseph Dowdall bottling works. The remainder of the households listed in Table VIII.13 are from the Christina Gateway project, except for the Washington, D.C., site. All households listed in Table VIII.13, except for Feature 1 and the Area H households, are headed by small-scale merchants and craftsmen. Some, like the Alsentzer deposit, may contain both residential and commercial artifacts. For more information on these households, see Louis Berger & Associates, Inc. (1985).

TABLE VIII.12

PERCENTAGE OF VESSELS BY FUNCTIONAL GROUP (CERAMICS)

<u>Functional Groups</u>	Feature 48 Households	Thomas Hamlin (ca. 1790-1810)	Richardson (1810-ca. 1816?)	John Hamlin (1810-1856)
<u>Ceramic Vessels</u>				
Food Service/Con- sumption	34.8	21.7	29.5	28.3
Food Preparation	3.0	0.3	16.8	1.5
Food Storage	1.9	45.2	4.2	41.4
Decorative	-	-	-	-
Sanitary	9.0	0.5	12.6	1.5
Teawares	13.1	14.5	5.3	7.5
Bottles	3.4	-	-	-
Pharmaceutical	1.9	-	-	-
Toy	-	-	-	-

Note: For totals not summing to 100%, functional group calculation
also included miscellaneous and unknown categories, which are not shown here.

TABLE VIII.13

SUMMARY OF PATTERN ANALYSIS
 FROM THE CHRISTINA GATEWAY PROJECT,
 WILMINGTON, DELAWARE
 (LOUIS BERGER & ASSOCIATES INC, 1985:188)

	<u>Kitchen to Archi- tecture Group Ratios</u>	<u>Percent of Ceramics Within Kitchen Group</u>	<u>Percent of Bottle Glass Within Kitchen Group</u>
Households in <u>Pre 1840 Period</u>			
Feature 1, Area D Household	1:1	55%	21%
Households in <u>1840 - 1870 Period</u>			
Jamison/Lansdale	8:1	30%	30%
James Murdick Sr.	1:1	26%	55%
James Murdick Jr.	1:1	37%	27%
Joseph Dowdall Bottling Work	9:1	87%	13%
Mt. Vernon Hotel	1:1	24%	11%
Washington, D.C. Convention Center Site, Area D1	3:1	DATA	NOT AVAILABLE

TABLE VIII.13 (Cont'd)
SUMMARY OF PATTERN ANALYSIS

	<u>Kitchen to Archi- tecture Group Ratios</u>	<u>Percent of Ceramics Within Kitchen Group</u>	<u>Percent of Bottle Glass Within Kitchen Group</u>
<u>Household in 1840-1870 Period</u>			
Area H, Laborer Headed Household	1.1	45%	47%
Area H, Laborer Headed Household, with Lodgers	1.1	52%	42%
<u>Households in Post 1870 Period</u>			
Alsentzer Saloon and Household	1.1	30%	37%
304/306 King Street Households	2.1	34%	38%
James Murdick Jr.	2.1	22%	42%

In comparing Table VIII.13 with VIII.9, it appears that the later households disposed of more architectural items than the earlier households. In the Christina Gateway study (Louis Berger & Associates, Inc. 1985) it was hypothesized that this pattern was a result of building renovation and expansion in the mid- and late nineteenth century. These activities were linked to increasing urban population pressures and more intensive use of urban space. Another distinction between early and later households is the increased proportion of bottle glass in the Kitchen group. This is probably a result of increased production of bottle glass, linked to changes in bottle technology, and not to specific household consumption patterns.

In summary, the testing of Hypotheses #3, 4, and 5 was not very successful, and produced mixed results. Hypothesis #3 could not really be tested because none of the domestic deposits within the Barclays Bank site could be confidently associated with skilled craftsmen, chemists/druggists, and other small-scale merchants. An exception may be the Van Voorhis assemblage from 144 Pearl Street; however, it was not clear whether these materials were from his residence, his shop, or both. Phase III historical investigations, and research conducted by Wall (1987) determined that the block's deposits seem to be associated with individuals and households at the upper end of the city's economic scale. It is probable that Van Voorhis was also wealthy, given his occupation and his clientel.

