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ANALYSIS OF CULTURAL MATERIALS INCLUDING HUMAN SKELETAL REMAINS RETRIEVED FROM SOILS ORIGINATING FROM CHAMBERS STREET NORTH OF TWEED COURTHOUSE AT CITY HALL PARK BOROUGH OF MANHATTAN, NEW YORK CITY

Prepared for:

Mesick Cohen Waite Architects
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Albany, NY 12207

Barbara S. Hildebrant
Barbara S. Hildebrant, M.A., S.O.P.A
Principal Investigator

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MANAGEMENT SUMMARY

This report describes the retrieval and analysis of human skeletal remains and material cultural items recovered from a trench excavated by Con Edison in connection with the installation of electrical utilities vaults at 52 Chambers Street, Tweed Courthouse, New York City. Approximately 222 cubic yards of soil were removed from the trench, of which 200 cubic yards were taken off site and stored, first at a secured demolition yard and then subsequently within a fenced compound adjacent to Stuyvesant High School on West Street. At this latter location, the soils were screened and the materials described in this report were recovered.

A total of 1,399 identifiable human bones and bone fragments (and a further 1,138 grams of human bone fragments, too small to be assignable to a particular skeletal element) were recovered from the Chambers Street soils during the screening process. The minimum number of individuals represented is conservatively set at 12. Both children and adults are present in the assemblage, as are both sexes. Cultural artifacts numbered 4,576 items, none of which could be positively associated with the human remains. The artifact assemblage was generally reflective of 18th- and 19th-century domestic occupation.

It is not possible, from the evidence examined, to positively identify the origin of the skeletal remains, although they appear to derive from burials that were intact at the time of their disturbance by the Con Edison excavations. These burials clearly pre-date the formal laying out of Chambers Street in 1799. They most likely relate to use of the African Burial Ground located immediately to the north of Chambers Street, to the disposal of American prisoners-of-war executed by the British during the Revolutionary War, or to interment of deceased occupants of the almshouse that formerly stood in City Hall park to the south of Tweed Courthouse.

LIST OF FIGURES, PLATES AND TABLES

ACKNOWLEDGEMENTS

Various individuals and organizations contributed to the completion of this project. The work was funded by the City of New York through the Department of General Services (DGS). Within DGS, Leslie Lowe (Assistant Commissioner), Anthony Smith (Deputy Commissioner), James Zethraus (Program Director), and Alexander Moir and David Holowka (Assistant Program Directors) all took an active interest in the screening activities and the project administration. Considerable assistance with logistical and contractual matters was also provided by Laurence Wilson of Mesick, Cohen and Waite, Architects, to whom Hunter Research served as a subcontractor in the performance of this work.

At various times, the New York City Landmarks Preservation Commission (LPC) reviewed the work from a professional and technical standpoint. Within LPC, Susan Dublin, Gina Santucci, Marjorie Nowick and Daniel Pagano all at one time or another reviewed the work in progress and made suggestions concerning its conduct. Similarly, the African Burial Ground Federal Steering Committee also observed the project with acute interest through the agency of its Executive Director, Peggy King-Jorde.

Special thanks and appreciation are extended to the City Volunteer Corps (CVC), and in particular to Michelle Santiago (Volunteer Coordinator), Gerald King, Pat Uribe, Alexander Yarde and Anthony Martinez (Team Leaders) and the many CVC program participants who valiantly screened the materials during the fall and early winter, 1993.

Hunter Research field activities were supervised by Jeffrey Psenisky and Paul Jung, assisted by Veronica Arroyo, under the direction of Terrence Epperson and Barbara Hildebrant. Richard Hunter served as overall project director. Among the many Hunter Research personnel also assisted with the screening activities following the conclusion of the City Volunteer Corps participation, were: Fabio Amador, Ernest Bower, James Dews, Frank Dunsmore, Charles Jones, Christine Knorr, William Liebeknecht, Michael Lenert, Matthew Lesniewski, Vincent Maresca, Wayne Salvator, Keith Thomas, Michael Tomkins and Michael Weissberger. Laboratory analysis was carried out by Harriet Kronick, Laboratory Supervisor, with assistance from James Dews and Vivian Braubitz, Assistant Laboratory Supervisors. Analysis of human skeletal remains was carried out by Barbara Hildebrant with assistance from Veronica Arroyo and Christine Knorr. Report graphics were produced by Paul Jung. The report was authored by Barbara S. Hildebrant and Paul Jung (Chapter 3) with editorial assistance from Richard Hunter.

Barbara S. Hildebrant, M.A., S.O.P.A.
Principal Investigator

CHAPTER 1

INTRODUCTION

A. Project Background

This report describes the archaeological recovery and analysis of cultural materials, including human skeletal remains, that were retrieved from soils underlying the street and sidewalk in front of Tweed Courthouse at 52 Chambers Street on the northern edge of City Hall Park in Lower Manhattan, New York City (Figures 1.1-1.3). This work was conducted in 1993 and 1994 by Hunter Research, Inc. operating as a subconsultant to Mesick Cohen Waite Architects, architectural consultants to the New York City Department of General Services for the restoration of Tweed Courthouse.

The archaeological investigations described in this report focused on soils that were removed from a trench excavated by backhoe by Consolidated Edison of New York (Con Edison) on February 13 and 14, 1993 in connection with the installation of four subterranean utilities vaults intended to provide upgraded electrical service to Tweed Courthouse. During the course of these excavations (but after most of the work had been completed), human skeletal materials were encountered in backdirt that was temporarily stored on the sidewalk. These materials had evidently originated from an unknown location within the trench, an east-west cut in the street bed that measured approximately 60 feet long x 10 feet wide x 10 feet deep (Figure 1.3). The backdirt (approximately 22 cubic yards) which remained on the sidewalk at the time the skeletal materials were first recognized was screened on site, i.e., beside the trench on Chambers Street. All human remains and cultural materials encountered during this operation were collected and analyzed. The investigation of the 22 cubic yards of soil left in Chambers Street was treated as a separate work task and is not addressed in the current report. The archaeological work described here concerns the recovery, inventorying and analysis of all human remains and artifacts contained within the approximately 200 cubic yards of soil that were removed off-site by Con Edison earlier during the trenching activities.

The origin of the human skeletal remains was uncertain, and three possibilities were considered:

1. the bones represented the remains of burials from the 18th-century Negroes Burial Ground (today referred to as the African Burial Ground), the core of which lay immediately to the north in the area bounded by present-day Chambers Street, Broadway, Duane Street and Elk Street;

2. the bones were associated with Revolutionary War era activity at the barracks, which formerly stood immediately south of Chambers Street, and were possibly related to British executions of American prisoners-of-war; or

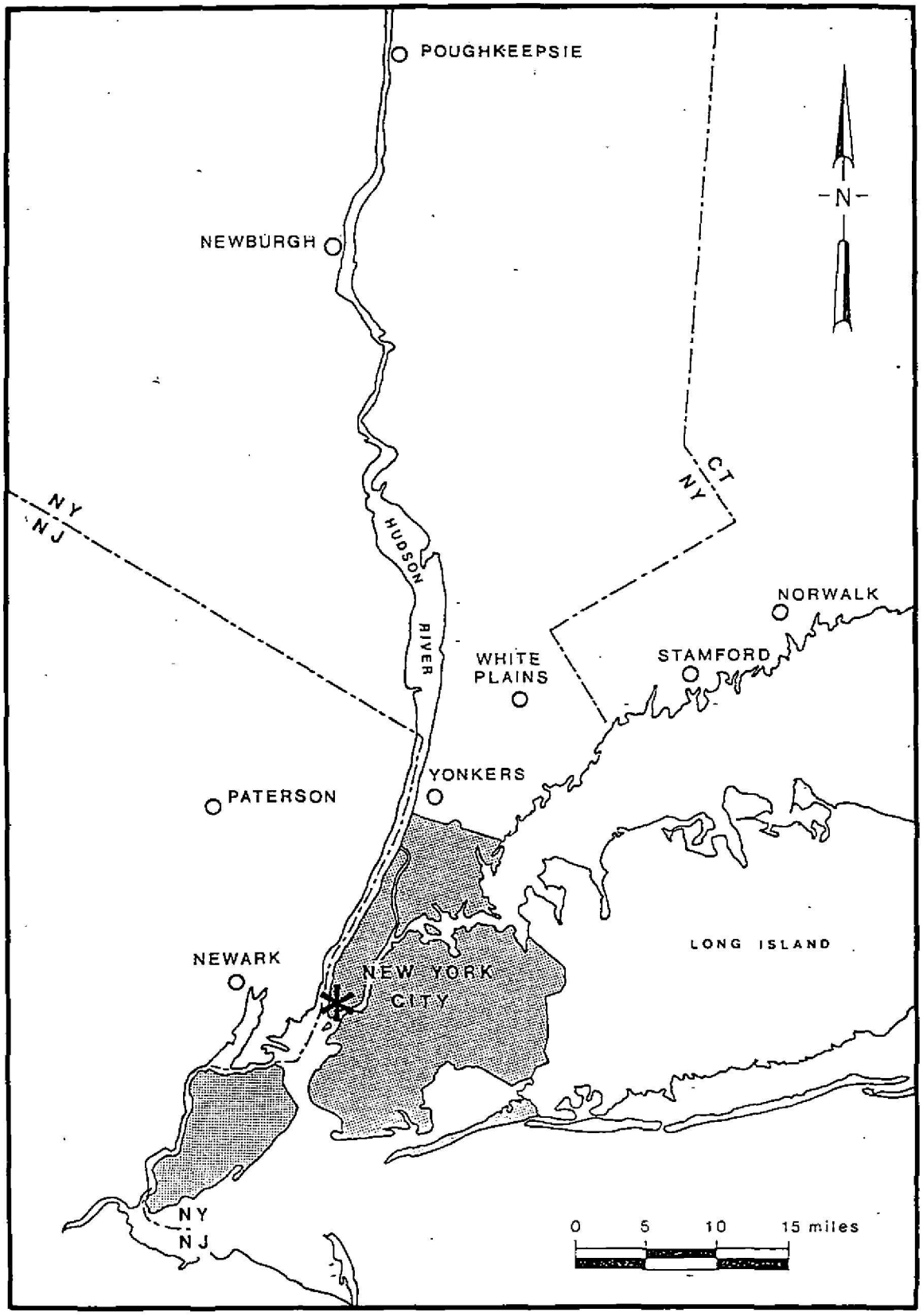

Figure 1.1. Location of Project Area (starred).

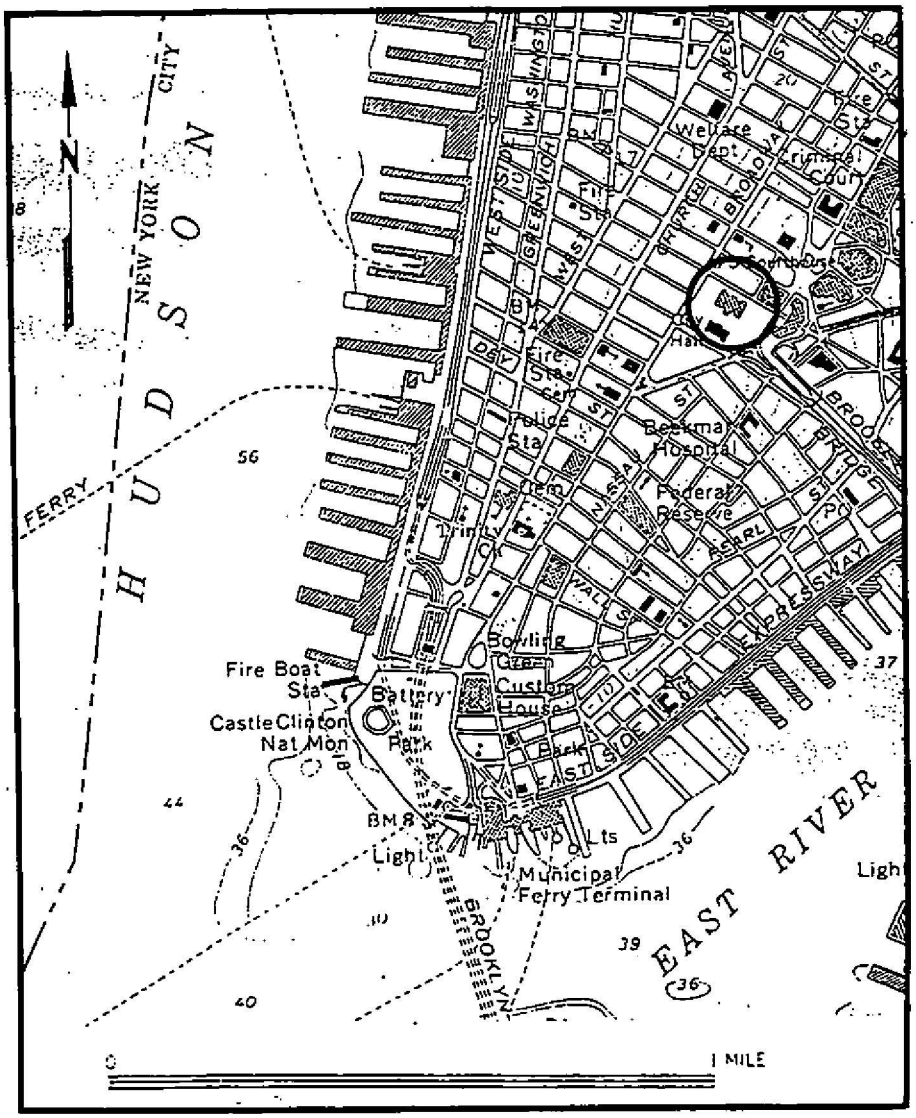

Figure 1.2. Detailed Location of Project Area (circled). Source: USGS Jersey City, N.J. - N.Y. Quadrangle. 1967.

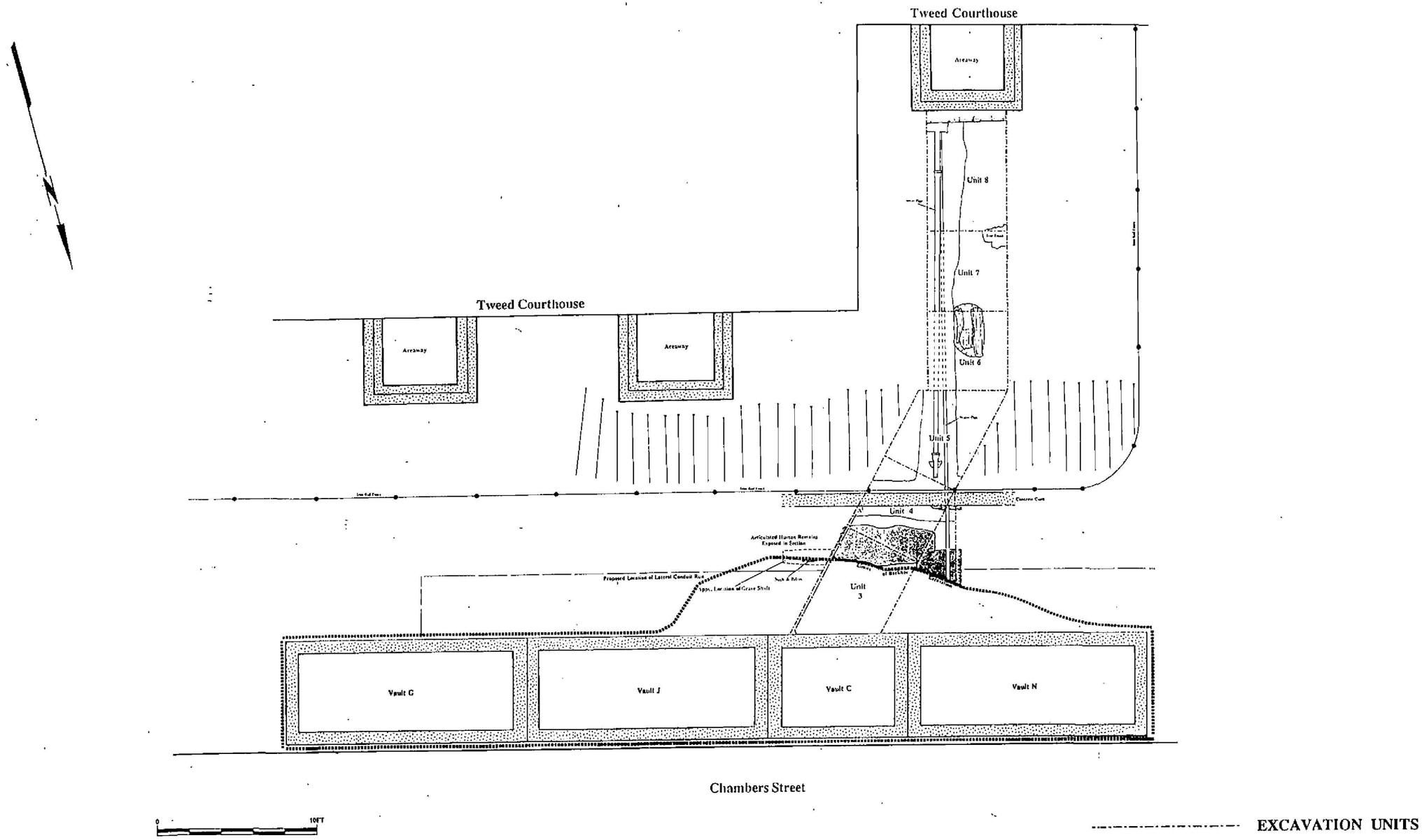

FIGURE 1.3 PLANVIEW: CON EDISON UTILITY TRENCH

3. the bones were the remains of burials of occupants of the 18th-century almshouse complex that was formerly located to the south of Chambers Street in present-day City Hall Park.

It was also unknown if the skeletal remains had been disturbed prior to the Con Edison excavations, or whether they represented the remains of burials that were essentially intact up until the time of the 1993 trenching activity.

The excavated soils, totaling some 200 cubic yards, were initially taken off-site and stored at a secured demolition yard on 29th Street, between Eleventh and Twelfth Avenues, and covered with protective plastic. On March 12, 1993, under the supervision of professional archaeologists, the dirt was transferred from this location to a fenced compound on the west side of West Street, immediately north of Stuyvesant High School (see below, Figure 3.1). The material was placed on asphalt and again covered with plastic sheeting to prevent erosion. All of this backdirt was subsequently manually screened by conventional archaeological methods in order to recover the human skeletal remains and cultural materials known to be incorporated within the matrix.

From the outset, the screening of soils and recovery of cultural remains were envisaged as an opportunity for public outreach. The local community had already been considerably sensitized to the disturbance of human burials as a result of the General Services Administration project on Broadway between Duane and Reade Streets, where remains of the African Burial Ground had been encountered. The possibility of involving the City Volunteer Corps, under the direction of professional archaeologists, was therefore explored with the aid of the New York City Department of General Services. This resulted in a team from the City Volunteer Corps beginning screening activities on September 13, 1993 at the West Street location under the direction of Hunter Research archaeologists (Terrence Epperson [Principal Investigator] and Jeffrey Psenisky [Assistant Archaeologist]).

Work was temporarily suspended on September 28, 1993, owing to contractual difficulties, but was resumed on October 19, 1993, following receipt of formal written authorization to proceed. Two major phases of screening activity then took place (from October 19 to November 10, and from November 15 to November 25), both involving the City Volunteer Corps working under the supervision of Hunter Research, Inc. staff. Hunter Research supervision was provided by Barbara S. Hildebrant (Principal Investigator), Paul Jung (Assistant Archaeologist) and Veronica Arroyo (Field Assistant). The various City Volunteer Corps teams assembled during these periods were supervised by Gerald King, Pat Uribe, Alex Yarde and Tony Martinez. Participation of the City Volunteer Corps after November 25 was not possible due to City policy requiring that volunteers work on indoor projects during the winter months.