Hypothesis #4 could not be tested given that the dates of the assemblages used in this study did not fall into periods of apparent economic change or fluctuations. They are associated with a time of increasing economic growth. An exception are the Wilmington, Delaware, households; but unfortunately, no data on comparable/contemporaneous household assemblages from New York City have been published.

In some respects, Hypothesis #5 was shown to be true. Those households that fell into the upper economic levels of New York City and Wilmington, Delaware, society did exhibit similar consumer patterns in terms of the types and costs of ceramic vessels used, and in the proportion of drinking vessels that were disposed of. These patterns were not observed in the other types of households examined in this study.

The sixth and final hypothesis compares the landmaking activities that created the Barclays Bank Site with those of other landfill sites in the city.

Hypothesis #6

The process of landmaking within the block will be the same as contemporaneous landfill sites, but different from later landfill properties.

Table VIII.14 lists all the archaeological sites within the city that contained landfill and landfill retaining features. The sites contemporaneous with the Barclays Bank Site are 7 Hanover Square and 64 Pearl Street. As can be seen in the table, all the earlier sites were created through the use of stone retaining walls. Such walls were not used on the later sites, which made use of wood structures and extant wharves and piers. Another difference between the various landfill sites is the occurrence of bulkheads only on the later sites.

The occurrence of stone fill retaining structures only on the earlier sites may be due to their location on the original shoreline. The first water lot grants for the sites extended to the low water mark. Therefore, the construction of stone walls for retaining fill would be easier than in the deep waters east of modern Water Street. In the latter areas, large wood structures were used. Though not noted in Table VIII.14, there is another difference between the earlier and later sites. It appears that the Barclays Bank Site (See Chapter IV) and 7 Hanover Square (Nan Rothschild, personal communication 1986), were filled in under ten years. Later sites were filled more slowly, in some cases up to 50 years (Geismar 1983).

In her investigation of Site 1 of the Washington Street Urban Renewal Area, Geismar demonstrated that this late eighteenth-early nineteenth-century, Hudson River landfill site, consisting of four blocks, was filled in three to eight years, a time frame similar to the early land fill sites along the East River (see above). Geismar also observed that the fills used to create land in Site 1 were different from those in the creation of the East River blocks (Louis Berger & Associates, Inc. 1987).

At east side (i.e., East River) fill sites, it was found that wharves and piers ultimately functioned in the filling process: the more solid constructions became foundations for later buildings while the entire system of piers and wharves created traps for sediment, ultimately hastening landmaking. ...Once filling was initiated natural shoaling material and harbor fill--the street runoff, dumped waste, and debris from industries such as shoemaking...as well as cast-off ships' ballast or damaged and discarded merchandise--would be often allowed to accrue, becoming landfill (Louis Berger & Associates, Inc. 1987:V-13 and 14).

One of the blocks in Site 1 of the Washington Street Urban Renewal area did not contain organic harbor fill, and a second area of Site 1, though it did contain organic fill, was not comparable (i.e., as organic in context) to some of the East River sites. Further, the fill matrix at Site 1 did not contain house-

TABLE VIII.14

COMPARISON OF NEW YORK CITY LANDFILL SITES (UPDATE OF GEISMAR 1983, TABLE 5.4, PAGE 707)

Site and Date of Landfilling	Fill Deposits				Fill Constructions			
	Garbage	Ballast	Native American Artifacts	Clean Sand or Earth	Stone Retaining Walls	Wooden Features Piers, Wharves, etc.	Bulkhead	Ship
64 Pearl Street ¹ Late 17th century	X	X	X	X	X	-	-	-
7 Hanover Square ² Late 17th century	X	X	X	?	X	?	-	-
Barclays Bank Site Late 17th century	X	X	X	-	X	X	-	-
Old Slip ³ 18th century (Limited excavations)	X	-	?	X	-	X	-	-
Schermerhorn Row ³ 18th century (Limited excavations)	X	-	?	?	-	X	-	-
175 Water Street ³ 18th century	X	X	X	-	-	X	X	X
209 Water Street ³ 18th century (Limited excavations)	X	-	?	-	-	-	-	X
Telco Block Site ³ 18th Century	X	X	X	X	-	X	X	-
Assay Site ² Late 18th - early 19th century	X	X	?	?	-	X	X	-
Site 1, Washington Street Urban Renewal Area ² Late 18th - early 19th century	X	-	X	X	-	X	-	-

1. Pickman and Rothschild 1982

2. Geismar 1986, Table 3, Page V-2 and 3

3. Geismar 1983, Table 5.4, Page 707

Table does not include fast - land sites

hold refuse. In addition, two Native American artifacts were recovered from the fill, suggesting that some of the fill placed within the blocks came from land-leveling activities, possibly from grading of the ridge that once stood to the east of the site (Louis Berger & Associates, Inc. 1987:V-8).

The landmaking activities at the Barclays Bank site appear to be somewhat similar to those which created Site 1 of the Washington Street Urban Renewal Area. Both were filled over a relatively short period of time and both contain fill soils that may have come from leveling of once extant natural features within the city's landscape. The latter is supported by the occurrence of Native American artifacts in both sites. But are the contents of the fills in both sites and other sites the same? Table VIII.14 shows that all of the landfill sites contain garbage and most do have Native American artifacts. The late seventeenth-century Sites all contain shipping ballast, while Site 1 of Washington Street does not. But what of the make-up of the artifacts within the sites? Such data are readily available for the Barclays Bank Site, 175 Water Street, and Site 1 of Washington Street. Figure VIII.1 graphically portrays the results of Table VII.17, which shows the proportion of ceramics, glass, leather and bone from the two groups of water lot grants within the Barclays Bank Site. As noted, in Chapter VII, Section D. 3. f, floral materials could not be included in these tallies. Figure VIII.2 is taken from the Washington Street study (Louis Berger & Associates, Inc. 1987:V-16). It should be noted that the 175 Water Street and the Site 1, Washington Street, assemblages were collected through the sampling of strata in machine-excavated trenches, while the Barclays materials were from hand-dug excavation units. Therefore, comparisons between these sites may not be valid due to the different sampling methods. However, for the purpose of this discussion, it is assumed that both of these data retrieval methods recovered equivalent proportions of landfill artifacts from their respective sites.

In comparing materials from the 175 Water Street block to Site 1 of Washington Street, Geismar found that there were over eight times as many artifacts from the two 175 Water Street samples as there were from the Site 1 samples (Louis Berger & Associates, Inc. 1987:V-15). Also, the fill in Site 1 did not have the leather artifacts and organic materials that occur in the east side landfill sites. The materials in the Barclays Bank site sample were very different from both the 175 Water Street Block and Site 1 of Washington Street. It is not appropriate to compare absolute counts from the Barclays Bank Site to the other sites, given how the landfill artifacts were recovered; however, it is possible to compare the proportions of the artifact classes. In Figure VIII.1, the bulk of the Barclays assemblage consists of ceramics. This is not the case for the other two sites (Figure VIII.2). Also, given that the Barclays Site is along the East River, one would expect the site to exhibit a high proportion of leather (cf. Louis Berger & Associates, Inc. 1987:V-15). This is not evident when comparing Figures VIII.1 and 2.