The cooperative effort between Hunter Research archaeologists and the City Volunteer Corps proved both educational and effective. At the commencement of work, each new team of volunteers received a simple orientation outlining the purpose of the project. All volunteers were also trained by the supervising archaeologists in basic archaeological screening methods and material identification. Nearly two-thirds of the total volume of soil was screened with the enthusiastic help of the volunteers enabling this laborious task to be completed far more quickly and cheaply than would otherwise have been possible.

The remaining one-third of the soil was screened by Hunter Research personnel between December 1, 1993 and March 31, 1994, whenever the weather permitted. Little was accomplished during January and February, 1994 due to harsh weather conditions. For much of the winter, the dirt was covered with deep snow, which afforded a considerable amount of protection from erosion and to some extent provided insulation from freezing.

B. Previous Research

The area now known as City Hall Park has been used for various activities and occupied by a range of public buildings since at least the mid-18th century. However, little coordinated historical or archaeological research has been directed at the historic land use of this area until recent years. Most of this research has taken the form of cultural resources assessments conducted in connection with utilities and landscaping improvements and restoration projects.

In 1988, Grossman and Associates, Inc. attempted to reconstruct the historic topography of the north-central portion of City Hall Park as part of an archaeological sensitivity evaluation of the area proposed for a subterranean utilities corridor between Tweed Courthouse and City Hall. This study suggested that the historic ground surface lay buried beneath fill deposits at depths surpassing 13 feet below present grade (Grossman and Associates, Inc. 1988).

This stratigraphic model was tested by preliminary excavations in 1989 (Grossman and Associates, Inc. 1991) and by more extensive excavations later the same year (Landmarks Preservation Commission 1990). These studies identified a red-brown sandy soil, devoid of artifacts and interpreted as the natural subsoil, only 18 inches below the modern ground surface, i.e., considerably less than that predicted in the 1988 Grossman model.

In August, 1990 an archaeological study was undertaken as part of structural investigations of the foundations of the northern (Chambers Street) staircase of Tweed Courthouse (Hunter Research, Inc. 1990a). Although this study did not provide any additional information on early ground levels or stratigraphy, it did show that the brick foundation walls for the staircase survive intact beginning at a depth of two feet below present grade. The interior space of the staircase

footing contained a floor at ten feet below the modern ground surface with a level, mortared surface which lay on very coarse natural sand containing estuarine mollusca. This material is interpreted as a part of the extensive Late Glacial and Holocene deltaic deposits which overlie periglacial lake silts on the southern part of Manhattan Island (Schuberth 1968:195-196). Above the floor, the interior was filled with a series of deposits of sand, loam, wall plaster, brick and builders debris, probably dating to the demolition of the stairs in 1942.

A broader historical and archaeological assessment of the environs of Tweed Courthouse was also undertaken in 1990 by Hunter Research, Inc. (1990b). This study defined areas of potential archaeological significance around the courthouse relating to the history of the northern part of City Hall Park prior to 1861. The model suggested that beyond a zone of uncertain width around the building, intact pre-1861 deposits could be anticipated at depths of two to three feet below present grade, and would most likely be sealed by upcast from the Courthouse and from later landscaping and grading activities. The anticipated deposits could consist of pits, wells, privies and other features, perhaps also including burials.

An expanded archaeological sensitivity study of the African Burial Ground and Commons Historic District (including all of City Hall Park) was carried out during June and July, 1993 (Hunter Research, Inc. and Mesick Cohen Waite, Architects, forthcoming). This study employed historic and cartographic research to compile a series of historic land use map overlays and a comprehensive historic resources database addressing all resources from 1728. The primary purpose of this research was to identify areas of archaeological sensitivity within the designated area of the historic district to facilitate ongoing and future planning and construction activities.

Throughout the current project, Hunter Research staff consulted with archaeologists and anthropologists presently working with materials from the excavations which have recently taken place at the African Burial Ground (east of Broadway between Duane and Reade Streets) and in Foley Square, both of which lie immediately to the north of Chambers Street. Discussions with Michael Blakey of Howard University, Gary McGowan, Conservator, and personnel from John Milner and Associates, Inc. (notably, Michael Parrington and Rebecca Yamin) were of considerable help during the analysis phase of the project.

CHAPTER 2

HISTORICAL BACKGROUND

The area around Tweed Courthouse, including the section of Chambers Street where the soils studied in this project originated, was used as common grazing land during the Dutch settlement period and was most commonly referred to as de Vlacte, or the Flat. In 1673, a tract of land extending from present-day Chambers Street to Duane Street between Broadway and Centre Street, known as the Van Borsum Patent, was granted to Cornelius Van Borsum by the Dutch governor, in recognition of the services rendered by his wife, Sara Roeloff, who worked as an interpreter for the Dutch during the peace negotiations with the Esopus Indians. Upon the death of Sara Roeloff around 1696, the property was granted to her son, Lucas Kiersted, and sons-in-law, Johannes Kip and William Teller, executors of her estate. During the 18th century, partially in response to a dispute among the heirs, the city laid claim to the property as common ground, and the African community established a burial ground on these lands (Landmarks Preservation Commission 1993). In 1796 a petition was entered to have the boundary set between the then owners of the Van Borsum property and claimants of the burial ground.

In 1745 a line of fortifications was built at what was then the northern extent of the settled portion of the city (Figures 2.1 and 2.2). The current project location (the area where the soils being screened originated) lay immediately south of and within the fortified area. A portion of the defensive work ran along the southern line of the "Negros Burial Ground" property (which was in use at mid-century) and passed through what is now the northwestern corner of City Hall Park (Figure 2.3). This work included a palisade of cedar logs that was supported by a low earthwork. Gates were placed at the places where the palisade crossed the several north-south roads that ran out of the city, with one of these gates being located in Broadway adjacent to what is now the northwest corner of the Park. In addition, timber blockhouses were built at several key points along the line, including one east of the Broadway gate. This fortification system remained in place until the 1760s, when the palisade was taken down (Landmarks Preservation Commission 1993).

The development of the Commons accelerated after the mid-18th century with the construction of a barracks (generally referred to as the Upper Barracks) in 1757. This facility was sited at the northern edge of the Commons between the First Almshouse and the Negroes Burial Ground property, just south of present-day Chambers Street and the current project site (Figure 2.4). Its purpose was to provide quarters for British troops stationed in New York. With the outbreak of the Revolutionary War the barracks were briefly occupied by American troops, but with the fall of New York in September of 1776 this facility once again housed units of the British army until their evacuation from New York in late November 1783. American prisoners-of-war were

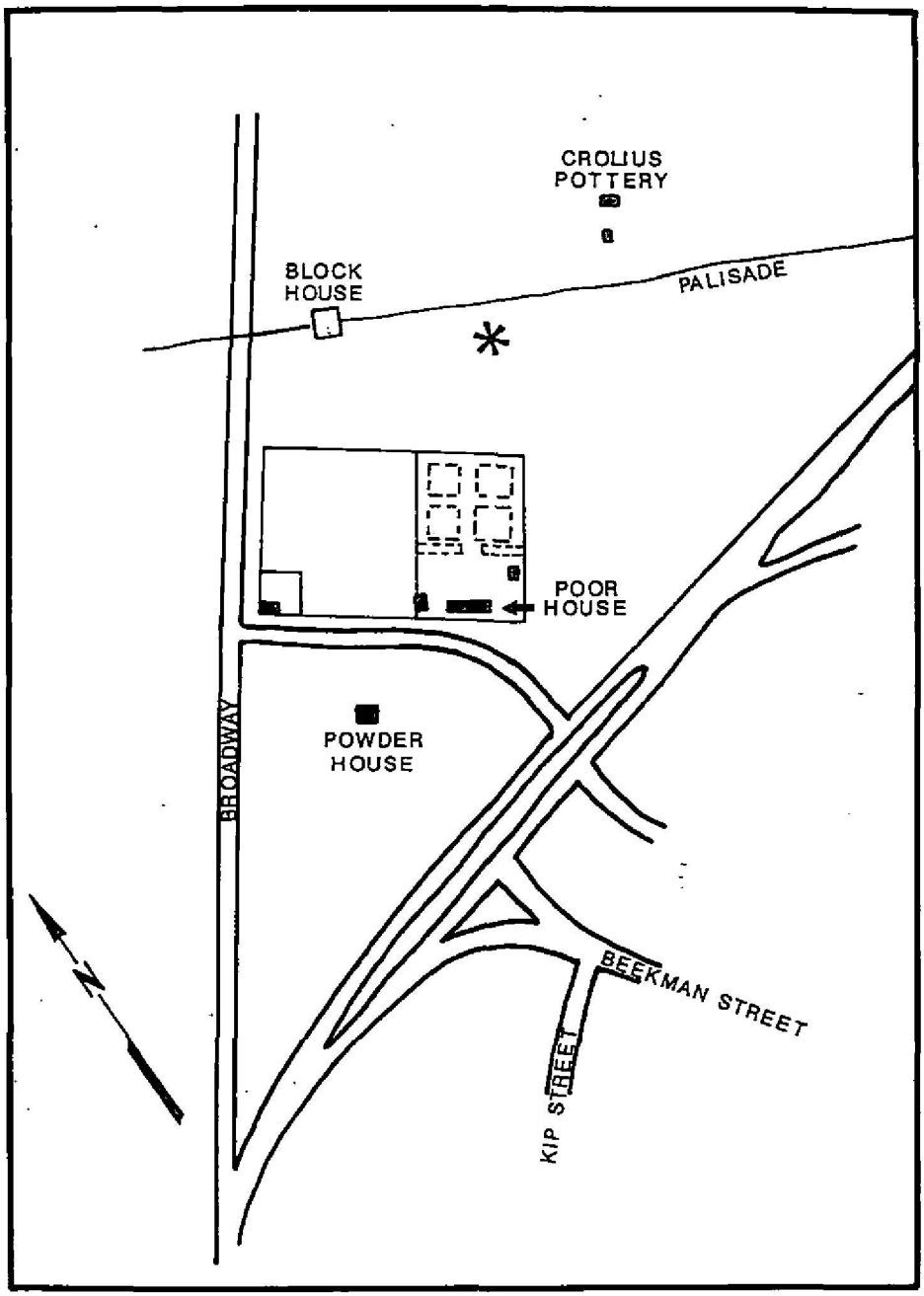

Figure 2.1. Grim, David. Part of New-York in 1742. n.d. From Valentine 1856. Scale (approx.) 1 inch:440 feet. Project area starred.

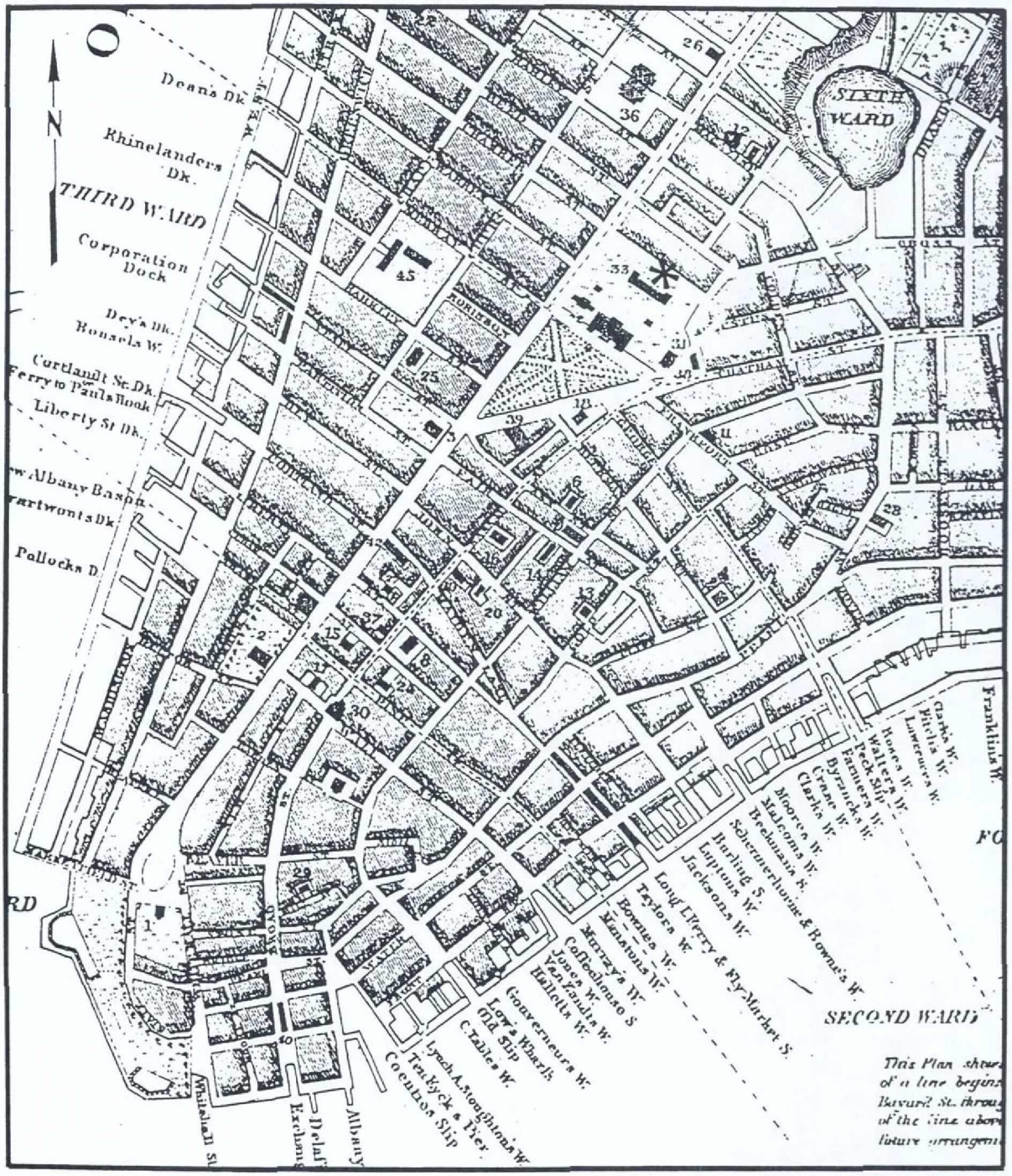

Figure 2.2. Grim, David. A Plan of the City and Environs of New York as they were in the Years 1742-1743. 1813. Scale (approx.) 1 inch:450 feet. Project area starred.

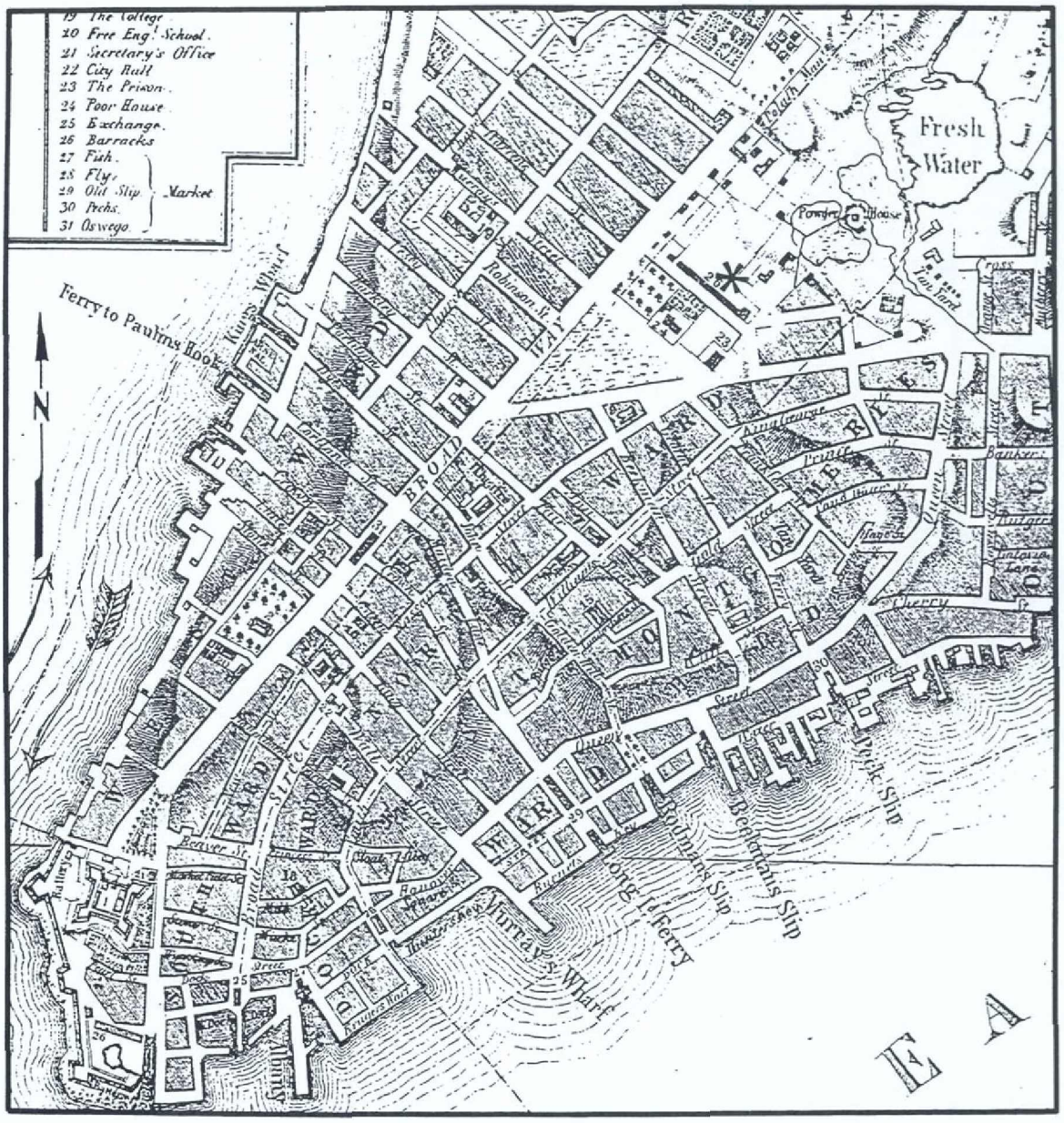

Figure 2.3. Maerschalck, Francis. A Plan of the City of New York...1755. From Stokes 1916 vol. I:Plate 34. Scale (approx.) 1 inch:500 feet. Project area starred.