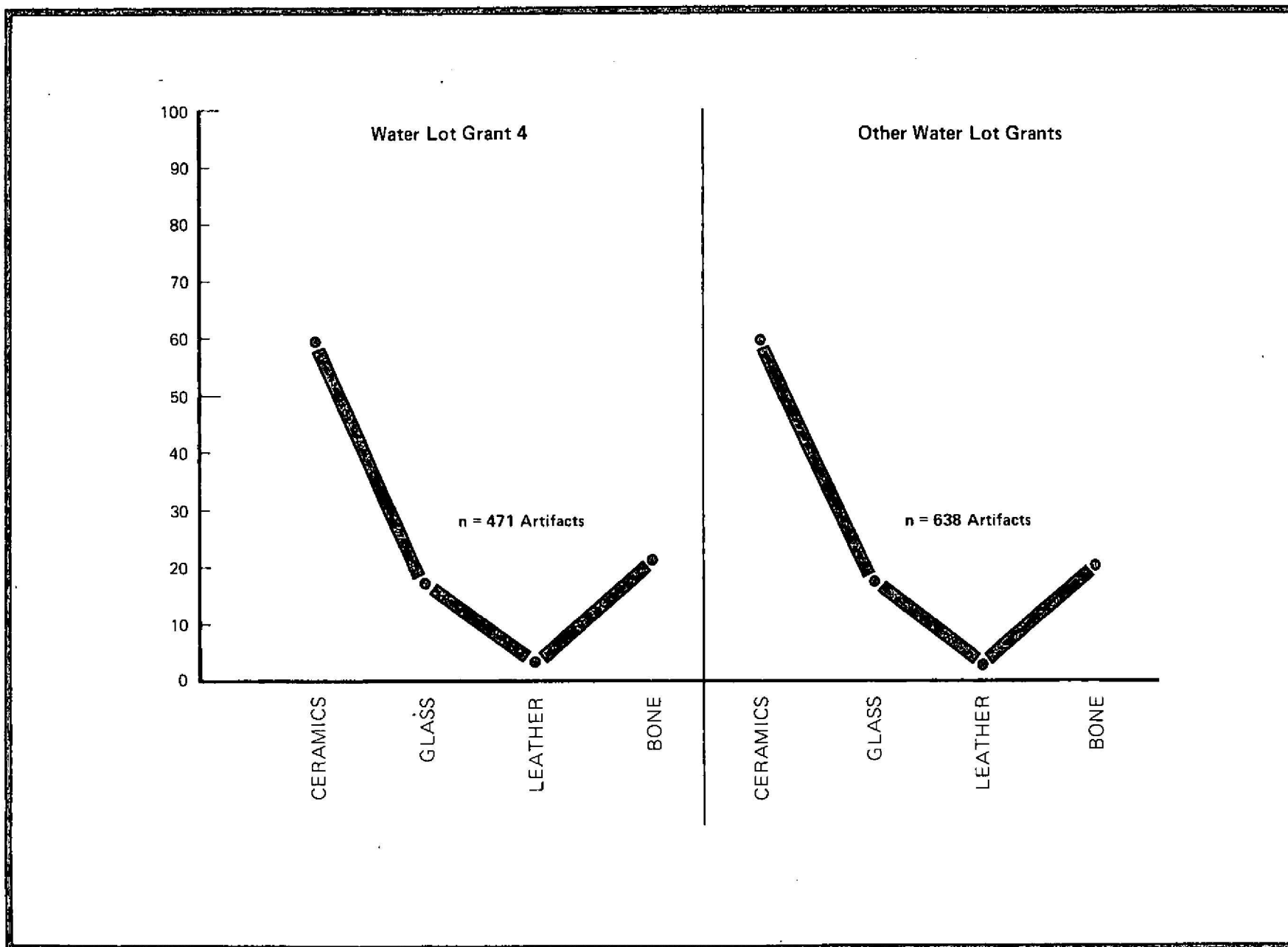
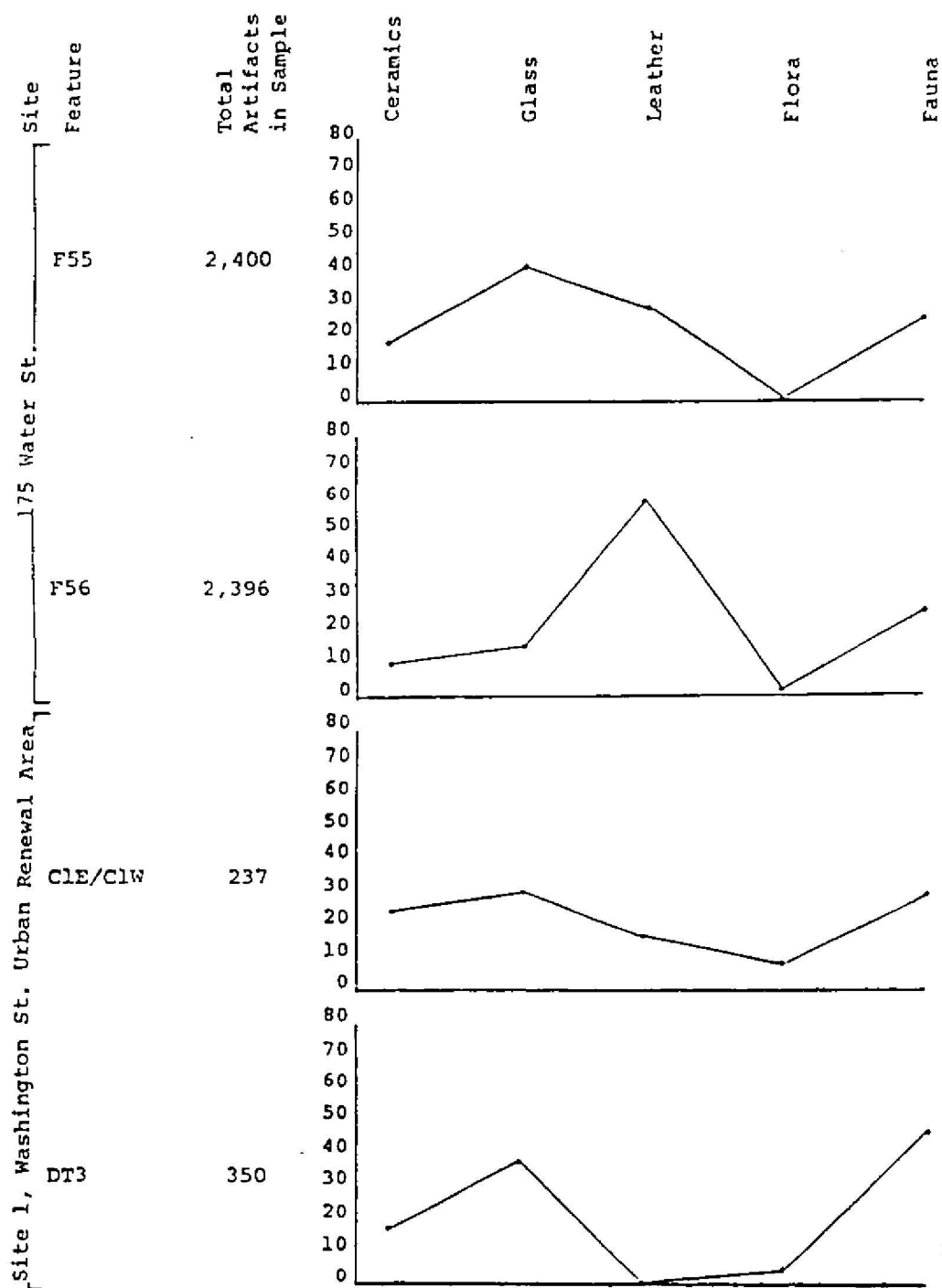