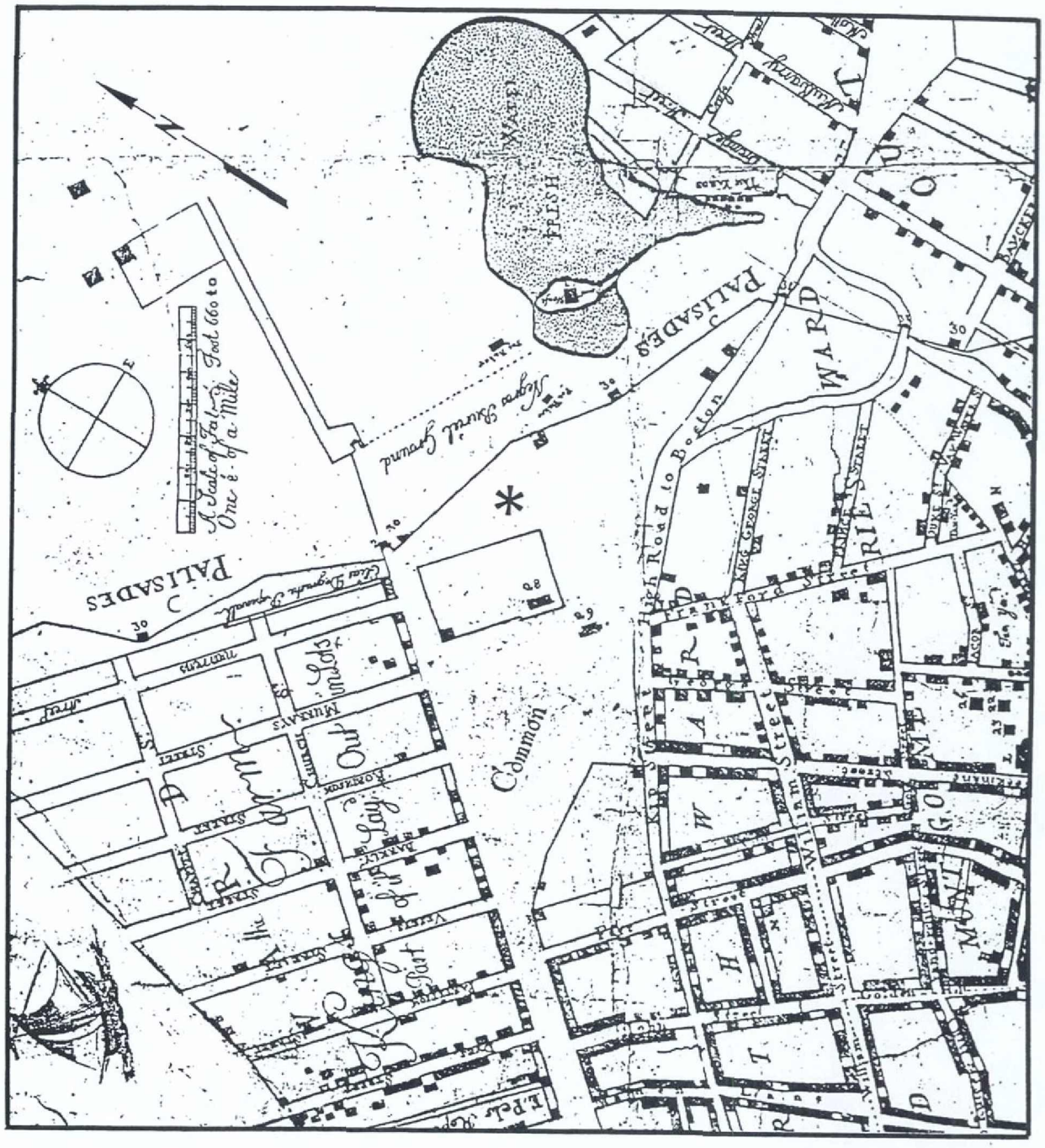

Figure 2.4. Ratzer, Bernard. Plan of the City of New York. 1767. From Valentine 1854. Scale (approx) 1 inch:825 feet. Project area starred.

held in various buildings within the Commons, and, upon their death, were interred in the vicinity of the Barracks. It is not presently known if these soldiers were buried in the area of the Commons now known as City Hall Park, or in the Negroes Burial Ground. There is some likelihood that the extreme southern end of the burial ground was used for the interment of American prisoners-of-war during the British occupation of the city (Stokes 1915:3; Landmarks Preservation Commission 1993).

In September 1785 a new burial ground for the Bridewell and first almshouse was created on vacant ground behind the Upper Barracks in the vicinity of the current project site (Landmarks Preservation Commission 1993). In May of 1796, the Common Council authorized construction of a new almshouse (referred to as the Second Almshouse), approximately on the site of the present-day Tweed Courthouse (Figure 2.5). This act made it necessary to find a new location for the burial ground that served the almshouse and the Bridewell.

Between 1776 and 1797, two buildings were sited along the Upper Barracks Fence Line which appear to have been associated with the British occupation of the Upper Barracks during the Revolutionary War. Both of these structures were most likely destroyed during the construction of Tweed Courthouse, although some remains could conceivably survive underneath the sidewalk bordering Chambers Street.

The present alignment of Chambers Street between Broadway and what is now Centre Street was proposed in 1796 and passed through the southernmost portion of the Negroes Burial Ground. Ordinances for paving Chambers Street were read and passed by the board on July 11, 1796. In anticipation of the construction, the burial ground was to be surrendered on or before May 1797. On May 29, 1797, the street committee was ordered to make a survey of Chambers Street so a plan of the intended common sewer from the Almshouse, Gaol, and Bridewell to the Hudson River could be made. Chambers Street was in place by 1799, but it was not formally opened up as a public street until 1811. The delay in officially accepting this street as part of the city's street system was caused by several factors, one of which was negotiations between the City and the owners of the former Negroes Burial Ground property concerning the division line between these two holdings. This was finally settled in 1800 with the city's acquisition of a triangular piece of land at the southwest corner of Broadway and Chambers Street that had formerly been part of the Negroes Burial Ground parcel. This transaction gave the city full control of all the lands within the present Park, including the current project site.

The Second Almshouse, constructed in 1796, was vacated in 1812, and was subsequently used by several groups, including the New-York Historical Society, until 1830, when the building was renovated for use as municipal offices and court rooms. The building was destroyed by fire in 1854.

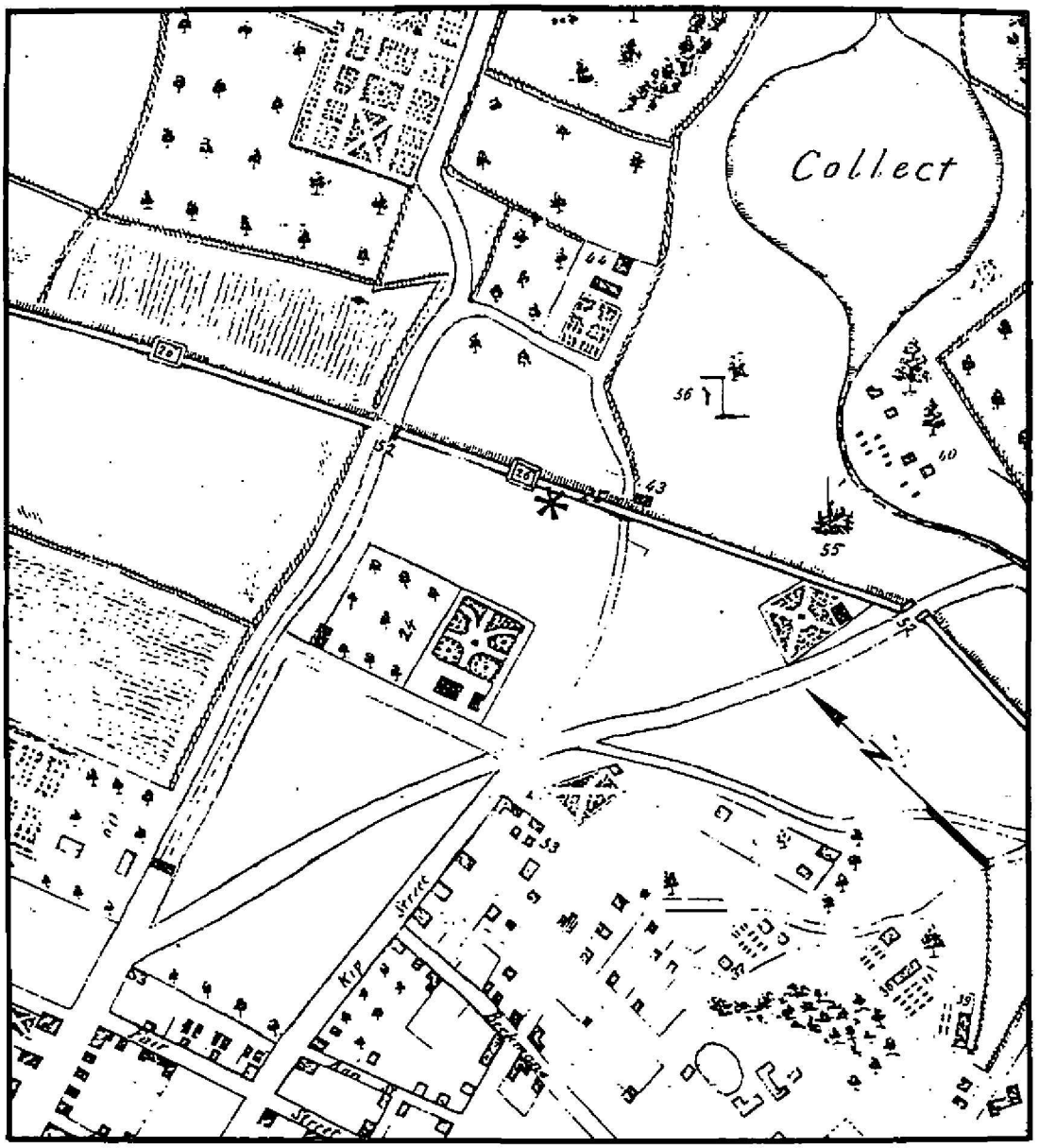

Figure 2.5. Goerck, Casimir T. and Joseph F. Mangin. Plan of the City of New-York. 1803. Scale (approx.) 1 inch:850 feet. Project area starred.

Tweed Courthouse was commissioned in 1858 at which time the legislature appointed a commissioner to superintend the construction of the building on the site of the former Second Almshouse. The acquisition of this land was authorized by the State Legislature in 1861, and on December 26, 1861, the corner stone was laid by Mayor Wood in City Hall Park facing Chambers Street. John Kellum was commissioned as architect during December of 1861, but the first public view of the design for the building did not appear until 1868 when it was printed in the Manual of the Corporation of the City of New York. Construction continued until 1871 when work was halted due to the "Tweed Conspiracy" and the death of John Kellum, and did not continue until 1874 when Leopold Eidlitz was commissioned to complete the building. The building was finally completed and occupied in 1881. Tweed Courthouse was designated a New York City Landmark in 1984.

CHAPTER 3

FIELD ACTIVITIES

Field activities at the West Street project site commenced on September 13, 1993 and were completed on March 31, 1994. The project was directed by Terrence Epperson (September 13-31, 1993) and Barbara Hildebrant (October 1, 1993-March 31, 1994). During September, 1993, daily field activities were supervised by Jeffrey Psenisky (Assistant Archaeologist) and, from October, 1993 onwards, by Paul Jung (Assistant Archaeologist) and Veronica Arroyo (Field Assistant).

The West Street project site comprised a compound measuring roughly 200 feet north-south by 45 feet east-west, and was bounded on all four sides by eight or ten-foot-high metal chain-link fencing (Figure 3.1). The soil removed from Chambers Street that was being screened was piled along the eastern edge of the compound and spread over an area extending approximately 165 feet from north to south and 15 feet from east to west. The total volume of material was approximately 200 cubic yards. During periods of bad weather when work was halted, heavy plastic sheeting was placed over the soil to prevent unnecessary erosion. The soil matrix itself was extremely diverse and made up of an aggregate of materials, including sand, loam, clay, stone and modern building debris, within which were relatively small quantities of skeletal remains and artifacts.

Initially, due to the presence of construction trailers and vehicles, access to the soil for screening purposes was very limited, being confined to the northern end of the pile. Approximately half the dirtpile length was made accessible following receipt of formal authorization to proceed from the Department of General Services in October, 1993. Facilities for temporary storage of artifacts and tools were provided by Stuyvesant High School.

Field investigation involved the screening of all soil to recover both skeletal remains and historical cultural materials. Because of the circumstances of its excavation and removal to the West Street site, all soil was regarded as a single stratigraphic context. Conventional archaeological tools and methods were employed in the screening process. Screening was undertaken using two-foot-square wooden frames with 1/4-inch wire mesh beds,

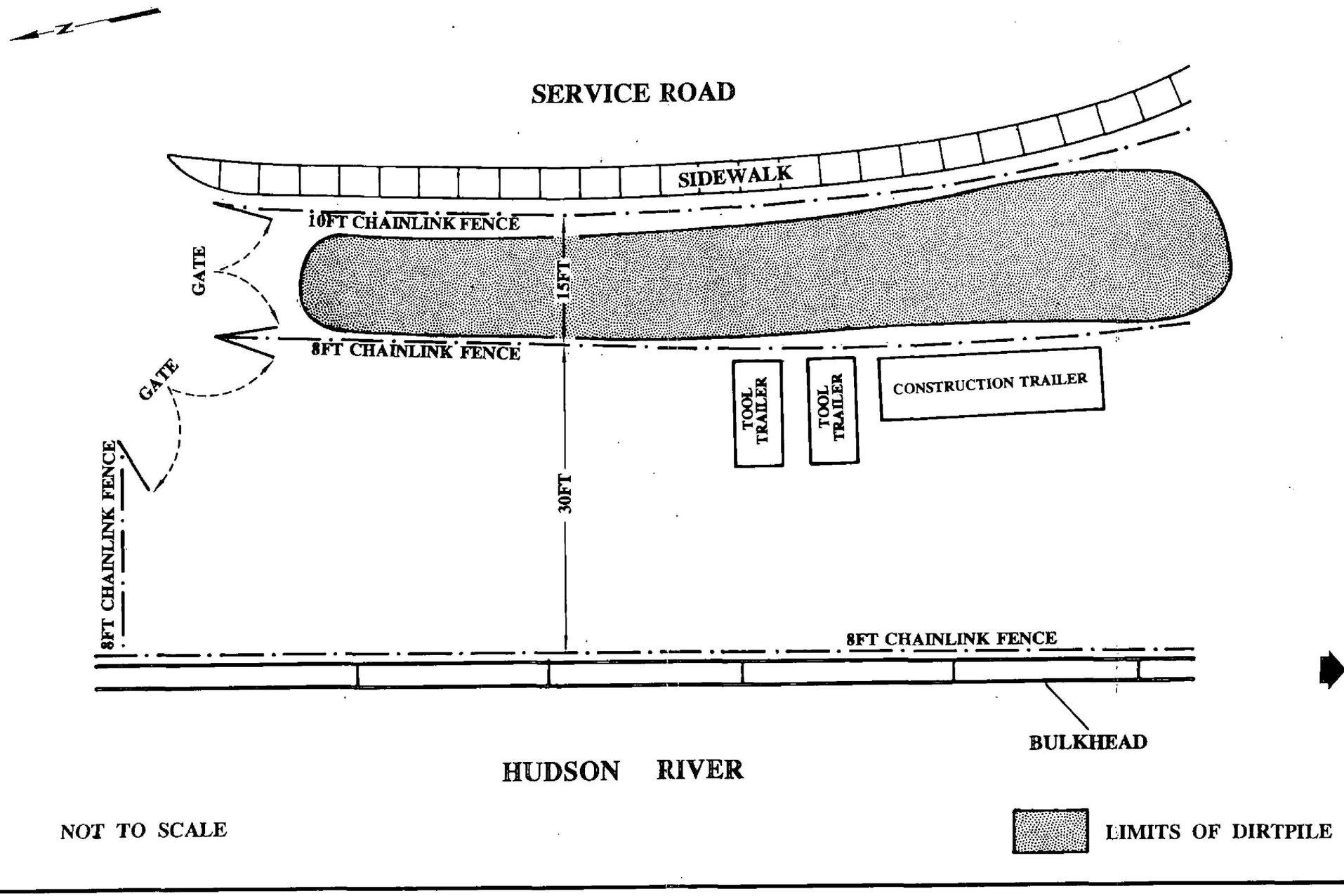

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FIGURE 3.1 PLANVIEW: WEST STREET STORAGE AREA

suspended from wooden tripods. Dirt was transferred by shovels and buckets to the screens, and then sifted manually using trowels. During recovery, skeletal remains were distinguished from historic artifacts and bagged separately. All artifacts were retained in acid-free bags along with a pre-printed label noting the date of recovery. All daily field activities were recorded in field notebooks and through photography.

The majority of fieldwork was completed by the City Volunteer Corps (Plates 3.1 and 3.2). Screeners from the City Volunteer Corps were given an oral summary of the project history and its relationship to the African Burial Ground. Information packets containing published articles relating to the project were distributed. The possibility that any human remains encountered may have originated within the African Burial Ground was discussed. Alternatives to this supposition were also presented, stressing that the actual origin of the remains had not yet been determined.

Following the project summary, training in equipment set-up, cultural material identification and screening methods was provided. The process of tripod screen assembly was demonstrated. Samples of bone and artifacts (ceramics, glass, metal, brick, shell) were displayed, and instruction given in distinguishing the basic characteristics of each material type. Following a brief question and answer session, a demonstration of screening technique was given. Dirt deposited in the assembled tripod screen was shaken, to eliminate loose sediments, then sifted with a trowel. The initial training concluded with the setting up of all tripod screens by the volunteers.

As part of the public outreach initiative to the City Volunteer Corps workers, a guided tour of the Five Points Archaeological Project Liaison Office was arranged midway through each successive team's phase of work. The volunteers were presented with a slide lecture on the history and excavation of the African Burial Ground and shown films on the history of New York City. A tour of the lab facilities served to demonstrate cleaned and curated examples of artifacts which had been recovered at the Burial Ground. This experience effectively reinforced the importance of the screening process for the volunteers, and also helped to stimulate enthusiasm for the project.

The daily field procedures for each City Volunteer Corps team were kept as consistent as possible. Screens were assembled and placed along the north and west sides of the pile of soil. Teams were split into two groups. One group was responsible for the breakdown and transferral of soil, as well as the removal of large stones and fragments of modern building debris from the

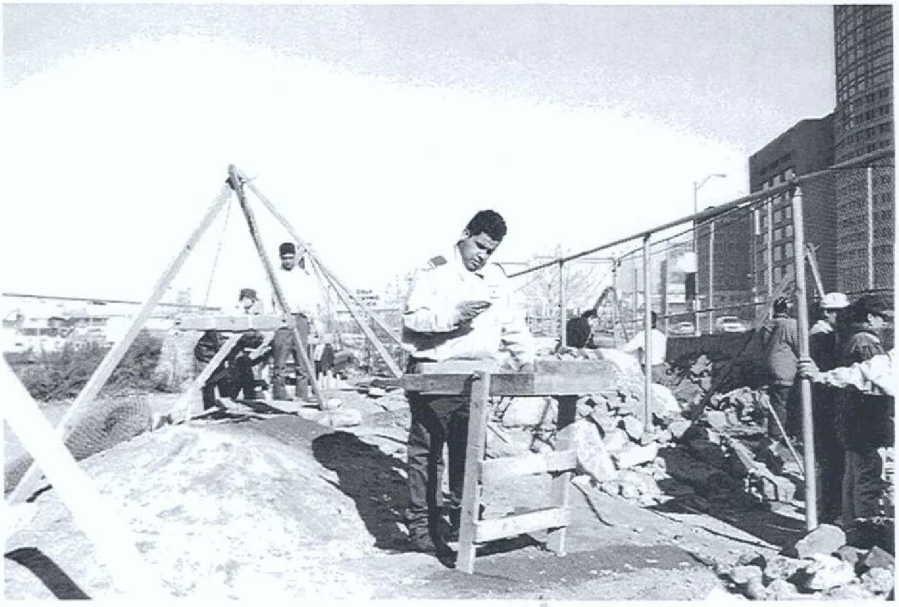

Plate 3.1. Work in progress; view facing northwest (Photographer: Barbara S. Hildebrant, November 1993). [HRI negative 93032/1:24].

Plate 3.2. Work in progress; view facing south (Photographer: Barbara S. Hildebrant, November 1993). [HRI negative 93032/1:31].

dirtpile. These volunteers were also instructed to remove, by hand, any bones visible in the dirtpile prior to the transferral of soil to the screens. The second group was responsible for the collection of skeletal remains and artifacts from the screens. Screening was executed at a minimal distance of five feet from the dirtpile. Sifted sediments were kept separate from stone and building debris.