FIGURE VIII.1: Proportion of Ceramics, Glass, Leather and Bone from Landfill in Water Lot Grant 4 and Other Water Lot Grants on Block



SOURCE: Louis Berger & Associates, Inc., 1987: Figure 30, Page V-16

FIGURE VIII.2: Site 1, Washington St. Urban Renewal Area. Comparison of Selected Fill Artifacts with 175 Water St Sample

What is required to more accurately study landfill content among these three, and all other landfill sites, is a measure of artifact density, in which the number of artifacts per cubic foot is calculated. This type of analysis would make the inter-site comparisons more valid. Then it will be possible to determine whether the East River sites contain more trash than the Hudson River sites, and whether all East River landfill sites are the same, and if not, why. The answer for the latter, most likely, will be that different fill sources were used depending on the activities that occurred near the landfill site (e.g., tanneries). Other factors include whether clean fill from leveling activities was available, and how fast the site was filled, in addition to the prevailing sanitation laws and how individuals observed or broke these laws (cf. Louis Berger & Associates, Inc. 1987:V-1).

So, is Hypothesis #6 correct? It appears that the seventeenth-century landfill sites do share much in common in terms of the type of landfill retaining structures that were used and the speed in which the water lots were filled. However, at least in the case of the Barclays Bank Site, the earlier landfill sites do share similarities with later landmaking activities along the Hudson River. Given the current data base, the observed pattern in landmaking is variability. This variability may be related to block-specific histories and locations, and not large scale urban processes, beyond the desire of the city's wealthy to create new land for economic gain (cf. Rockman et al. 1983).

C. EVALUATION OF RESEARCH DESIGN AND FIELD AND ANALYTICAL METHODS

In this archaeological investigation, it was possible to identify broad patterns in consumer behavior and in the use of space within urban lots. In addition, the processes of landmaking among different landfill sites in New York were studied, and again, broad patterns were identified. It was not possible to test many of the research hypotheses that were developed to guide this archaeological study. However, this does not diminish the research value of this investigation. A new set of research concerns were identified and examined. It is also possible now, to evaluate the field and analytical methods employed in this project, and to determine which methods should be used in future urban studies, and which approaches should be changed, or simply eliminated from further consideration.

1. Fieldwork and Project Phasing

Generally the stages in an urban historical/archaeological investigation are as follows. During Phase I, researchers examine the historical and documentary evidence on a project area. The purpose of this study is to determine whether the area has the potential to contain significant archaeological remains. The level of research is usually restricted to a cartographic study and development of a general project area history. Detailed

lot histories are not usually done, though some researchers do sample the deeds and directories to identify the types of occupations that occurred within a project area. Phase I efforts also provide research domains that can be used to evaluate the importance of any intact archaeological remains. If there is a potential for significant remains a Phase II study is performed. The Phase II usually involves the excavation of a minimal number of test units to determine whether these remains are actually extant. The testing phase also identifies the research potential of these remains and provides the basis for developing a research design for a Phase III. Historical research is usually not conducted during a Phase II study.

The Barclays Bank project followed these steps. However, as a result of the inability to address several of the research hypotheses that were developed from the Phase II study, it is clear that this general research process is not totally satisfactory. - What is needed are larger-scale Phase II investigations. In the Barclays Bank Phase II study, only one test unit was placed within each lot that had the potential to contain intact archaeological deposits and features. In retrospect, if only a few more units had been used, several of the lots within the block would not have been investigated during Phase III. For example, minimally two units should have been placed within each of the Water Street lots, and each unit should have sampled the landfill soils. Then a preliminary artifact analysis should have been performed, one which quickly determined the range of material types that were present (e.g., a modified pattern analysis). If this had been done in conjunction with the dating analyses, and more deposits within the lots were sampled, all but 110 Water Street would have probably been dropped from further consideration. The other lots would have been found to contain either mixed fill deposits of unknown origins or only landfill, and the latter would have been sampled in this more intensive Phase II effort.

In addition to an increased field effort, it is recommended that additional historical research be done during the Phase II. The focus of this research would be to identify the occupational and economic make-up of the occupants of those lots which the Phase II testing showed to contain important archaeological features and deposits. In this scenario, the historical research takes place after the archaeological fieldwork, and is guided by it.

This type of Phase II study should result in the following. It will be possible to eliminate most of the deposits within a project area that are not conducive to detailed Phase III analyses. It will also pinpoint those lots in which the archaeologist has the best chance in making a linkage between an historical occupation and the archaeological remains. As is clear in this and many recent urban archaeological studies, the research value of historical archaeological materials, especially domestic refuse, decreases when there is no historical context to associate them

with. There are, of course, archaeological remains which can be studied without knowing what specific individual household, or business, produced these remains. This is especially the case for commercial deposits where the historical context of the assemblage is clear. The crucibles from the cellar fill in Lot 18/144 Pearl Street is a good example. Finally, this approach should aid in developing a research design that will be more closely linked to the types of archaeological resources that are present within a project area. The one obvious drawback in conducting this type of Phase II study is the cost and time. However, this type of Phase II should result in a more efficient, cost-effective, and, most importantly, focused Phase III study than is currently performed in urban archaeology.

There are also some changes recommended for future Phase III work. First, the detailed individual/household/business histories that are done during Phase III efforts should be postponed until after the completion of fieldwork and after the dates and general artifact content (e.g., pattern analysis) of the deposits have been identified. In this way, important deposits and features that are uncovered in the Phase III work, but were not located during the Phase II study, can be linked to historical occupations within the project area. Secondly, costly and time-consuming floral and faunal analyses (i.e., beyond straight identification) should also be postponed as with the detailed historical research. Thus, these analyses will be focused on those deposits which warrant such specialized investigations.

The Barclays Bank study has also shown the value in monitoring construction to identify and study landfill retaining structures and general landmaking features (e.g., soil profiles). The use of backhoe trenches and deep tests is not an effective way to locate these often large, extensive features. This can only be accomplished by opening large subsurface apertures. However, this scale of excavation is rarely permitted during an urban archaeological excavation, due to the cost of moving such huge amounts of soil. Thus, monitoring of cellar and foundation excavations becomes a viable alternative, especially when the archaeologist is given the time to document any features and soils that are exposed during this excavation. The value of monitoring was also demonstrated at Site 1 of the Washington Street Urban Renewal Area (Louis Berger & Associates, Inc. 1987:V-11). In her reporting on the Site 1 of Washington Street investigation, Geismar notes that, when augmented with controlled excavation, archaeological monitoring has also been successfully used by London's urban archaeologists investigating the city's harbor area (Louis Berger & Associates, Inc. 1987:V-11).

2. Analytical Methods

While testing the hypotheses it appeared that the summary analyses used (e.g., Miller, pattern, and functional) did not provide as much information about consumer behavior as did

smaller-scale examination of particular artifact groups which were used in these summary analyses. For example, in the relative ceramic ranking, the distinction between households of different economic levels was most apparent in terms of the proportion of porcelain vessels and the presence or absence of porcelain tea and tablewares, and not the rank index values themselves. Another example is the functional analysis. The overall proportions of glass vessels do not show significant differences among the households, but differences are apparent when specific functional categories, such as tumblers, are examined.

Some of the analytical methods used have not been developed to the point where they can be employed to detect and discriminate between important differences in consumer behavior. For example, the Miller analysis does not have index values for Oriental porcelains. This is a critical gap for analyzing eighteenth- and early nineteenth-century contexts. By excluding these wares from the Miller analysis, the resulting index values are lower than the actual value of the assemblages (provided, of course, that there are porcelains in the assemblages). In the Barclays Bank study, porcelains were included in the Miller analysis, by assigning them the highest earthenware value of a given year. The resulting mean index values are still too low, since porcelains were generally more expensive than the highest priced earthenwares. The relative index value did provide a rough profile of ceramic values, but it would be more helpful to have statistical values which reflect the actual, rather than relative, distances between the values of vessels within assemblages.

In retrospect, the pattern and functional analyses provided more information that was useful for defining and isolating depositional units, but was less useful for characterizing these units and for identifying patterns of consumer behavior. Additional analytical tools which can be applied to the study of consumer activities are required. On the other hand, the difficulty may not lie totally in the inadequacies of the analytical methods, but in the nature of the research questions which are being asked. The methods used may not be able to provide the types of data that are required to confidently address these research questions.