City Volunteer Corps involvement in the West Street soil screening project concluded on November 28, 1993. At this point, approximately two-thirds of the soil had been screened. Personnel from Hunter Research Inc. screened the remainder of the soil, completing the work on March 31, 1994.

CHAPTER 4

HUMAN REMAINS

A. Taphonomy

The quality of the information which can be derived from any human bone assemblage depends upon the quality of the materials recovered. The agents of destruction affecting the survival of human skeletal remains range from the growth of microscopic molds and bacteria on the bones themselves to the wholesale obliteration of burials as human and natural agencies rework the landscape. In some cases, the disturbance of human burials and skeletal remains is considerable and the information loss is substantial.

It is necessary, then, to consider first the limitations of the evidence through the examination of the taphonomic processes that pertain to each assemblage. The post-mortem history of any collection of skeletal remains minimally includes an assessment of the destructive chemical and physical factors and the biological agents within the burial environment. When destruction of the burial area occurs through the activities of humans, additional evaluation is required.

There are numerous complex processes which affect the preservation of the human skeleton, and it is important to realize that no single factor will determine the completeness of an assemblage. The condition of the individual bones, as well as the completeness of the skeleton will affect the level of analysis. Much of the literature relating to the study of human remains assumes the retrieval of remains of intact burials (Larsen 1987; Boddington 1987; Henderson 1987). In these instances, chemical analysis of the soil, presence of burial shafts, mortuary receptacles and grave goods, and the position of the skeletal material in the burial pit, combine to aid in the interpretation. Other extrinsic factors include environmental conditions (water, soil, temperature, air), the nature of the local flora and fauna (fungi, plant roots, snails, insects and mammals), and the activities of humans.

The nature of the excavation of the skeletal materials from Chambers Street precluded an assessment of most of the above elements of human burial analysis. In fact, the actions that eventually resulted in the screening of soils on the West Street project site had a substantial effect on the composition and condition of the skeletal remains recovered from the Chambers Street and greatly restricted the degree of analysis undertaken.

A simple recounting of the events surrounding the removal and movement of the skeletal remains prior to their analysis helps to explain the limits forced upon this investigation. On February 14, 1993, a backhoe operator under contract to Con Edison excavated a trench along the south side of Chambers Street in front of Tweed Courthouse. Human skeletal remains were observed in the backdirt on the sidewalk, at which time excavations were halted. Backdirt excavated previous to the discovery of the skeletal materials had been removed from the site and dumped at a salvage yard. The skeletal materials were mixed with a variety of soil types, with large chunks of concrete from the sidewalk, and with asphalt from the roadway. This matrix remained in the salvage yard, covered with plastic, until March 12, 1993, when it was transferred to the lot immediately north of Stuyvesant High School on West Street. The transfer was performed to consolidate all dirt from the Con Edison excavations in a single secure location and to avoid contamination from other sources. The loader operator removed the largest fragments of concrete, stone and asphalt before loading the sediments into the dump trucks used for the transfer. Smaller chunks remained incorporated within the soil matrix. The dirt was covered with plastic after it was deposited at the West Street location.

While stored at the West Street location, the skeletal remains were exposed to the environment, and subjected to episodes of wind, rain, snow, and sleet. In addition, because of the severity of the 1993-94 winter, many of the bones were endangered by episodes of freezing and thawing.

The exposure of the skeletal elements to tumbling, crushing, and environmental fluctuation created considerable stress on the bone material. No intact crania or long bones were recovered. For the majority of the broken bones, breakage occurred during or after excavation. All long bone fractures, and most of the cranial fractures, were rough and jagged, attributes of post-mortem breakage resulting from redeposition of the skeletal materials (White 1991). Although bone fractured by disinterment and reburial much earlier would exhibit similar fracture pathology, the coloration of the broken surfaces is significant. The color of exposed edges of old fractures would be dark, closely matching the color of the bone surface. Further, the fracture surfaces would be eroded, and also smoother, because of chemical weathering from prolonged exposure to the soil matrix. The fracture surfaces on the materials herein described are lighter in color than the adjacent broken surfaces, and are also sharp and unpolished, indicating that breakage was recent, and almost certainly occurred during or after the Con Edison excavations. Several of the bones showed evidence of abrasion, the result of particles of grit or other materials moving against the bone during dumping episodes. No root scarring, carnivore gnawing, or cut marks were evident.

The soils were tested by the City of New York for asbestos, PCB's and lead compounds, and were found to be clean. No other chemical analysis was performed.

A complete inventory of the human skeletal remains recovered from the soils screened at the West Street compound is given in Appendix A. The remainder of this chapter is given over to a brief discussion of the minimum number of individuals represented and some general remarks about their age, sex, ancestry and pathology.

Table 4.1. Calculation of Minimum Number of Individuals (MNI)

Element	Side	Count	MNI	Basis
Maxilla	R	2	2	Teeth
	L	6	5	P-3
Mandible	R	6	5	Mental Foramen
	L	9	6	Mental Foramen; Mandibular Condyle
Clavicle	R	4	4	Conoid Tubercle
	L	3	1	
Sternum		3	2	Rib Facets
Humerus	R	11	8	Trochlea; Age
	L	4	1	
Ulna	R	3	1	
	L	8	6	Ulnar Tuberosity
Radius	R	4	2	
	L	8	8	Radial Tuberosity
Femur	R	7	2	Nutrient Foramen
	L	6	4	Lateral Condyle
Tibia	R	9	3	Nutrient Foramen
	L	5	2	Distal End
Fibula	R	7	7	Distal End
	L	1	1	

B. Minimum Number of Individuals

The Minimum Number of Individuals (MNI) represented in any assemblage of bones is the minimum number of individuals necessary to account for all of the elements in the assemblage. Bones are first separated by element and side, and then minimum number of individuals for each category (not individual pieces) is counted. In the process, all possible joins are considered, as well as the age of each fragment. When this is completed, possible matches between left and right bones are considered in an effort to determine if both right and left side of single individuals are represented in the collection. After this is done for all paired and unpaired elements, the greatest minimum number of individuals determined for any element constitutes the minimum number of individuals for the assemblage (Ubelaker 1989; White 1991).

The fragmentary state of the skeletal remains recovered from the Chambers Street soils limited the number of elements suitable for determining the minimum number of individuals represented in the assemblage. A total of 106 pieces representing ten elements were used in the calculation of MNI (Table 4.1). Two elements, the right humerus and left radius, provided an MNI of eight for this collection. This is a conservative estimate, which assumes that each of the right humeri is matched with a left radius from the same individual. In at least one instance, this is definitely not the case as one humerus fragment is from a sub-adult, while all of the radii represent a mature population. Thus, the MNI is minimally nine. Based on similarity in color and size of the elements, it is conceivable that five individuals are represented by ten bones. This provides a minimum number of 11 individuals. Taking into consideration the mandible collection, and the presence of fragments from two sub-adults, this estimate can be revised to an MNI of 12. Finally, assuming that there are no matches between the humeri and radii in this collection, and each fragment represents a separate individual, the MNI would be calculated as 16. Realistically, it is likely that a reasonable estimate of individuals for this collection is 12.

C. Age

The estimation of age at death utilizes what is known about chronological changes in the skeleton. These changes do not occur at the same times or rates in different bones and structures. During infancy, most changes involve the appearance and growth of bones and teeth. During childhood and through adolescence, bone growth, dental eruption, and calcification continue. In addition, the epiphyses on the post-cranial skeleton develop and unite. About the age of 20, growth is complete, most epiphyses are united, and all the teeth have erupted and are fully calcified. After the age of 20, bones continue to fuse, metamorphose, and degenerate (Ubelaker 1989; White 1991).

Determination of an individual's age at death involves dividing the continuum of growth. However, individuals of the same chronological age can show different degrees of development. Thus, even when osteological standards based on known samples are perfect, there is always a degree of imprecision in aging skeletal remains. This imprecision is magnified in the population represented in the Chambers Street assemblage. The fragmentation of the collection leaves few elements which are useful for calculating an individual's age, limiting the level of analysis which can be attained. The most useful technique for this assemblage involves the seriation of the bones into age categories in relation to one another. For this particular collection, only two categories were formed: sub-adult (under 20 years) and adult (20 years or older).

Four elements -- three mandible fragments and one humerus -- can be identified as sub-adult. One mandible fragment displays a noticeably small mandibular condyle. In the remaining mandible fragments, only the first molar has emerged. Epiphyseal closure is less than 50 per cent completed on the humerus. All other identifiable dental and epiphyseal samples are classified as adult. Due to the absence of complete long bones, and the severe fragmentation of the cranial elements, estimations of age using these bones are not possible at the present time. The collection contains, then, a minimum of two individuals under the age of 20 years.

D. Sex

The skull has been a traditional focus of sexing studies. Determination of sex based on crania follows the observation that males tend to be larger and more robust than females. Under most circumstances, these determinations are subjective, and are only employed where complete (or nearly complete) crania are available (Ubelaker 1989; White 1991). There are no intact, or partial, crania present in the Chambers Street collection. Skull pieces are highly fragmented, and show a wide variation in size. No attempt has been made to sex the population using parts of the skull.

Although the skull has been a traditional focus of sexing studies, a number of methods have also concentrated attention on the pelvis. A variety of metric techniques have been developed to express relationships between particular tendencies, for example, width of the greater sciatic notch or length of the superior pubic ramus (Ubelaker 1989; White 1991). It is difficult, however, to achieve accurate measurements from fragmentary collections. The fragmentation of the pelvic bones in the Chambers Street collection prevents an accurate assessment of sexual identity. Three pelvic bone fragments include the sciatic notch, often used in subjective determination of sex. In one of these bones, the notch is wide, forming an angle around 60 degrees, indicating the individual represented is probably female. The other two are narrower, and are likely male.

Sexual differences in the long bones of the post-cranial skeleton are well-documented, but less consistent than those on the pelvis and skull (Ubelaker 1989; White 1991). Furthermore, complete bones are necessary for measurements and the determination of robustness. As there are no complete bones in the collection, no attempt was made to use the long bone sample in sexing the population.

In general, although both sex and age are important variables for the analysis of human skeletal remains, there is a direct link between misidentification of age and sex and increased fragmentation of the sample. Meindl et al. (1985) suggest that overall sex ratios and age class sex ratios should only be estimated from adult burials with fully preserved pelves.

distal femur also used too

E. Ancestry

The skull is the only part of the skeleton that is widely used in estimating geographic ancestry. It is widely agreed, however, that racial estimations are usually more difficult, less precise, and less reliable than estimations of age or sex. Work on skulls of known origin has revealed certain tendencies when comparisons are made between African, European and Asian populations. The criteria are subjective, generally dependent upon complete skulls, and for the best results require survival of the facial region, which is often missing under even the best of conditions in historic or prehistoric population samples. Under any circumstances, analysis of ancestry should be applied only to adult remains of complete crania, and should also be conducted with careful reference to comparative material (Gill 1986; White 1991).

The skeletal remains from the Chambers Street excavations are not suitable for determining ancestry.

F. Pathology

The most common pathology observed in the bone collection is degenerative change, principally in the form of arthritis. No fractures or dislocations were observed in the Chambers Street collection, but the severe fragmentation of the bone material effectively precludes intelligent pathological analysis.

Dental caries were present in a small segment of the teeth present in the sample. Some teeth showed heavy attrition, but as most of the teeth were isolated finds, it is premature to make any determination as to the cause or frequency of this occurrence.

CHAPTER 5

CULTURAL MATERIALS

A total of 4,576 artifacts were collected during the screening of the Chambers Street soils, including: building materials; ceramics, glass, lithic and metal fragments; and faunal remains (in addition to the human skeletal remains described in Chapter 4) (Appendix B). A large number of these artifacts exhibited post-depositional breakage.

The analysis of cultural materials associated with historic sites frequently focuses on the most informative class of artifacts, the ceramic assemblage, and archaeologists investigating these sites employ several methods as aids to the study of the ceramic materials collected. Two commonly used analytical approaches -- mean ceramic dating and the establishment of *termini post quem* (TPQs), i.e., the beginning manufacture date for particular artifact types -- are applied here to the Chambers Street cultural materials, not so much as a dating technique, but as a tool to assist in determining the overall period of their deposition (e.g., South 1977, 1978).

The mean ceramic date formula, which uses the median manufacture date of specified ceramic types, is widely used, but often misapplied. Although the results from 17th- and 18th-century assemblages are useful, the application of mean ceramic dating to 19th-century assemblages often produces uneven results (Majewski and O'Brien 1987). Discrepancies between calculated ceramic date ranges and dates derived from non-ceramic artifacts and archival materials may occur for a variety of reasons, including: conservation of ceramic items; differential breakage; repair and further use of broken materials; secondary acquisition of goods discarded or given away by former owners; the focus on dates of manufacture rather than the period of popularity (Cleland 1972; Jacobs 1983).

The extensive post-depositional breakage further reduced the interpretive value of the 656-sherd ceramic element (14% of the total artifact collection) within the Chambers Street cultural materials assemblage. The exceptionally fragmented nature of the sherds greatly complicated the identification of ceramic "types" and made it difficult to establish vessel forms and dates of manufacture. Dateable, diagnostic traits were identifiable on only 284 sherds (43% of the total). However, although the assemblage is small, and there is no associated archaeological stratigraphy to assist in the chronological ordering of materials, a limited analysis of the ceramics may still be offered.

With these caveats in mind, mean ceramic dates were calculated for cream-colored ware (Whieldon/Wedgewood), creamware, Staffordshire, pearlware, ironstone china, and whiteware, using the method described by South (1977). Date ranges used in the calculations for each type are those suggested by Noel Hume (1970). The median date range established for the entire ceramic collection was 1780.6 - 1858.2, with a mean date of 1820.7 (Table 5.1). The TPQ for the ceramic assemblage was also considered, and, based on the whiteware collection, found to be 1820. Preliminary research, then, indicates that deposition of the soils containing the human skeletal materials probably occurred sometime during the late 18th or early 19th centuries.

In addition to the ceramics noted above, the assemblage also contained 74 porcelain sherds, 41 redware sherds, 23 yellowware sherds and 219 undated stoneware fragments. One-hundred-and-seventy of the undated stoneware fragments were recognizable as wasters or kiln furniture, indicating pottery manufacturing activity in the area during the late 18th century or early/mid-19th centuries.

Other artifact classes from the Chambers Street cultural materials assemblage, notably glassware and metal objects, provide additional information relating to the period of deposition. Those that can be reasonably dated are of 19th-century origin, but somewhat later than the mean date established from the ceramic assemblage (Table 5.2), suggesting that these materials may not be contemporaneous with the ceramic assemblage. The non-ceramic materials appear to signify deposition during the latter half of the 19th century.

A number of clay tobacco pipe fragments (107) were retrieved from the screened soils, and are primarily of 19th century origin. The artifact collection also includes a musket ball fragment, an ox shoe and gun flints, all of which likely derive from the late 18th- or early 19th-century use of the Chambers Street area.

Two-thousand-four-hundred-fifty-seven non-human bone fragments were also recovered from the screened soils, the majority of which were two small for identification. Species identified included Equus (horse), Bos (Cow), Sus (domestic pig), Capra/Ovis (domestic goat/sheep), Odocoileus (deer), Felis familiaris (domestic cat), as well as a number of Rodentia species. Hand-sawn butchering marks were identified on eleven specimens. Like the rest of the artifact collection, this bone material was highly fragmented and severely eroded, affording little opportunity for extensive analysis. Oyster and clam shells (194 and 112 pieces, respectively) were also retrieved. These have not been identified as to species. Although absolute dates for the faunal collection are not available, the materials are generally representative of 17th- and 18th-century sites.

TABLE 5.1.
CULTURAL MATERIALS RECOVERED FROM SCREENED SOILS FROM CHAMBERS STREET: PRINCIPAL CERAMIC TYPES - DATE RANGES, MEAN DATES AND SHERD COUNTS

Ceramic Type	Date Range	Mean Date	Count
Whieldon/Wedgewood	1740-1770	1755	4
Cream-colored ware	1759-1775	1767	1
Creamware	1762-1820	1791	8
Staffordshire	1700-1775	1738	25
Ironstone	1813-1900	1857	115
Pearlware	1780-1830	1805	22
Stoneware	1700-1810	1755	3
	1720-1805	1763	7
	1740-1765	1753	6
	1740-1775	1758	14
	1744-1775	1760	8
Tin-enameled	1650-1800	1725	14
Whiteware	1820-1900	1865	57
Median Date Range	1780.6-1858.2	1820.7	
Total Sherds			284

TABLE 5.2.
CULTURAL MATERIALS RECOVERED FROM SCREENED SOILS FROM CHAMBERS STREET: PRINCIPAL ARTIFACT CLASSES - DATE RANGES AND SPECIMEN COUNTS

Artifact Class	Date Range	Count
Flat Glass	1875-1918	19
Ornamental Glass	1875-1918	4
Patent Bottles	1889	1
Milk Bottles	1889+	2
Piel Brother's Bottle	1892-1906	1
Apothecary Jar	1857-1935	1
Bottle/Jar	1875-1918	2
19th Century Tumbler Base	19th Century	1
Cut Nails	1830+	256
Wire Nails	1850+	31
Coins		
British Halfpenny	1760-1820	1
United States Coins	1868	1
	1906	1
	1941-1944	2
	1979	1

CHAPTER 6

CONCLUSIONS

The primary goal of this project was to recover and analyze the human skeletal remains which were unexpectedly encountered during the Con Edison excavations at 52 Chambers Street. The retrieval of other cultural materials was considered to be of secondary importance, although it was hoped that any artifacts recovered would aid in the identification of the cultural affiliation of the human remains. When the Con Edison excavations were halted, approximately 222 cubic yards of soil had been removed, of which 200 cubic yards had been moved off site. This study has addressed in detail the human skeletal and cultural materials recovered from this latter body of soil.

A major limitation preventing comprehensive analysis of the human bone and the artifacts was the fragmentary nature of all the materials in the assemblage. Much of this fragmentation occurred during the excavation and subsequent removal of the soils, first to a temporary storage yard and then to the West Street location where the soils were eventually screened. These activities had specific impact on the human bone, with somewhat less damage being observed on the other cultural materials.

A total of 1,399 bone and bone fragments identifiable as human, were recovered from the soils excavated by Con Edison from Chambers Street. Numerous other bone fragments, probably of human origin, were also recovered. Totaling 1,138 grams in weight, these fragments were too small to assign to any particular skeletal element. The minimum number of individuals represented (based on 7.5% of the collection) ranges from eight to 16, with 12 being regarded as a reasonable estimate. Chronological age cannot be assessed from the remains collected, although it is clear that both adults and sub-adults are represented. Gender assessment was limited to three pelvic bones, representing two males and one female. No determination of ancestry through the analysis of the bone material was possible.

A major issue raised at the beginning of the project was the possibility that the skeletal remains might have already occupied a redeposited context at the time of their excavation by Con Edison. It was hypothesized, for example, that the bones might have been disturbed during previous construction activities, most likely those relating to the building of Tweed Courthouse in the 1860s. Unfortunately, the circumstances surrounding the recovery of the human skeletal remains were such that effective observation of the stratigraphy of the Con Edison trench was not possible, so the presence of graves or evidence of redeposition could not be ascertained with any certainty. Furthermore, since the excavations were not controlled in any archaeological sense, the placement of the bones in any meaningful stratigraphic context is not possible. Thus, standard archaeological/stratigraphic methods for the identification of a likely process of deposition are not feasible avenues of research for this collection.