In order to test the hypotheses on the use of space within the lots, it is necessary to have data on the specific dates of structures and features within the lots and to be able to correlate these structures and features to specific households and/or businesses that occupied these lots. Beaudry has correctly pointed out that the archaeology of the household (and commercial enterprises) is a highly particularistic endeavor (Beaudry 1987:23). It requires this direct linkage between the life cycle of the household and the archaeological record (Beaudry 1987:24). On the Barclays Bank project, and on many other urban archaeological investigations, it is not possible to make such important linkages. In the case of Barclays Bank, there was a gap in the

deeds between 1732 and 1789, and many of the structures and features in the site appeared to date to this time period. Also, it was often difficult to precisely date the structural elements within the lots, due to the effects of late nineteenth- and early twentieth-century constructions. Thus, these elements could not be associated with activities and changes within the households and businesses that occupied the block. Another problem is the nature of current dating analyses. For seventeenth- and early eighteenth-century contexts, it is not possible to develop exact dates of deposition and construction (i.e., plus or minus 25 years) because diagnostic artifacts of these periods are characterized by long date ranges. Dating of mid- and late eighteenth- and early nineteenth-century contexts can also be problematical, as was the case for Feature 48 and the Dunham deposit within the Barclays Bank Site. It is thus extremely difficult to link an archaeological context of these time periods to a change in the use of a lot that can be documented to a specific year.

Most of the research hypotheses on consumer behavior could not be tested, but this was a result of the lack of archaeological remains associated with small-scale merchants. The topic of consumer behavior, however, remains a valid one in urban archaeological investigations, as demonstrated by the patterns of consumer behavior that were identified for the wealthy households in the project area, and in other sites in the city, and in Wilmington, Delaware. However, as noted above, there is a need for more precise measures of the economic value of assemblages.

Though the investigation of consumer behavior can be accomplished through archaeological research, there is a problem in the way this research is done. It is generally conducted in a vacuum. In this current study, as in many others, the investigation of consumer behavior involves the linkage of artifact patterning to different types of households and businesses, and the examination of these patterns over time. However, the historical context, both social and economic, in which consumer activities take place is rarely a part of these studies. For example, what does the historical literature say about consumption of goods during a particular time period? What do the literature and other published sources of the period under study say about the norms of consumer behavior of that period? With this type of data, one has an etic context to understand consumer behavior in the past, which can be compared and contrasted to the emic context found in the archaeological record (See Leone 1977:xxi). Another example would be the study of the marketplace in terms of what types of goods were available in the local market, how these goods were sold, how the importing process affected the availability of goods, etc. With these types of data it would be possible to determine whether the patterns observed in the archaeological record are a result of these and other market forces, rather than activities and/or the internal configuration of a household or business.

Not only does the Barclays Bank study highlight problems with current research concerns in urban archaeology, it also brings out new research issues. One is the use of domestic items (teawares and tablewares, drinking vessels, etc.) in a commercial context. Both the Van Voorhis and D. Dunham assemblages contained commercial and domestic materials, and when both businesses occupied 144 Pearl Street, there may have been no residence on the lot. In the available historical archaeological literature, there are no discussions on the use of domestic items on properties that were strictly commercial. Were meals cooked and prepared at the businesses? Do these domestic remains represent the feeding of workers and/or clients? Does the use of domestic-related items occur in all businesses, or is it restricted to those which cater to the wealthy? These and other questions should be addressed if urban archaeologists are to properly interpret the archaeological deposits that they uncover. If not, it is possible to misidentify commercial deposits as domestic, especially if there are no historical records to confirm or negate this identification.

Finally, the Barclays Bank historical/archaeological study demonstrates that archaeology can provide a unique picture of households and individuals simply by bringing to light the objects that they used. This type of study is extremely important in sharing the fruits of archaeological research with the public. People are interested in tangible evidence of the past, especially when this evidence can be associated with a name, a family, a business. History then becomes more real. Therefore, this type of study should be an important aspect of all future urban archaeological investigations, since archaeology is not just for the archaeologists.

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