Excessive fragmentation of bone materials, caused by disinterment and then redeposition, may sometimes be held as evidence of human burials no longer remaining intact. Certainly, the Chambers Street skeletal materials are fragmentary, but the evidence discussed above in Chapter 4 indicates the breakage and fragmentation to be of recent origin. Likewise, redeposited human skeletal assemblages will typically show a preponderance of certain elements (e.g., femora, humeri and tibiae), and a corresponding lack of others (such as patellae, phalanges and scapulae). However, in the case of the Chambers Street assemblage, the limited sample and its excessive fragmentation effectively precluded analysis of this type as a means of clarifying the depositional circumstances of the skeletal remains.

In some instances, statistical methods may be applied in the analysis of an excavated sample of human skeletal remains in an effort to determine the expected number of particular elements against the number actually found. In this manner, a more objective judgment may sometimes be made concerning the depositional character of excavated human skeletal remains. A simple measure of association, such as the chi square test, can be utilized to compare statistically-derived distributions against the characteristic of actual collections. Unfortunately, the fragmented nature of this particular sample would seriously affect the reliability of such tests. It is, therefore, not feasible to make an effective statistically-based determination concerning the deposition of the skeletal remains.

Despite the difficulties in conducting an objective assessment of the depositional status of the human skeletal remains recovered from Chambers Street, there is some reason to believe that these remains derived from intact rather than redeposited human burials. One especially strong point in favor of the burials being intact is the recent discovery (in the late summer of 1993) of a partial burial in the south wall of the Con Edison trench. Although one half of the skeleton has been removed as a result of the Con Edison backhoe slicing through the burial along its long axis, the remaining portion is clearly laid in its originally interred position. At the time of writing, there is also a strong suspicion that other human burials lie intact in close proximity to this half burial exposed in the trench side.

The limited analysis of the skeletal assemblage recovered from the soil screening operations also lends some support to the contention that the bone derived from burials that were intact at the time the Con Edison excavations commenced. Specifically, many bones and bone fragments can be paired by color and size, which is suggestive of whole skeletons being present. In addition, a wide range of skeletal elements is represented, including the more fragile bones, such as scapulae, and smaller bones, such as patellae and phalanges, which also tends to argue for the presence of complete burials.

Discussion of the depositional context of the human remains from Chambers Street, and the argument in favor of their being derived from burials that were largely intact up until 1993, leads naturally to two other questions: who exactly was being buried and when did the burials take place? Three scenarios are proposed, based chiefly on an analysis of historical documents and maps. The remains may be associated with the Negroes Burial Ground, with Revolutionary War era activities taking place in the vicinity of the barracks, or with the burial ground maintained by the nearby Brideswell and almshouse. In all three of these scenarios, the interments would have taken place during the mid-to-late 18th century. It is unlikely that any interments were made in the immediate project area after 1799, as Chambers Street was in place along its current alignment by this date.

The cultural remains recovered from the backdirt cannot be obviously associated with the skeletal materials and are of no assistance in clarifying the origin of the burials. No shroud pins, beads, pendants or other adornments were found. There was also a total absence of military gear, such as uniform buttons and belt buckles. The ceramic and glass assemblage is consistent with what one would expect for urban domestic occupation.

Twelve of the bones (nine skull fragments, two mandible fragments and one long bone fragment) exhibit an irregular green stain from contact with an unknown source of copper or copper alloy. The source could be buttons, shroud pins, metal jewelry, weapons or some other unknown feature (such as copper pipe). It is possible that these stains are evidence of shrouded burials, such as those hypothesized at the Clement Site in New Hampshire (Dethlefsen and Demyttenaere 1977). In this instance, the researchers retrieved silver-plated shroud pins of copper or copper alloy, found in association with the presence of greenish copper stains on several of the crania. Additionally, some bone material recovered from the recently excavated Negroes Burial Ground, just north of Chambers Street, exhibited greenish stains. Numerous copper-alloy shroud pins were also recovered (Gary McGowan 1994:personal communication).

Based on surface color and texture, and the size of the elements exhibiting the green stains, it is conceivable that the twelve stained bones relate to no more than two individuals. On the other hand, the fragments in the overall assemblage may represent as many as 12 separate burials. Although the use of shrouds and personal adornment has been documented in the nearby Negroes Burial Ground, there is insufficient evidence from the Chambers Street collection to state positively that the latter bones are associated with African-American burials and form a part of that cemetery.

The remaining cultural materials (4,576 items) recovered from the soil screening operations are broadly representative of 18th- and 19th-century land use and occupation of the Chambers Street area, and are mostly consistent with domestic activity. A mean ceramic date of 1820 was calculated for the ceramic component, while non-ceramic artifacts mostly range in date from the mid-to late-nineteenth century. Additionally, a few 18th-century materials are present.

The use of the barracks by British troops in the late colonial period and during the Revolutionry War, and the construction and occupation of the First and Second Almshouses both provide a reasonable context for the presence of artifacts associated with domestic tasks, for various personal items and for faunal remains. However, none of the artifacts can be directly associated with a particular episode in the history of the Chambers Street area. While part of the problem here lies in the fragmentation of the materials, most of the difficulty is directly attributable to the unknown stratigraphic associations of the materials involved.

The construction of Chambers Street, the use of the Second Almshouse by various public groups between 1812 and 1854 (when the building was destroyed by fire) and the construction of Tweed Courthouse beginning in the 1860s, may offer an explanation for the diversity of cultural remains dating from the mid-to-late 19th century. Without the stratigraphic context, however, it is not possible to account for the disparity between the proposed mean ceramic date range and the date ranges for the non-ceramic artifacts. This disparity could either represent a change in the use of the area, which is plausible based on the historical record, or it may simply be a consequence of the methods used to determine these date ranges.

Finally, although analysis of the human skeletal remains and other cultural materials from the soil screening operations described in this report, is in many respects inconclusive, it is probable that other ongoing archaeological investigations relating to the Tweed Courthouse restoration may yet resolve many of the questions that have been raised. In particular, recovery and analysis of the partial (but intact) burial in the south side of the Con Edison trench and other excavations in this immediate vicinity, hold the potential for clarifying the origin of the skeletal remains encountered in this study.

REFERENCES

Anderson, Will
1973 The Beer Book. The Pyne Press, Princeton, New Jersey.

Boddington, A.
1987 From Bones To Population: The Problem Of Numbers. In Death, Decay And Reconstruction: Approaches To Archaeology And Forensic Science, edited by A. Boddington, A.N. Garland, and R.C. Janeway, pp. 180-197. Manchester University Press, Manchester.

Cleland, C.E.
1972 Some Notes On South's Ceramic Dating Technique. The Conference on Historic Site Archaeology Papers (1971) 6:185-186.

Davey, Peter
1988 The Interpretation And Regional Study Of Clay Tabacco Pipes: A Case Study Of The Broseley District. Society for Clay Pipe Research Newsletter 18: 30-31.

Dethlefsen, Edwin S., and Nancy Demyttenaere
1977 The Clement Site: Features And Artifacts. Man in the Northeast 13:90-96.

Feild, Rachael
1987 Macdonald Guide To Buying Antique Pottery & Porcelain. Wallace-Homestead Book Company, Radnor, Pennsylvania.

Fike, Richard E.
1987 The Bottle Book: A Comprehensive Guide To Historic, Embossed Medicine Bottles. Gibbs M. Smith, Inc., Salt Lake City, Utah.

Gill, G.W.
1986 Craniofacial Criteria In Forensic Race Identification. In Forensic Osteology: Advances In The Identification Of Human Remains, edited by K.J. Reichs, pp. 143-159. C.C. Thomas, Springfield, Illinois.

Goerck, Casimir T., and Joseph F. Mangin
1803 Plan Of The City Of New York. On file, New York Historical Society, New York, New York.

Grim, David
1813 A Plan Of The City And Environs Of New York. Drawn in 1813, depicting 1744. Lithograph by G. Gayward for Valentine's Manual, 1854.

n.d. Part Of New York In 1742. From Valentine 1856.

Grossman and Associates, Inc.
1991 Buried History Of City Hall Park: The Initial Archaeological Identification, Definition And Documentation Of Well-preserved 18th Century Deposits And The Ppossible Structural Remains Of New York City's First Almshouse. On file, Landmarks Preservation Commission, New York, New York.

1988 Archaeological Sensitivity Evaluation And Testing Recommendations For The Proposed Subterranean Utilities Corridor Between City Hall And Tweed Courthouse, City Hall Park, New York City. On file, Landmarks Preservation Commission, New York, New York.

Henderson, Janet
1987 Factors Determining The State Of Preservation Of Human Remains. In Death, Decay And Reconstruction: Approaches To Archaeology And Forensic Science, edited by A. Boddington, A.N. Garland, and R.C. Janeway, pp. 43-54. Manchester University Press, Manchester.

Hillson, Simon
1992 Mammal Bones And Teeth: An Introductory Guide To Methods Of Identification. Institute of Archaeology, London, England.

Hunter Research, Inc.
1990a Historical And Archaeological Assessment Of The Former New York County Courthouse (The Tweed Courthouse), Borough Of Manhattan, City Of New York, New York. On file, Historic Preservation Office, NJDEPE, Trenton, New Jersey.

1990b Report On Archaeological Monitoring Of Structural Investigations At The Eastern Side Of The North Staircase Of The New York County (Tweed) Courthouse, New York City. On file, Hunter Research, Inc., Trenton, New Jersey.

Hunter Research, Inc., and Mesick Cohen Waite, Architects
Forthcoming An Archaeological Sensitivity Study Of The African Burial Ground And Commons Historic District. On file, Department of General Services, New York, New York.

Jacobs, L.H.
1983 Analysis Of A Nineteenth-century Military Midden: The Butler's Barracks Example. Parks Canada Research Bulletin No. 205.

Jones, Olive R., and E. Ann Smith
1985 Glass Of The British Military. In Studies In Archaeology, Architecture, History. National Historic Parks and Sites Branch, Parks Canada.

Jones, Olive, and Catherine Sullivan
1985 Glass Glossary. In Studies In Archaeology, Architecture And History. National Historic Parks and Sites Branch, Parks, Canada.

Kovel, Ralph, and Terry Kovel
1986 Kovels' New Dictionary Of Marks: Pottery & Porcelain 1850 To The Present. Crown Publishers, Inc., New York, New York.

Landmarks Preservation Commission
1990 The Archaeological Investigations Of The City Hall Park Site, Manhattan. On file, Landmarks Preservation Commission, New York, New York.

1993 African Burial Ground And The Commons Historic District Designation Report. On file, Landmarks Preservation Commission, New York, New York.

Larsen, Clark Spencer
1987 Bioarchaeological Interpretations Of Subsistence Economy And Behavior From Human Skeletal Remains. In Advances In Archaeological Method And Theory, edited by Michael B. Schiffer, pp. 339-445. Vol 10. Academic Press, New York, New York.

Leibowitz, Joan
1985 Yellow Ware: The Transitional Ceramic. Schiffer Publishing, Ltd., West Chester, Pennsylvania.

Maerschalck, F.
1755 A Plan Of The City Of New York From An Actual Survey Anno Domini M,DDC,LV. (The Maerschalck Or Duyckinck Plan). Depicting 1754. From Stokes, vol. 1, pl. 34.

Majewski, Teresita, and Michael J. O'Brien
1987 The Use And Misuse Of Nineteenth-century English And American Ceramics In Archaeological Analysis. In Advances In Archaeological Method And Theory, Vol. II, edited by Michael B. Schiffer, pp. 97-209. Academic Press, New York, New York.

McKearin, George L., and Helen McKearin
1941 American Glass. Crown Publishers, New York, New York.

Meindl, R.S., C.O. Lovejoy, R.P. Mensforth, and L.D. Carlos
1985 Accuracy And Direction Of Error In Sexing Of The Skeleton: Implications For Paleodemography. American Journal of Physical Anthropology 68:79-85.

Newman, Harold
1987 An Illustrated Dictionary Of Glass. Originally Published 1977. Thames and Hudson Ltd., London, England and New York, New York.

Noël Hume, Ivor
1969 A Guide To Artifacts Of Colonial America. Alfred A. Knopf, New York, New York.

1970 A Guide To Artifacts Of Colonial America. Alfred A. Knopf, New York, New York.

Olsen, Stanley J.
1964 Mammal Remains From Archaeological Sites Part I: Southeastern And Southwestern United States. Harvard University Press, Cambridge, Massachusetts.

Ratzer, Bernard
1767 Plan Of The City Of New York. From Valentine 1854.

Schuberth, Christopher J.
1968 The Geology Of New York City And Environs. Natural History Press, Garden City, New York.

Seaby, Herbert Allen, (editor)
1967 Standard Catalogue Of British Coins. 6th ed. B.A. Seaby Ltd., London, England.

South, Stanley
1977 Method And Theory In Historical Archaeology. Academic Press, New York, New York.

1978 Evolution And Horizon As Revealed In Ceramic Analysis In Historical Archaeology. In Historical Archaeology: A Guide To Substantive And Theoretical Contributions, edited by Robert L. Schuyler, pp. 68-87. Baywood Publishing Co., Farmingdale, New York.

Stokes, I.N. Phelps
1915-28 The Iconography Of Manhattan Island 1498-1909. 6 volumes. Robert H. Dodd, New York, New York.

Ubelaker, D.H.
1989 Human Skeletal Remains: Excavation, Analysis, Interpretation. 2nd edition. Taraxacum, Washington D.C.

Valentine, D.T.
1854 Manual Of The Corporation Of The City Of New York For 1854. D.T. Valentine, New York, New York.

1856 Manual Of The Corporation Of The City Of New York For 1856. D.T. Valentine, New York, New York.

Wetherbee, Jean
1985 A Second Look At White Ironstone. Wallace-Homestead Book Company, Lombard, Illinois.

White, Tim D.
1991 Human Osteology. Academic Press, New York, New York.

Wills, Geoffrey
1980 Wedgwood. Chartwell Books, Inc., Secaucus, New Jersey.

Yeoman, Richard S.
1990 A Guide Book Of United States Coins. Edited by Kenneth Bressett. 43rd ed. Western Publishing Company, Inc., Racine, Wisconsin.

APPENDIX A

HUMAN SKELETAL REMAINS

APPENDIX A
HUMAN REMAINS

ATLAS			
	Partial		3
		Total Atlas:	*3*
AXIS			
	Partial		2
		Total Axis:	*2*
CALCANEUS			
Left			
	Partial		4
Right			
	Whole		3
	Partial		1
Unsided			
	Partial		7
		Total Calcaneus:	*15*
CARPAL			
Left			
	Whole		4
	Partial		1
Right			
	Whole		1
	Partial		1
Unsided			
	Partial		3
		Total Carpal:	*10*
CERVICAL VERTEBRA			
	Partial		12
		Total Cervical Vertebra:	*12*
CLAVICLE			
Left			
	Partial		3
Right			
	Partial		4
Unsided			
	Partial		1
		Total Clavicle:	*8*

APPENDIX A (Cont.)

CRANIUM (INDETERMINATE)			
	Unsided		
		Partial	54
		Total Cranium (Indeterminate):	*54*
FEMUR			
	Left		
		Partial	6
	Right		
		Partial	7
	Unsided		
		Partial	9
		Total Femur:	*22*
FIBULA			
	Left		
		Partial	1
	Right		
		Partial	7
	Unsided		
		Partial	14
		Total Fibula:	*22*
FRONTAL			
	Unsided		
		Partial	189
		Total Frontal:	*189*
HUMERUS			
	Left		
		Partial	4
	Right		
		Partial	11
	Unsided		
		Partial	7
		Total Humerus:	*22*
INNOMINATE			
	Left		
		Partial	5
	Right		
		Partial	7

APPENDIX A (Cont.)

	Unsided		
		PARTIAL	53
		Total Innominate:	*65*
LACRIMAL			
	Unsided		
		Partial	1
		Total Lacrimal:	*1*
LONG BONE			
	INDETERMINATE		
		Partial	1
		Total Long Bone:	*1*
LUMBAR VERTEBRA			
		Partial	29
		Total Lumbar Vertebra:	*29*
MANDIBLE			
	Left		
		Partial	9
	Right		
		Partial	6
	Unsided		
		Partial	11
		Total Mandible:	*26*
MAXILLA			
	Left		
		Partial	6
	Right		
		Partial	2
	Unsided		
		Partial	13
		Total Maxilla:	*21*
METACARPAL/METATARSAL			
	Unsided		
		Whole	21
		Partial	70
		Total Metacarpal/Metatarsal:	*91*

APPENDIX A (Cont.)

OCCIPITAL				
	Unsided			
		Partial		57
			Total Occipital:	*57*
PARIETAL				
	Left			
		Partial		24
	Right			
		Partial		23
	Unsided			
		Partial		59
			Total Parietal:	*106*
PATELLA				
	Left			
		Whole		1
		Partial		1
	Right			
		Partial		1
	Unsided			
		Partial		2
			Total Patella:	*5*
PHALANX				
	Unsided			
		Whole		70
		Partial		42
			Total Phalanx:	*112*
RADIUS				
	Left			
		Partial		8
	Right			
		Partial		4
	Unsided			
		Partial		7
			Total Radius:	*19*
RIB				
	Left			
		Whole		2

APPENDIX A (Cont.)

	Unsided			
		Partial		183
			Total Rib:	*185*
SACRUM				
		Partial		1
			Total Sacrum:	*1*
SCAPULA				
	Left			
		Partial		1
	Right			
		Partial		4
	Unsided			
		Partial		34
			Total Scapula:	*39*
SPHENOID				
	Unsided			
		Partial		2
			Total Sphenoid:	*2*
STERNUM				
	Unsided			
		Partial		3
			Total Sternum:	*3*
TALUS				
	Left			
		Partial		3
	Right			
		Whole		3
		Partial		2
	Unsided			
		Partial		1
			Total Talus:	*9*
TARSAL				
	Left			
		Whole		1
		Partial		6
	Right			
		Partial		1

APPENDIX A (Cont.)

	Unsided			
		Partial		2
			Total Tarsal:	*10*
TEETH				
	INDETERMINATE			
		Whole		54
			Total Teeth:	*54*
TEMPORAL				
	Right			
		Partial		1
	Unsided			
		Partial		16
			Total Temporal:	*17*
THORACIC VERTEBRA				
		Partial		42
			Total Thoracic Vertebra:	*42*
TIBIA				
	Left			
		Partial		5
	Right			
		Partial		9
	Unsided			
		Partial		6
			Total Tibia:	*20*
ULNA				
	Left			
		Partial		8
	Right			
		Partial		3
	Unsided			
		Partial		13
			Total Ulna:	*24*
VERTEBRA				
	INDETERMINATE			
		Partial		93
			Total Vertebra:	*93*

VOMER				
	Unsided			
		Partial		3
			Total Vomer:	*3*
ZYGOMA				
	Left			
		Whole		1
		Partial		1
	Right			
		Partial		1
	Unsided			
		Partial		2
			Total Zygoma:	*5*

TOTAL: 1399

APPENDIX B

ARTIFACT INVENTORY

APPENDIX B
ARTIFACT INVENTORY

GENERAL PROVENIENCE

BUILDING MATERIALS

Ceramic

2	frags	*Drainpipe* red bodied stoneware, interior/exterior brown manganese glaze
1		*Tile* square wall/floor tile, bisque,, exhibits small black inclusions, decorative type Length: 0.75in Width: 0.75
1	frag	*Tile* buff bodied roofing tile, slight contour, front surface exhibits mottled green glaze
1	frag	*Tile* buff bodied rectangular/square tile, front exhibits white opaque glaze, grooved back unglazed, exhibits embossed letters "...AIC, ...IN U.S.A.", modern
214		*Nail* cut, machine formed heads
22	frags	*Nail* square bodied, heads missing
31	frags	*Nail* wire, heavily corroded
1		*Nail* square bodied, "J" type nail, horizontal fibers, heavy duty
19		*Nail* cut flooring nails
1	frag	*Marble* irregular shape, exhibits one polished surface
12	frags	*Slate* grey, roofing shingle, one fragment exhibits single hole attachment
1	frag	*Slate* brown, possibly roofing shingle
1	frag	*Tile* rectangular/square floor tile, conglomerate type materials, front polished, exhibits cement adhering to back surface, decorative, modern
1	frag	*Indeterminate* soft wood fragment, exhibits four attached cut nails with machine formed heads, probably pine Length: 3.50in Width: 1.50
2	sherds	*Flatware* marly/rim sherds, exterior exhibits underglaze mottled tortoise shell decoration with remnant applied sprig molded decoration, probably a small plate or saucer, Whieldon ware type, ca. 1740-1770, Diameter: 5.0in
1	sherd	*Flatware* marly/rim sherd, interior/exterior exhibits underglaze green ground decoration, Whieldon/Wedgwood type, ca. 1759-1775
2	sherds	*Hollowware* footring/base/body sherds, interior/exterior exhibits underglaze mottled tortoise shell type decoration, probably a cup, two mend as one, Whieldon ware type, ca. 1740-1770
1	sherd	*Flatware* interior exhibits overglaze remnant black transfer print decoration, ca. 1765-1815
1	sherd	*Flatware* interior exhibits remnant overglaze green/red decoration, ca. 1765-1810
1	sherd	*Hollowware* body/rim sherd, exterior body exhibits molded horizontal rib decoration, exterior thickened folded out rounded rim Diameter: 8.0in
1	sherd	*Hollowware* rim sherd, undecorated, everted rim Diameter: 8.0in
4	sherds	*Indeterminate* undecorated

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Earthenware

2	sherds	*Flatware* buff bodied, interior exhibits white slip under clear lead glaze, bat mold manufacture, Staffordshire type, ca. 1700-1775
1	sherd	*Flatware* buff body/rim sherd, interior exhibits white slip over dark brown slip combed decoration under clear lead glaze, rouletted rim, bat mold manufacture, Staffordshire type, ca. 1700-1775
3	sherds	*Flatware* buff body/rim sherds, interior exhibits white slip over dark brown slip trailed decoration under clear lead glaze, roulatted rim, bat mold manufacture, two mend as one, Staffordshire type, ca. 1700-1775
1	sherd	*Flatware* refined ware, exhibits underglaze green ground decoration, unidentifiable type due to exposure to intense heat
7	sherds	*Hollowware* buff body/rim sherds, interior/exterior exhibits white slip under clear lead glaze, exterior exhibits dark brown slip dot decoration, flared rim, two mend as one, Staffordshire type, ca. 1700-1775
3	sherds	*Hollowware* buff body/rim sherds, interior/exterior exhibits white slip under clear lead glaze, Staffordshire type, ca. 1700-1775
1	sherd	*Hollowware* buff body/rim sherd, interior/exterior exhibits white slip under clear lead glaze, exterior exhibits dark brown slip dot/combed decoration, flared rim, Staffordshire type, ca. 1700-1775
8	sherds	*Hollowware* buff bodied sherds, interior/exterior exhibits white slip under clear lead glaze, exterior exhibits dark brown slip trailed decoration, Staffordshire type, ca. 1700-1775
1	sherd	*Hollowware* buff body, interior exhibits underglaze mottled brown ground decoration, exterior exhibits molded decoration with underglaze green ground decoration, probably Majolica
2	sherds	*Hollowware* refined white body/rim sherds, interior/exterior pink opaque glaze, Fiestaware type, modern
1	sherd	*Hollowware* refined white base/body sherds, interior/exterior blue opaque glaze, Fiestaware type, modern
2	sherds	*Hollowware* refined white body sherds, interior/exterior green opaque glaze, Fiestaware type, modern
1	sherd	*Indeterminate* buff bodied earthenware, interior/exterior exhibits tan ground decoration under lead glaze, interior exhibits molded decoration with brown/green highlights, possibly Majolica
1	sherd	*Indeterminate* reddish/brown body, interior/exterior exhibits green opaque glaze, probably tin enameled
1	sherd	*Indeterminate* refined white base sherds, interior/exterior yellow opaque glaze, Fiestaware type, modern
11	sherds	*Flatware* marly/rim sherds, undecorated
2	sherds	*Flatware* marly/rim sherds, undecorated, scalloped rim
1	sherd	*Flatware* marly/rim sherd, interior rim exhibits remnant overglaze red floral border decoration, probably a plate Diameter: 10.0in

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Ironstone

1	sherd	*Flatware* base sherd, interior surface missing, exterior exhibits underglaze transfer print black letters "...PERIAL, ...NE CH..., ...Y SHA..., ...TALI...:, (Imperial Ironstone China, Anthony Shaw, Tunstall), ca. 1851-1900
1	sherd	*Flatware* base sherd, exterior exhibits underglaze transfer print green makers mark consisting of a bird surrounded by letters "...RENLE BLAKE C..., ...VENSWO, W. VA...", (Trenle Blake China Co. Ravenswood, W. Va.) ca. 1940-1966
1	sherd	*Flatware* base sherd, exhibits underglaze transfer print black mark consisting of partial ribbon and letters "... DROIT, OPAQUE, ... & CLARKE, ...), (possible dieu et mon droit, porcelain opaque, Bridgwood & Clarke, Burslem) ca. 1857-1864
1	sherd	*Flatware* marly/rim sherd, interior rim exhibits gilt leaf border decoration, probably a plate Diameter: 10.0in
1	sherd	*Flatware* reddish/brown body, interior/exterior exhibits green opaque glaze, probably tin enameled
1	sherd	*Flatware* marly/rim sherd, interior marly exhibits underglaze hand applied red triple banded decoration consisting of one solid band with linear/dot pattern directly above and small dots directly below, probably a plate Diameter: 8.0in
1	sherd	*Flatware* marly/rim sherd, interior/exterior exhibits light blue ground decoration, interior marly exhibits molded wavy border decoration
1	sherd	*Flatware* marly/rim sherd, interior exhibits molded bead/reel border decoration, scalloped rim, probably a plate
1	sherd	*Flatware* marly/rim sherd, interior rim exhibits light blue annular border with molded bead decoration, probably a plate Diameter: 8.0in
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze orange border decoration, scalloped rim, probably a plate
1	sherd	*Flatware* footring/base/body sherd, interior exhibits remnant overglaze decal pink/green floral decoration, burnt due to exposure to intense heat
1	sherd	*Flatware* marly/rim sherd, interior exhibits overglaze decal red/yellow floral decoration
2	sherds	*Flatware* marly/rim sherds, interior exhibits underglaze transfer print red/green floral decoration, probably a plate
1	sherd	*Hollowware* exterior exhibits underglaze decal brown/yellow flower decoration
6	sherds	*Hollowware* body/rim sherds, undecorated
2	sherds	*Hollowware* body/rim sherds, exterior exhibits molded decoration with gilt edge, probably a cup, represents two vessels Diameter: 3.5in
1	sherd	*Hollowware* handle sherd, molded, probably a cup
3	sherds	*Hollowware* exterior exhibits Flow Mulberry floral decoration, represents minimum two vessels

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Ironstone

3	sherds	*Hollowware* exterior exhibits Flow Blue partial floral decoration, represents three vessels
1	sherd	*Hollowware* exterior exhibits light blue sponge decoration
1	sherd	*Hollowware* base/body sherd, molded multi-sided primary shape, ca. 1840+
1	sherd	*Hollowware* handle sherd, exhibits molded link chain decoration along the edges, probably a large serving vessel
1	sherd	*Hollowware* footring/base/body/rim sherd, thick walled, exterior exhibits molded multiple panel decoration, probably a small bowl Height: 3.0
1	sherd	*Hollowware* body/rim sherd, exterior rim exhibits gilt annular border decoration, probably a cup Diameter: 3.5in
1	sherd	*Hollowware* exterior exhibits molded decoration with underglaze light blue ground decoration, possibly a handle
1	sherd	*Hollowware* marly/rim sherd, interior exhibits underglaze orange border decoration, scalloped rim, probably a plate
1	sherd	*Hollowware* exterior exhibits underglaze transfer print green vine decoration
61	sherds	*Indeterminate* undecorated
1	sherd	*Indeterminate* base sherd, interior exhibits underglaze transfer print brown leaf decoration
2	sherds	*Indeterminate* interior exhibits remnant overglaze decal blue floral decoration, represents two vessels
2	sherds	*Indeterminate* interior exhibits remnant overglaze decal polychrome floral/geometric decoration, represents two vessels
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze transfer print dark blue traditional Blue Willow border pattern, scalloped rim, probably a small plate or saucer
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze molded green shell edge decoration, scalloped rim, probably a small plate or saucer, ca. 1780-1830
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze hand applied dark brown single band decoration, body exhibits hand painted green/brown leaf decoration, probably stenciled, scalloped rim, probably a small plate or saucer, ca. 1820-1840
1	sherd	*Hollowware* body/rim sherd, interior rim exhibits underglaze hand painted dark blue wavy band border decoration, exterior body exhibits linear decoration, ca. 1780-1820
1	sherd	*Hollowware* exterior exhibits underglaze hand painted dark blue partial floral decoration, ca. 1780-1820
4	sherds	*Hollowware* interior/exterior exhibits underglaze transfer print dark blue partial floral decoration, represents minimum two vessels, ca. 1795-1840
2	sherds	*Hollowware* exterior exhibits underglaze transfer print blue decoration, represents two vessels, ca. 1795-1840

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Pearlware

3	sherds	*Hollowware* body/rim sherds, interior exhibits underglaze transfer print dark blue floral/geometric decoration, represents three vessels, ca. 1795-1840
1	sherd	*Hollowware* footring/base/body sherd, interior/exterior exhibits transfer print dark blue fern decoration, probably a teacup, ca. 1795-1840
1	sherd	*Hollowware* molded body sherd, exterior exhibits underglaze dark blue transfer print decoration, ca. 1795-1840
1	sherd	*Hollowware* body/rim sherd, interior/exterior exhibits underglaze hand applied dark blue annular border decoration, probably a cup
6	sherds	*Indeterminate* undecorated
1	sherd	*Indeterminate* interior exhibits remnant underglaze hand painted dark blue decoration
1	sherd	*Flatware* body/rim sherd, interior exhibits underglaze hand painted wavy border decoration with remnant overglaze hand painted floral decoration, probably a small plate or saucer, Chinese export
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze hand painted dark blue stylized geometric border decoration, scalloped rim exhibits underglaze brown edge, probably a small plate or saucer Diameter: 6.0in
3	sherds	*Flatware* rim sherds, interior exhibits underglaze blue hand painted border decoration, one scalloped rim, Chinese export
6	sherds	*Flatware* marly/rim sherds, undecorated, represents six vessels
5	sherds	*Flatware* footring/base sherds, undecorated, probably plates, represents minimum four vessels
1	sherd	*Flatware* marly/rim sherd, interior rim exhibits underglaze hand applied tan band/dot border decoration, dinerware
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze hand applied dark green annular border, dinerware
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze transfer print polychrome floral decoration with overglaze pink infilling, probably a plate Diameter: 8.0in
1	sherd	*Flatware* cavetto/marly/rim sherd, interior cavetto exhibits gilt annular decoration, marly exhibits underglaze transfer print grey/blue floral decoration, flared rim exhibits purple lustre edge, probably a plate Diameter: 8.0in
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze decal blue/green geometric/scroll decoration, rim exhibits gilt edge, probably a small plate or saucer
1	sherd	*Flatware* cavetto/marly sherd,interior exhibits gilt lacy banded decoration, marly exhibits underglaze pink ground decoration, probably a plate
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze grey/black floral decoration with gilt edges, probably a small plate or saucer
1	sherd	*Flatware* marly/rim interior marly exhibits overglaze polychrome floral decoration, rim exhibits purple lustre banded border decoration with gilt edge, probably a small plate or saucer

GENERAL PROVENIENCE

CERAMICS

Porcelain

2	sherds	*Hollowware* body/rim/handle sherd, exterior body/rim exhibits underglaze hand painted stylized decoration, handle exhibits molded decoration, probably a cup, probably Chinese export, two mend as one Diameter: 3.5in
1	sherd	*Hollowware* footring/base sherd, interior exhibits remnant overglaze hand painted red drape decoration, Chinese export
1	sherd	*Hollowware* footring/base/body sherd, undecorated, probably a teacup, probably Chinese export
3	sherds	*Hollowware* exterior exhibits underglaze hand painted blue floral decoration, Chinese export
1	sherd	*Hollowware* exterior exhibits underglaze dark blue decoration and remnant molded decoration
4	sherds	*Hollowware* exterior exhibits underglaze dark blue decoration and remnant molded decoration
1	sherd	*Hollowware* body/rim sherd, interior body exhibits underglaze hand painted blue floral decoration, rim exhibits diagonal linear border decoration, exterior body exhibits linear spray decoration, Chinese export Diameter: 5.0in
5	sherds	*Hollowware* footring/base/body/rim sherds, exterior exhibits overglaze polychrome floral decoration with gilt letters "FROM..." bordered by stylized gilt design, probably a faring cup Diameter: 3.0in
1	sherd	*Hollowware* multi-sided footring/base/body sherd, undecorated
1	sherd	*Hollowware* base/body sherd, miniature size, exterior exhibits molded decoration possibly a lagniappe or child's toy teacup
1	sherd	*Hollowware* handle sherd, molded crabstock type, exhibits gilt decoration, probably a cup
1	sherd	*Hollowware* exterior exhibits molded vertical flute decoration with underglaze transfer print pink floral decoration
1	sherd	*Hollowware* body/rim sherd, exterior body exhibits molded decoration with remnant overglaze pink floral decoration, rim exhibits vertical linear gilt decoration, probably a teacup
1	sherd	*Hollowware* body/rim sherd, rim edge exhibits gilt decoration, slightly flared rim Diameter: 5.0in
1	sherd	*Hollowware* body/rim sherd, interior rim exhibits gilt drape/post border decoration, exterior body exhibits remnant underglaze transfer print tan/brown decoration, slightly flared rim, probably a bowl Diameter: 5.5in
2	sherds	*Hollowware* exterior exhibits underglaze hand painted dark blue geometric linear/diamond decoration, two mend as one, probably Chinese export
1	sherd	*Hollowware* exterior exhibits underglaze hand painted dark blue scenic decoration, probably a cup or small bowl, probably Chinese export
18	sherds	*Indeterminate* undecorated
1	sherd	*Indeterminate* interior exhibits remnant overglaze hand applied pale green banded decoration

GENERAL PROVENIENCE

CERAMICS

Porcelain

1	sherd	*Indeterminate* base sherd, pedestal type, exterior exhibits orange lustre glaze, base foot exhibits black enamel finish, possibly japanned *Diameter:* 3.5in
1	frag	*Indeterminate* shallow bell shape white porcelain body, front exhibits remnant copper covering, back exhibits remnant copper indeterminate type attachment, exhibits single "v" shaped groove on opposite sides of base, possible cap/lid, poor condition Diameter: 0.8in
1	frag	*Ornamental* molded figurine arm fragment, flesh color matte finish
1	frag	*Marble* undecorated Diameter: 0.5in
3	frags	*Tobacco Pipe* white clay tobacco pipe stem fragments, undecorated, oval in cross section
77	frags	*Tobacco Pipe* white clay tobacco pipe stem fragments, undecorated, circular in cross section
2	frags	*Tobacco Pipe* white clay tobacco pipe stem fragments, exhibits remnant mold imparted banded decoration, circular in cross section, represents two pipes
2	frags	*Tobacco Pipe* white clay tobacco pipe stem fragments, exhibits mold imparted stylized banded decoration along the length one side exhibits impressed letters"IN GOUDA", opposite side "A.SPARNAAY", represents two pipes, ca. 19th century
3	frags	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragments, undecorated, one exhibits milled seam, rim merges with bowl, one charred through use, represents three pipes
5	frags	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragments, undecorated, milled rim merges with bowl, represents five pipes
3	frags	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragments, bottom section of bowl exhibits mold imparted rib decoration, one fragment exhibits milled seam, rim merges with bowl, represents minimum three pipes
1	frag	*Tobacco Pipe* white clay tobacco pipe conical bowl/rim/stem junction fragment, body center facing smoker exhibits impressed circular cartouche with obscured letter or number, milled rim merges with bowl, milled stem circular in cross section Height: 1.5
1	frag	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragment, exhibits mold imparted "T", rim merges with bowl, interior charred through use
1	frag	*Tobacco Pipe* white clay tobacco pipe bowl fragment, partial circular cartouche exhibits milled edges with centered ".. .G"
1	frag	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragment, body exhibits mold imparted bird wing, possibly eagle, rim merges with bowl
2	frags	*Tobacco Pipe* white clay tobacco pipe bowl/heel/stem junction fragments, undecorated, represents two pipes
1	frag	*Tobacco Pipe* white clay tobacco pipe bowl/spur/stem junction fragment, bowl exhibits mold imparted stylized fluted/bead decoration
1	frag	*Tobacco Pipe* white clay tobacco pipe conical bowl/stem junction fragment, full profile bowl, undecorated, exhibits single incised band directly below rim, smoothed seams, rim merges with bowl, interior charred through use Diameter: 0.8in Height: 1.7

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Recreational

3	frags	*Tobacco Pipe* white clay tobacco pipe bowl/rim fragments, exhibits mold imparted Freemasons emblem with ribs and floral decoration, one bowl exhibits incomplete image of moose/elk facing smoker, rim merges with bowl, two charred, ca. 19th century
1	frag	*Tobacco Pipe* red clay tobacco pipe bowl fragment, exhibits mold imparted image of partial eagle, ca. 19th century
3	sherds	*Flatware* interior exhibits white slip trailed decoration with copper highlights under clear lead glaze, exterior unglazed, hump mold manufacture
1	sherd	*Flatware* interior exhibits white/brown slip decoration under clear lead glaze, exterior unglazed, hump mold manufacture
8	sherds	*Flowerpot* body/rim sherds, interior/exterior unglazed, wheel thrown
3	sherds	*Hollowware* interior exhibits white slip trailed decoration under clear lead glaze, exterior unglazed, wheel thrown
1	sherd	*Hollowware* interior brown manganese lead glaze, exterior unglazed, wheel thrown
4	sherds	*Hollowware* interior clear lead glaze, exterior unglazed, wheel thrown
1	sherd	*Hollowware* interior/exterior clear lead glaze, exterior exhibits engine turned decoration Elers ware type, wheel thrown, probably a teapot
2	sherds	*Hollowware* interior/exterior black manganese lead glaze, wheel thrown
1	sherd	*Hollowware* interior/exterior brown manganese lead glaze, wheel thrown
8	sherds	*Hollowware* base/body sherds, interior black manganese lead glaze, exterior unglazed, flat base, wheel thrown
1	sherd	*Hollowware* base/body sherd, interior/exterior black manganese lead glaze, footed base, wheel thrown, possible a porringer
5	sherds	*Hollowware* interior/exterior clear lead glaze, exterior exhibits brown manganese highlights, wheel thrown
1	sherd	*Hollowware* neck/rim sherd, neck exhibits remnant interior/exterior clear lead glaze, flat everted unglazed rim exhibits remnant white slip border decoration, wheel thrown
1	sherd	*Indeterminate* interior exhibits white slip decoration under clear lead glaze, exterior unglazed
1	sherd	*Indeterminate* interior exhibits white slip combed decoration under clear lead glaze, exterior surface missing
9	sherds	*Flatware* interior/exterior white salt glaze, undecorated, ca. 1740-1775
1	sherd	*Flatware* body/rim sherd, thin walled, undecorated, possibly dipped, probably a small plate or saucer, ca. 1720-1805
2	sherds	*Flatware* marly/rim sherds, interior/exterior white salt glaze, interior marly exhibits molded dot diaper and basket pattern, scalloped rim, probably a plate, ca. 1740-1775, represents two vessels
3	sherds	*Flatware* marly/rim sherds, interior/exterior white salt glaze, interior marly exhibits molded Barley pattern, scalloped rim, probably a plate, ca. 1740-1775, represents minimum two vessels

GENERAL PROVENIENCE

CERAMICS

Stoneware

1	sherd	*Hollowware* grey bodied base sherd, flat base, interior natural glaze, exterior salt glaze, browned Diameter: 3.0in
1	sherd	*Hollowware* grey bodied rim sherd, interior/exterior salt glaze, unrestricted flattened rim Diameter: 8.0in
1	sherd	*Hollowware* grey bodied rim sherd, interior/exterior salt glaze, unrestricted flattened rim, exhibits remnant kiln furniture adhered to rim edge due to kiln failure, waster Diameter: 4.0in
2	sherds	*Hollowware* buff body/rim sherds, interior/exterior salt glaze, ribbed body, unrestricted everted flattened rim, one sherd agglutinated due to kiln failure, represents two vessels, wasters Diameter: 6.0in
3	sherds	*Hollowware* grey bodied, interior unglazed, exterior exhibits iron oxide slip under salt glaze, probable bottle, represents minimum one vessel
1	sherd	*Hollowware* grey body/rim/handle attachment sherd, interior/exterior salt glazed, body/handle attachment exhibits remnant cobalt blue decoration, flared tapered rounded rim Diameter: 5.0in
1	sherd	*Hollowware* grey bodied sherd, interior/exterior exhibits salt glaze, interior exhibits black manganese wash
1	sherd	*Hollowware* grey bodied, interior/exterior salt glazed, interior browned
1	sherd	*Hollowware* grey bodied, thick walled, interior natural glaze, exterior salt glaze, agglutinated, browned, probably a waster
1	sherd	*Hollowware* grey round bodied handle sherd, bisque, horizontal loop type, exhibits slight twist
6	sherds	*Hollowware* grey body/handle sherds, vertical strap type, interior/exterior salt glazed, exhibits remnant cobalt blue decoration at body/handle attachment, represents six vessels
1	sherd	*Hollowware* buff bodied rim sherd restricted, interior/exterior exhibits clear alkaline glaze, exterior exhibits underglaze iron oxide wash, probably a bottle
3	sherds	*Hollowware* grey bodied neck/rim sherds, restricted rounded rim, interior/exterior salt glazed, exterior browned, exhibits glazed fracture due to kiln failure, three mend as one, probably a jug, waster
17	sherds	*Hollowware* grey bodied, interior/exterior salt glazed, exterior exhibits remnant cobalt blue decoration, probably wasters
4	sherds	*Hollowware* grey bodied, interior natural glaze, exterior salt glazed, exhibits remnant cobalt blue decoration, probably wasters
6	sherds	*Hollowware* buff bodied sherds, interior natural glaze, exterior salt glaze, exhibits remnant cobalt blue decoration, probably wasters
1	sherd	*Hollowware* buff body/rim sherd, interior unglazed, exterior salt glazed, exterior exhibits ribbed body with cobalt blue infilled decoration, unrestricted everted flattened rim, exterior slightly rounded, waster Diameter: 8.0in

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Stoneware

1	sherd	*Hollowware* buff body/rim sherd, interior unglazed, exterior salt glazed, exterior exhibits ribbed body with cobalt blue infilled decoration, unrestricted everted flattened rim, probable bulbous body, waster Diameter: 6.0in
3	sherds	*Hollowware* grey body/rim sherds, interior/exterior salt glaze, body exhibits remnant cobalt blue decoration, unrestricted everted flattened rim, represents three vessels, wasters
2	sherds	*Hollowware* grey body/rim sherds, thin walled, interior/exterior salt glazed, exterior ribbed body exhibits cobalt blue infilling, tapered rounded rim, probably mugs, represents two vessels Diameter: 4.0in
1	sherd	*Hollowware* grey bodied lid sherd, interior/exterior salt glazed, rounded edge, exterior exhibits remnant cobalt blue decoration
5	sherds	*Hollowware* grey bodied, interior/exterior salt glazed, exterior exhibits remnant incised decoration with cobalt blue infilling, represents minimum four vessels, probably wasters
3	sherds	*Hollowware* grey bodied base sherds, interior/exterior brown manganese type slip glaze, two mend as one Diameter: 5.0in
9	sherds	*Hollowware* grey bodied base sherds, interior/exterior brown manganese type slip glaze, two mend as one
1	sherd	*Hollowware* buff bodied handle sherd, hollow tapered cylindrical shape, Albany type slip glaze, possibly a pipkin
2	sherds	*Hollowware* grey bodied, interior black manganese slip glaze, exterior salt glazed
	sherd	*Hollowware* buff bodied rim sherd, interior/exterior exhibits brown manganese slip glaze, folded in rounded rim, exhibits internal ribs, possible inner screw type closure, warped due to kiln failure
1	sherd	*Hollowware* grey bodied, interior/exterior Bristol type slip glaze, exhibits remnant cobalt blue decoration
4	sherds	*Hollowware* pink bodied, interior/exterior salt glazed
4	sherds	*Hollowware* pink bodied, interior unglazed, exterior salt glazed, exhibits remnant cobalt blue decoration, probably wasters
7	sherds	*Hollowware* buff/pink body/rim sherds, bisque, probably wasters
5	sherds	*Hollowware* pink bodied, interior/exterior salt glazed, wasters
2	sherds	*Hollowware* buff bodied, interior/exterior salt glazed, agglutinated, exhibits glazed fractures due to kiln failure, wasters
33	sherds	*Hollowware* pink bodied, interior unglazed, exterior salt glazed, wasters
5	sherds	*Hollowware* buff bodied, interior unglazed, exterior salt glazed, probably wasters
1	sherd	*Hollowware* handle sherd, interior/exterior white salt glazed, flat in cross section, undecorated
1	sherd	*Hollowware* buff bodied, interior/exterior salt glazed, exterior exhibits remnant cobalt blue and applied molded decoration, wheel thrown

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Stoneware

1	frag	*Kiln Furniture* rectangular pad, one flattened finished end, exhibits single notch on each side at midsection
2		*Kiln Furniture* "U" shape wad
2	frags	*Kiln Furniture* makeshift wad fragments
1	sherd	*Flatware* buff bodied footring/base sherd, interior/exterior exhibits light blue opaque glaze, interior exhibits remnant dark blue decoration
1	sherd	*Hollowware* buff bodied, interior surface missing, exterior white opaque glaze over dark blue partial oriental scenic decoration consisting image of human figure
3	sherds	*Indeterminate* buff body/rim sherds, interior/exterior exhibits light blue opaque glaze, undecorated
4	sherds	*Indeterminate* buff bodied sherds, interior surface missing, exterior exhibits remnant dark blue stylized decoration under light blue opaque glaze
1	sherd	*Indeterminate* buff bodied, one surface exhibits dark blue stylized leaf decoration under light blue opaque glaze, opposite surface missing
2	sherds	*Indeterminate* buff bodied, interior surface unglazed, exhibits shallow groove, exterior surface exhibits light purple speckled decoration under white opaque glaze, possible tile
1	sherd	*Indeterminate* buff bodied base/body sherds, interior/exterior exhibits light blue opaque glaze, exterior body exhibits purple spatter decoration
1	frag	*Tile* pink bodied, back exhibits brown manganese glaze, exterior exhibits light blue opaque glaze with black band/light blue crosshatch decoration, one finished slightly concave rounded edge
2	sherds	*Flatware* marly/rim sherds, undecorated, probably plates
4	sherds	*Flatware* marly/rim sherds, undecorated, scalloped rim, represents four plates
5	sherds	*Flatware* marly/rim sherds, interior exhibits underglaze transfer print dark blue traditional Blue Willow border pattern, represents minimum three vessels
1	sherd	*Flatware* marly/rim interior exhibits underglaze transfer print red traditional Blue Willow border pattern, probably a plate
1	sherd	*Flatware* marly/rim sherd, interior exhibits underglaze molded blue shell edge decoration, scalloped rim, probably a plate Diameter: 10.0in
1	sherd	*Flatware* footring/base/body sherd, interior exhibits underglaze light blue/green decoration, burnt due to exposure to intense heat
1	sherd	*Flatware* marly/rim interior body exhibits underglaze hand painted pink/green partial large flower decoration, interior rim exhibits molded decoration, probably a small plate Diameter: 8.0in
1	sherd	*Flatware* interior exhibits underglaze transfer print dark blue partial post/spear and scenic decoration
1	sherd	*Flatware* footring/base sherd, interior exhibits underglaze transfer print blue partial wavy dot decoration
5	sherds	*Hollowware* footring/base sherds, undecorated, probably cups, represents five vessels

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Whiteware

1	sherd	*Hollowware* body/rim sherd, interior/exterior exhibits underglaze transfer print red scenic decoration, slightly flared rim, probably a cup
1	sherd	*Hollowware* body/rim sherd, interior rim exhibits underglaze black annular border decoration, exterior body exhibits underglaze hand painted green/black leaf decoration, probably a cup Diameter: 4.0in
3	sherds	*Hollowware* base/body sherds, exterior exhibits underglaze banded decoration consisting of light blue wash wide band and multiple dark brown slip narrow bands, probably a bowl
3	sherds	*Hollowware* exterior exhibits underglaze banded decoration consisting of blue wash wide band and multiple black slip narrow bands, probably a bowl
4	sherds	*Hollowware* exterior exhibits remnant underglaze transfer print blue decoration, represents four vessels
2	sherds	*Hollowware* exterior exhibits molded decoration with underglaze *shaded* blue ground decoration
1	sherd	*Hollowware* body/rim sherd, interior/exterior exhibits underglaze transfer print partial floral decoration, probably a cup Diameter: 3.5in
2	sherds	*Hollowware* body/rim sherds, interior/exterior exhibits remnant underglaze transfer print shaded blue decoration, represents two vessels
1	sherd	*Hollowware* body/rim sherd, interior/exterior exhibits underglaze transfer print light blue partial petal/dot decoration
1	sherd	*Hollowware* interior/exterior exhibits underglaze transfer print dark blue partial geometric decoration
1	sherd	*Hollowware* interior exhibits underglaze transfer print dark blue geometric decoration, exterior exhibits scenic decoration, probably a cup
9	sherds	*Indeterminate* undecorated
2	sherds	*Indeterminate* interior/exterior exhibits underglaze hand painted partial green/black floral decoration
1	sherd	*Indeterminate* interior exhibits underglaze hand painted blue partial dot/drape decoration
1	sherd	*Indeterminate* base sherd, interior exhibits underglaze transfer print blue partial scenic decoration
1	sherd	*Indeterminate* interior exhibits remnant underglaze light blue ground decoration
1	sherd	*Indeterminate* body/rim sherd, interior exhibits underglaze transfer print dark blue partial scroll decoration
1	sherd	*Flatware* rim sherd, interior exhibits molded low relief bead border decoration, ca. 1860+
3	sherds	*Hollowware* exterior exhibits underglaze white slip band with blue mocha seaweed pattern, possibly British, ca. 1860-1900
4	sherds	*Hollowware* body/rim sherds, interior/exterior exhibits Rockingham type glaze, represents four vessels, ca. 1835+

APPENDIX B (CONT.)

GENERAL PROVENIENCE

CERAMICS

Yellowware

5	sherds	*Hollowware* exterior exhibits Rockingham type glaze, represents minimum four vessels, ca. 1835+
1	sherd	*Hollowware* exterior exhibits underglaze white slip narrow banded decoration
9	sherds	*Indeterminate* undecorated
3	frags	*Carbon Rod* two mend as one
1	frag	*Insulator* porcelain, cylindrical, collared, exhibits partial single centered orifice
48	frags	*Large* long bone fragments, species unidentified
1	frag	*Medium/Large* claw fragment, probably crab, species unidentified
352	frags	*Large* long bone fragments, species unidentified
64	frags	*Large* rib fragments, species unidentified
2	frags	*Large* radius fragments, species unidentified
10	frags	*Large* scapula fragments, species unidentified
11	frags	*Large* three unidentifiable bone fragments, seven ribs fragments, one long bone fragment, exhibits hand sawn butchering marks, species unidentified
98	frags	*Large* teeth fragments, species unidentified
3	frags	*Large* mandible with teeth fragments, species unidentified
3	frags	*Large* artiodactyl mandible fragments with teeth, one exhibits cut mark, species unidentified
24	frags	*Large* pelvic fragments, species unidentified
12	frags	*Large* mandible fragments, species unidentified
22	frags	*Large* vertebrae fragments, species unidentified
3	frags	*Large* humerus distal fragments, species unidentified
7	frags	*Large* femur fragments, four fovea, two proximal, one distal, species unidentified
817	frags	*Large* long bone fragments, species unidentified
4	frags	*Large* ulna proximal fragments, species unidentified
1	frag	*Large* astragalus fragment, species unidentified
2	frags	*Large* tibia distal fragments, species unidentified
18	frags	*Large* phalanx fragments, species unidentified
5	frags	*Large* metapodial fragments, species unidentified
292	frags	*Medium/Large* rib fragments, species unidentified
11	frags	*Medium/Large* scapula fragments, species unidentified
229	frags	*Medium/Large* unidentifiable bone fragments, species unidentified
3	frags	*Medium/Large* teeth fragments, species unidentified

GENERAL PROVENIENCE

FAUNA

Mammal

1	frag	*Medium/Large* carnivore mandible fragment with teeth, species unidentified
2	frags	*Medium/Large* pelvic fragments, species unidentified
19	frags	*Medium/Large* mandible fragments, species unidentified
31	frags	*Medium/Large* vertebrae fragments, species unidentified
196	frags	*Medium/Large* cranium fragments, species unidentified
1	frag	*Medium/Large* femur fovea fragment, species unidentified
153	frags	*Medium/Large* long bone fragments, species unidentified
1	frag	*Medium/Large* tibia distal fragment, species unidentified
8	frags	*Medium/Large* cranium fragments, species unidentified
2	frags	*Small* rodent mandible fragments with teeth, species unidentified
1	frag	*Small* tooth fragment, species unidentified
3		*Clam* valves Weight: 94.0gm *
109	frags	*Clam* Weight: 1138.0gm *
32		*Oyster* valves Weight: 2502.0gm *
162	frags	*Oyster* interior/exterior unglazed, mold manufacture Weight: 1962.0gm *
5	frags	*Indeterminate* clear body, surfaces exhibit dark red finish, probably flashed
1	frag	*Indeterminate* clear body, one surface exhibits milkglass type white finish, probably flashed
2	frags	*Indeterminate* clear body, surface exhibit cobalt blue finish, probably flashed
19	frags	*Indeterminate* pale grey, ca. 1875-1918
14	frags	*Mirror*
45	frags	*Stained Glass* body color ranges from pale aqua to dark olive green, floral/geometric/marbleized patterns outlined in dark pink, seventeen rectangular/square/oval fragments exhibit finished edges with remnant grout
151	frags	*Windowlight* pale aqua
8	frags	*Windowlight* pale aqua, thick walled
1	frag	*Windowlight* clear, frosted exterior surface exhibits molded stylized starburst decoration with polychrome highlights
2		*Button* disc shape, milkglass, white, undecorated, front/back slightly convex, exhibits recessed center with four hole attachments Diameter: 0.4in

APPENDIX B (CONT.)

GENERAL PROVENIENCE

GLASS

Ornamental

1	frag	*Button* disc shape, milkglass, white, front/back slightly convex, exhibits two hole attachments Diameter: 0.5in
1	frag	*Flatware* body/rim fragment, milkglass, green, exhibits molded scalloped edge, probably a small plate
2	frags	*Indeterminate* curved, exhibits red/yellow Peach Blow body decoration, exterior surface exhibits remnant molded rib decoration, probably ornamental
2	frags	*Indeterminate* curved, red, exterior surface exhibits remnant molded panel decoration
1	frag	*Indeterminate* curved, red, exhibits molded diagonal rib decoration
1	frag	*Indeterminate* curved, red/yellow Peach Blow body decoration, recessed interior surface exhibits pressed diamond decoration, flat everted rim exhibits embossed letters "...T'D. NOS 1671...", probably a lid
1	frag	*Indeterminate* curved, milkglass, white, exterior surface exhibits molded crosshatch decoration
1	frag	*Indeterminate* curved, milkglass, white, exterior surface exhibits molded crosshatch decoration
1	frag	*Indeterminate* curved, clear body, exterior surfaces exhibit white satin finish, probably flashed
3	frags	*Indeterminate* curved, thick walled, pale grey, possibly decorative tile, ca. 1875-1918
4	frags	*Indeterminate* disc shape, pale purple, undecorated, front/back slightly convex, one surface marred due to abrasive contact, possibly decorative wall/floor tile, ca. 1875-1918 Diameter: 1.5in
1		*Indeterminate* disc shape, clear, undecorated, front/back slightly convex, one surface marred due to abrasive contact, possibly decorative wall/floor tile Diameter: 1.5in
1	frag	*Indeterminate* disc shape, clear, undecorated, front exhibits recessed center, back slightly convex, one surface marred due to abrasive contact, possibly furniture caster Diameter: 1.6in
2		*Marble* opaque white/brown marbleized design Diameter: 0.6in
1		*Marble* translucent amber/white marbleized design Diameter: 0.6in
1		*Marble* opaque white/orange marbleized design Diameter: 0.5in
9	frags	*Bottle* curved, amber
1	frag	*Bottle* neck/finish fragment, amber, crown top closure, full machine manufacture, beverage bottle
2	frags	*Bottle* neck/finish fragments, amber, hand applied patent closures, represents two vessels
1	frag	*Bottle* finish fragment, amber, restricted external threaded closure, full machine manufacture

GENERAL PROVENIENCE

GLASS

Vessel

1	frag	*Bottle* neck/finish fragment, pale aqua, restricted neck, hand applied crown type closure, beverage bottle
1	frag	*Bottle* shoulder/neck/finish fragment, pale aqua, sloped shoulder, restricted neck exhibits molded ring type collar, hand applied external threaded closure, probably condiment bottle
2	frags	*Bottle* rectangular base/body fragments, pale aqua, chamfored corners, front section exhibits embossed letters"...HAIRWASH, ...NEW YORK", two mend as one Length: 2.25in Width: 1.50
1	frag	*Bottle* cylindrical base/body fragment, pale aqua, full machine manufacture, modern, beverage bottle Diameter: 2.0in
1	frag	*Bottle* cylindrical base/body fragment, pale aqua, mold blown, patinated Diameter: 1.7in
1	frag	*Bottle* cylindrical base/body fragment, pale aqua, exhibits embossed letters "...CORP....", mold manufacture Diameter: 2.5in
1	frag	*Bottle* cylindrical base fragment, aqua, mold blown, beverage bottle Diameter: 2.5in
1	frag	*Bottle* cylindrical base/body fragment, pale aqua, base exhibits shallow push up, body exhibits two mold seams, probably beer bottle, patinated Diameter: 2.0in
1	frag	*Bottle* cylindrical base/body fragment, pale aqua, base exhibits cone shape push up, hand blown, beverage bottle Diameter: 2.5in
7	frags	*Bottle* cylindrical base fragments, pale aqua, thick walled, possible water bottle, two mend as one Diameter: 11.0in
1	frag	*Bottle* neck/finish fragment, pale aqua, thick walled, restricted tapered cylindrical neck, , hand applied down tooled closure, probably a carboy/demijohn, blown
1	frag	*Bottle* curved, cobalt blue, exhibits embossed letters "BR..., E..., DR...G, ...ALTIM...", (Bromo-Seltzer, Emerson Drug Co. Baltimore, Md., ca. 1889
1	frag	*Bottle* cylindrical neck/finish fragment, cobalt blue, restricted neck, bead type closure Diameter: 1.0in
4	frags	*Bottle* neck/finish fragments, clear, restricted neck, hand applied patent closure, represents four vessels
1	frag	*Bottle* finish fragment, clear, hand applied prescription closure Diameter: 1.0in
2	frags	*Bottle* rim fragments, clear, exhibits internal lid seat, probably milk or cream bottles, ca. 1889 +
2	frags	*Bottle* neck/finish fragment, clear, restricted neck, hand applied blob type closure

GENERAL PROVENIENCE

GLASS

Vessel

1	frag	*Bottle* oval base/body fragment, clear, hub type, body front exhibits two chamfered corners Length: 2.00in Width: 1.25
1	frag	*Bottle* oval base/body fragment, clear, kidney type base exhibits embossed numbers "10, 21, 2, ", body exhibits embossed numbers/letters "100ML" 2.15 Width: 1.00
1	frag	*Bottle* oval base fragment, clear Width: 1.25
1	frag	*Bottle* rectangular/square base/body fragment, clear, one existing panel exhibits embossed letters "...TH, ...TH"
1	frag	*Bottle* oval base/body fragment, clear, base exhibits embossed letters "W...", body exhibits embossed grape/leaf decoration
2	frags	*Bottle* cylindrical base/body fragments, clear, represents two vessels Diameter: 1.2in
1	frag	*Bottle* cylindrical base/body fragment, clear, mold manufacture Diameter: 2.2in
1	frag	*Bottle* cylindrical base/body fragment, body exhibits embossed partial trademark surrounded by letters "A.LIER...", REGIS..., 402 & 4..., W. 126 th, N.Y."
1	frag	*Bottle* curved, clear, exhibits embossed letters "...B..., CO."
1	frag	*Bottle* curved, clear, exhibits embossed letters "THIS BOTTLE ... TO BE SOLD"
1	frag	*Bottle* curved, clear, exhibits white enameled letters "VESS DRY..., 132 BRUCKNER...", beverage bottle
1	frag	*Bottle* cylindrical base/body fragment, clear, body exhibits molded rib decoration, possible salt/pepper shaker Diameter: 1.0in
1	frag	*Bottle* multi-sided base/body fragment, clear, patinated Diameter: 1.5in
2	frags	*Bottle* neck/finish fragments, restricted neck, *continuous thread* closure
1		*Bottle* cylindrical, complete, pale aqua, front exhibits embossed trademark surrounded by letters "PIEL BRO'S, EAST NEW YORK BREWERY", back exhibits "THIS BOTTLE NOT TO BE SOLD", sloped shoulder, hand applied crown top closure, ca. 1892-1906 Diameter: 2.5in Height: 9.2
1		*Bottle* square bodied, 90% complete, clear, french square base, chamfered corners, hand applied patent closure, base exhibits embossed letters "W.T. & CO.", Whitall, Tatum and Company, Millville, N.J., ca.1857-1935, probably apothecary jar Length: 1.25in Width: 1.25 Height: 4.0
1		*Bottle* miniature, cylindrical, amber, continuous thread closure, full machine manufacture, base exhibits Owens Illinois trademark Diameter: 0.5in Height: 1.7
2	frags	*Bottle* miniature, six-sided base/body fragments, emerald green, exhibits embossed letters "RICKSEC...", two mend as one Diameter: 0.5in

APPENDIX B (CONT.)

GENERAL PROVENIENCE

GLASS

Vessel

1	frag	*Bottle* rectangular base fragment, pale aqua, exhibits pontil scar Width: 0.75
13	frags	*Bottle* curved, dark olive green, probably wine or spirits
1	frag	*Bottle* cylindrical base/body fragment, dark olive green, shallow dome shape push up with smoothed pontil scar, probably wine or spirits Diameter: 3.0in
1	frag	*Bottle* shoulder/neck/finish fragment, dark olive green, rounded shoulder, slightly tapered neck, hand applied blob type closure, probably wine or spirits
1	frag	*Bottle* neck/finish fragment, dark olive green, hand applied V-shaped string rim closure, exhibits remnant copper wire, patinated, probably wine or spirits
1	frag	*Bottle* base/body case bottle fragment, dark olive green, exhibits shallow circular indentation, chamfered corners
23	frags	*Bottle* cylindrical base/body fragment, olive green, base exhibits narrow bell shape push up, beverage bottle
1	frag	*Bottle* neck/finish fragment, olive green, tapered cylindrical neck, hand applied down tooled string rim closure, heavily patinated, probably wine or spirits
1	frag	*Bottle* neck/finish fragment, olive green, tapered cylindrical neck, hand applied down tooled string rim closure, heavily patinated, probably wine or spirits
54	frags	*Bottle* curved, olive green, heavily patinated, beverage bottle
5	frags	*Bottle* cylindrical base fragments, exhibits indeterminate type push up, probably wine or spirits, represents five vessels
1	frag	*Bottle* shoulder/neck/finish fragment, light olive green, sloped shoulder, hand applied flattened string rim closure, beverage bottle
1	frag	*Bottle* rectangular/square shoulder/neck/finish fragment, pale aqua, restricted neck, hand applied patent closure
1	frag	*Bottle* neck/finish fragment, pale aqua, hand applied blob type closure, beverage bottle
97	frags	*Bottle/Jar* curved, pale aqua
2	frags	*Bottle/Jar* oval base fragments, pale aqua, exhibits embossed letters/numbers "I 92, 30 B", probably full machine manufacture, two mend as one Width: 1.50
3	frags	*Bottle/Jar* cylindrical base/body fragments, pale yellow Diameter: 2.5in
73	frags	*Bottle/Jar* curved, cobalt blue
1	frag	*Bottle/Jar* base fragment, cobalt blue, exhibits embossed letter "...K..."
1	frag	*Bottle/Jar* oval base fragment, cobalt blue
1	frag	*Bottle/Jar* base/body fragment, cobalt blue, multi-sided, base exhibits embossed letter "...Z..."

APPENDIX B (CONT.)

GENERAL PROVENIENCE

GLASS

Vessel

1	frag	*Bottle/Jar* cylindrical base/body fragment, clear, base exhibits Anchor Hocking trademark, ca.1935+ Diameter: 2.0in
1	frag	*Bottle/Jar* cylindrical base/body fragment, clear, body exhibits embossed script letters "...URAGLAS", (Duraglas), ca. 1950 Diameter: 2.0in
2	frags	*Bottle/Jar* curved, pale violet, one fragment exhibits embossed partial stylized trademark with letters"...TH", ca. 1875-1918
1	frag	*Bottle/Vial* neck/finish fragment, clear, hand finished everted folded back closure, patinated Diameter: 1.0in
9	frags	*Flask* base/body/neck/finish fragments, amber, strap type, oval base, hand applied Perry Davis type closure, one body fragment exhibit embossed letters "...EW YOR...", represents minimum three vessels
1	frag	*Flask* shoulder/neck/finish fragment, pale aqua, strap type, restricted neck, hand applied Perry Davis type closure, patinated
2	frags	*Flask* neck/finish fragments, clear, hand applied Perry Davis type closure, one strap type
4	frags	*Indeterminate* curved, red, possibly ornamental
2	frags	*Indeterminate* curved, milkglass, pale green, heavily patinated
1	frag	*Indeterminate* milkglass lid fragment, white, exterior recessed surface exhibits remnant molded decoration, possibly a toilet jar lid
1	frag	*Indeterminate* body/rim fragment, milkglass, white, body exhibits molded vertical linear decoration, slightly flared rim, possibly a cup Diameter: 3.5in
2	frags	*Indeterminate* body/rim sherds, cobalt blue, folded in rounded rim Diameter: 6.0in
1	frag	*Indeterminate* body/rim fragment, folded out rim, possibly a cup Diameter: 4.0in
2	frags	*Indeterminate* curved, cobalt blue, exhibits molded rib decoration, represents two vessels
1	frag	*Jar* cylindrical base fragment, milkglass, pink, exhibits pontil scar Diameter: 2.5in
21	frags	*Jar* curved, milkglass, white
1	frag	*Jar* cylindrical base/body fragment, milkglass, white, base exhibits embossed letters "U.S.A.", body exhibits molded panel decoration Diameter: 3.0in
4	frags	*Jar* body/finish fragments, milkglass, white, body exhibits remnant molded linear decoration, continuous thread closure, represents four vessels, probably toilet ware
7	frags	*Jar* shoulder/rim fragments, clear, continuous thread closure, represents more than one vessel
1	frag	*Jar/Tumbler* body/rim fragment, clear, anchor type closure

APPENDIX B (CONT.)

GENERAL PROVENIENCE

GLASS

Vessel

1	frag	*Lamp Chimney* milkglass, white, undecorated
9	frags	*Ornamental* cylindrical candle holder, clear, exhibits vertical narrow rib decoration, base edge exhibits embossed letters "HEAT PROOF BURNER FOR 1/36 CANDLE"
1	frag	*Tumbler* base/body fragment, clear, body exhibits molded nine panel decoration, ca. 19th century Diameter: 2.5in
1		*Button* disc shape, black, front concave, convex back exhibits stamped letters "NOVELTY RUBBER CO.,GOODYEAR'S PAT." exhibits two hole attachments Diameter: 0.6in
1		*Button* disc shape, front/back flat, exhibits two hole attachments, possibly Bakelite Diameter: 0.5in
1		*Footstone* rectangular shape, front face exhibits finely serrated finish with centered block letters "JOHN", bottom/side/top surfaces unfinished Length: 14.00in Width: 7.12 Height: 6.2
1		*Spall* honey colored, exhibits 25% cortex Weight: 22.0gm
1	frag	*Spall* honey colored, exhibits 25% cortex Weight: 4.0gm
1	frag	*Buckle* frame fragment, exhibits two rounded corners, undecorated
1	frag	*Hardware* hinge, pyramid shape, undecorated, two beveled edges, top exhibits one small centered orifice, bottom exhibits two evenly spaced orifices, (approximate diam. 0.25 in.), back exhibits single groove ending at edge of one bottom orifice Width: 1.75 Height: 1.7
1	frag	*Indeterminate* flat narrow barstock shank, exhibits attached rivet/nail, function unknown Length: 1.00in Width: 0.25
1		*Indeterminate* hollow tapered cylindrical shape, body near base exhibits stamped letters "U or O" followed by"U.S.PAT.2017533", possibly scale weight Diameter: 1.2in Height: 1.3
1		*Medal/Medallion* disc shape, front exhibits embossed figure of woman with sword and shield encircle by letters "AMERICA....", top exhibits remnant attached brad, poor condition Diameter: 1.3in
1		*Plate* rectangular body, stylized shell/scroll sides each with single orifice, front exhibits stamped letters VANREYRER" bordered by dentate decoration, back exhibits embossed letters "RUSSELL & ERWIN, NEW BRITAIN, CONN.",possible travel trunk plate Length: 4.75in Width: 1.50
2		*Spigot* one end threaded, possibly used for gas
1		*Coin* USA one cent coin, obverse exhibits Lincoln bust to the right of numbers "1979", reverse exhibits memorial, fair condition
1		*Coin* USA two cent coin, obverse exhibits shield and ribbon with letters "... TRUST" over numbers "1868", reverse exhibits letters "...S OF AM...", very poor condition

APPENDIX B (CONT.)

GENERAL PROVENIENCE

METAL

Copper

1		*Coin* British halfpenny, obverse exhibits obscured bust of George III below letters "GEO...IUS', reverse obscured, ca. 1760-1820, very poor condition
1	frag	*Token* disc shape, one partial orifice along the edge, exhibits centered stamped numbers "58...", poor condition Diameter: 1.5in
1	frag	*Bar Stock* heavy duty, diamond shape, exhibits four cut edges, three in same direction, one in opposite direction, exhibits cut off-centered orifice, function unknown
2	frags	*Bar Stock* rectangular fragments, each exhibits three single hole attachments along the length, heavy duty, heavily corroded, function unknown Length: 3.25in
1		*Bolt* machine bolt with attached washer, heavy duty, heavily corroded
1	frag	*Cutlery Handle* iron shank, exhibits remnant bone plates with two iron rivets, very poor condition
1	frag	*Hardware* ring shape, one open section, probably horse bridle bit, corroded
1		*Hardware* cylindrical shank, ends coiled in opposite directions, possibly door latch bar, heavily corroded Length: 3.75in
1		*Hardware* shank exhibits curved front/flat back/bottom, top section exhibits ring attached to canted lip with stamped letters "INDIA", possibly horse related hardware Length: 3.50in Diameter: 1.7in
1	frag	*Indeterminate* irregular shape, slightly convex, heavy duty, function unknown
2	frags	*Indeterminate* triangular in cross section, possibly building trim
1	sherd	*Oxen Shoe* heavily corroded
1	frag	*Pipe* one end exhibits lip/collar, heavily corroded Diameter: 0.7in
2		*Screw* wood screws, one Phillips head type, one indeterminate type
2	frags	*Sheet Metal* flat, exhibits three finished edges, possibly bucket/barrel band, two mend as one, heavily corroded Width: 1.25
1	frag	*Spike* square bodied, indeterminate type head, heavily corroded
1	frags	*Washer* disc shape, heavy duty, heavily corroded Diameter: 3.0in
1	frag	*Ammunition* exhibits one half of probable musket ball with sprue, possibly melted for unknown secondary use Weight: 16.0gm
1		*Weight* disc shape, curtain weight Diameter: 1.0in
1		*Coin* USA ten cent coin, obverse exhibits Liberty head above numbers "1906", reverse exhibits wreath, poor condition

GENERAL PROVENIENCE

METAL

Silver

2		*Coin* USA twenty-five cent coins, one exhibits Washington bust over numbers "1941", one exhibits numbers "1944", reverse exhibits eagle perched on wreath, poor condition
1	frag	*Machine Gear* heavy duty Diameter: 3.5in
1		*Button* disc shape, mother-of-pearl, front/back flat, exhibits recessed center with four hole attachments Diameter: 0.5in

TOTAL ARTIFACTS: 4576

APPENDIX C

RESUMES

Richard W. Hunter
PRESIDENT

Ian C. Burrow
VICE PRESIDENT

BARBARA S. HILDEBRANT
Principal Investigator, M.A.

Education

Ph. D. candidate (ABD), Geography, Rutgers University, New Brunswick, New Jersey, 1993

M.A., Anthropology, University of Washington, Seattle, Washington, 1986

B.A., Anthropology, Drew University, Madison, New Jersey, 1981

Experience

1993- Principal Archaeologist, Hunter Research, Inc., Trenton, N.J.

1993 Consultant, Hunter Research, Inc., Trenton, N.J.
Field analysis of human and faunal remains from disturbed historic burials.

Technical and managerial responsibilities for field and laboratory components of prehistoric archaeological projects. Specific expertise in New Jersey and Eastern United States prehistory.
Participation in:

- Survey, excavation, analysis and reports
- Project supervision and on-site management
- Preparation of proposals
- Project design and management
- Recruitment and supervision of personnel
- Faunal and lithic analysis

1991-1993 Teaching Assistant, Geography Department, Rutgers University, New Brunswick, N.J.

1992 Director, Archaeological Field School, Raritan Valley Community College, North Branch, N.J.

1990-1991 Senior Archaeologist, Hunter Research, Inc., Trenton, N.J.

1990- Adjunct Faculty, Department of Social Science, Raritan Valley Community College, North Branch, N.J.

Part-time instructor of Anthropology and Geography

1990-1991 Adjunct Faculty, Department of Social Science, Warren County Community College, Washington, N.J.

Part-time instructor of Anthropology and Sociology

1988-1991	Archaeological Consultant, Richard Grubb and Associates, Somerset, N.J.
1988	Faunal Consultant, Wave Hall Archaeological Project, Bronx, N.Y.
1986-1988	Project Director, Zuni Archaeology Program, Zuni, N.M. Technical and managerial responsibilities for various prehistoric and historic archaeological projects on Zuni and Navajo lands.
1986	Laboratory Supervisor, Data Analyst Specialist, Duwamish Archaeological Project, Cultural Resource Management Group, URS Corporation, Seattle, WA
1984-1986	Laboratory Director/Faunal Analyst, Department of Anthropology and Burke Museum, University of Washington, Seattle, WA
1984	Staff Archaeologist, Susitna River Archaeological Project, Susitna River Valley, AK
1983	Staff Archaeologist, Pluckemin Archaeological Project, Pluckemin, N.J.
1981-1982	Staff Archaeologist, Louis Berger & Associates, East Orange, N.J.

Special Skills and Interests

- prehistoric subsistence studies
- evolution of agriculture
- faunal and flora analysis
- biogeography of mammalian species
- Indian Removal and Relocation Acts of 18th and 19th centuries
- technological transformation in the dairy industry during the 19th century
- 19th century farmsteads

Selected Publications

"The Archaeology and Ethnohistory of Red Rock Valley: A Study of Prehistoric and Historic Land Use in Northeastern Arizona." Zuni Archaeology Report 262, Research Series No. 3. Vol. 1 & 2, 1990.

"Faunal Remains from Redrock Valley" (with Jerome Zunie). In The Archaeology and Ethnohistory of Red Rock Valley: A Study of Prehistoric and Historic Land Use in Northeastern Arizona, pp. 418-437. Zuni Archaeology Report 262, Research Series No. 3. Vol. 1, 1990.

"Historic Artifacts from N-63." In The Archaeology and Ethnohistory of Red Rock Valley: A Study of Prehistoric and Historic Land Use in Northeastern Arizona, Appendix H. Zuni Archaeology Report 262, Research Series No. 3. Vol. 2, 1990.

"Faunal Remains from NA18,450 and NA18,451." Zuni Archaeology Report 245, 1987.

Professional Affiliations

Society of Professional Archaeologists
Society for American Archaeology
The Society for Pennsylvania Archaeology, Inc.
Eastern States Archaeological Federation
The Archaeological Society of New Jersey
Wenner-Gren Society for Anthropological Research
Zooarchaeological Research Society
American Anthropological Association
Northeastern Anthropological Association
American Association of Geographers
Society for Historical Archaeology

Awards

Society of Women Geographers Fellowship
Shell Grant

APPENDIX D

PROJECT ADMINISTRATIVE DATA

PROJECT ADMINISTRATIVE DATA

HUNTER RESEARCH, INC.
PROJECT SUMMARY

Project Name:	ANALYSIS OF CULTURAL MATERIALS, INCLUDING HUMAN SKELETAL REMAINS, RETRIEVED FROM SOILS ORIGINATING FROM CHAMBERS STREET NORTH OF TWEED COURTHOUSE AT CITY HALL PARK, BOROUGH OF MANHATTAN, NEW YORK CITY
Level of Survey:	
HRI Project:	93032
Date of Report:	July, 1994
Client:	Mesick Cohen Waite Architects
Address:	388 Broadway, Albany, NY, 12207
Review Agency:	Landmarks
Agency Reference:	

PROJECT CHRONOLOGY

Date of Contract Award:	09/28/1993
Notice to Proceed:	10/18/1993
Background Research:	
Fieldwork:	Oct 1993-Mar 1994
Analysis:	Nov 1993-May 1994
Report Written:	July 1994

PROJECT PERSONNEL:

Principal Investigator:	Barbara Hildebrant
Background Research:	Barbara Hildebrant
Field Supervisor:	Paul Jung
Field Assistants:	Veronica Arroyo, City Volunteer Corps/HRI personnel
Artifact Analysis:	Harriet Kronick
Draftsperson:	Paul Jung
Report Written By:	Barbara Hildebrant

Artifacts and Records to be Deposited: HRI