Archeological Excavation at Site 33-Cu-314: A Mid-Nineteenth Century Structure on the Ohio and Erie Canal

by

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ABSTRACT

The Midwest Archeological Center conducted archeological excavations in April, 1983, at archeological site 33-Cu-314, the "Locktender's House" (Historic Structure 125) in the Cuyahoga Valley National Recreation Area in northern Ohio. The structure is adjacent to Lock 38 on the Ohio and Erie Canal. These excavations accompanied National Park Service efforts to restore and adaptively use the structure. The structure dates to the mid-nineteenth century, and required extensive restoration. This included foundation repair and other actions which caused ground disturbance within and around the building. Excavations were focused within areas where ground disturbance was expected to occur. Excavation of approximately 70 sq m within and immediately adjacent to the structure resulted in recovery of large numbers of nineteenth-century artifacts, in addition to evidence for structural modifications and a variety of previously unrecorded architectural features. As a result of fieldwork and subsequent analyses of recovered data, considerable new information was developed which supplements the existing historic record for the structure.

ACKNOWLEDGEMENTS

Several people contributed to the field and analytical efforts reported here. The field crew under my direction consisted of Donna Benson, Herb Beamer, Julie Guda, Bob Mensforth, and Rusty Weisman. Volunteers Jerry and Herb Richner also contributed to the excavations. The crew overcame wet and cool April weather to complete the excavations on schedule. Ed Sudderth conducted a week of additional fieldwork at the site in May, 1983, after a section of the east foundation wall collapsed during restoration activities. Ed also made important contributions to artifact identification and analysis. Of the several people who participated in the laboratory portion of the project, Dorraine Bailey's and Barry Brenton's efforts were especially important to the ultimate success of the project. Thanks also go to Jim Price who identified several of the more puzzling metal artifacts. The figures were drafted and the photographs printed by Debbie McBride, Carrol Moxham, and Mary Johnson. Judy Pace edited the manuscript. Finally, thanks are extended to Rory Robinson whose continuing interest and unwavering suppport greatly bolstered the project.

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INTRODUCTION

This report describes the results of three weeks of archeological excavations and subsequent laboratory analyses of about 20,000 artifacts from a mid-nineteenth-century structure located at Lock 38 of the Ohio and Erie Canal in Cuyahoga County, Ohio (Figures 1 and 2). The building is an adaptation of the Greek Revival style (Figure 3). Although historical records regarding the early years are incomplete, it has been reported that construction occurred in two phases, about 1830 and 1840 (Johnson and Newman 1984). The structure is located on Tract 4, Lot 10, Independence Township, from lands initially part of Connecticut's Western Reserve. Although commonly known as the "Locktender's House" due to its location adjacent to Lock 38 and its nineteenth-century age, there is no direct evidence to suggest that it ever served as a residence for a locktender. After a long and colorful history as a residence, tavern, and finally, apartment building, the structure was purchased by the National Park Service (NPS) in 1978, and is now owned and managed within Cuyahoga Valley National Recreation Area. The building, coded by the NPS as Historic Structure 125 (HS 125) on the List of Classified Structures, was placed on the National Register of Historic Places on November 13, 1966, and is part of the National Register Ohio and Erie Canal District. The structure also has National Landmark status. The presence of archeological deposits in and around the structure led to a trinomial designation (33-Cu-314) being awarded for the site, and that number will be used when the archeological site is referenced in this report.

Archeological research was conducted in April, 1983, in response to questions generated from historical and architectural research, and to collect data which might otherwise have been lost during a proposed, and extensive, adaptive restoration program. The structure had slipped into a serious state of disrepair prior to acquisition by the NPS. Several related stabilization and repair efforts including extensive reroofing, repair of framing members, and removal of several twentieth-century architectural additions were accomplished prior to 1983. This work restored the exterior of the structure to its mid-nineteenth-century appearance, as determined through historical and architectural research. Still, much work remained to be completed before the structure could be adaptively used as a visitor center as called for in NPS planning documents. Two restoration-related activities planned for 1983 were the removal of the basement floors and the repointing of the exterior sandstone foundation. These activities would result in considerable ground disturbance in areas thought to contain extensive archeological deposits. Since the structure and associated archeological deposits are clearly protected by federal law and NPS regulations and policies, a program of archeological data collection was designed to mitigate anticipated adverse impacts from these restoration activities. In addition, historical, architectural, and economic questions remaining from extensive historical and architectural research formed a problem orientation for the archeological project. After the archeological fieldwork was completed, the restoration of the structure was continued under the Park Rehabilitation and Improvement Program. As a result of the archeological research at site 33-Cu-314, a large body of nineteenth-

and early twentieth-century archeological and architectural data was recovered and analyzed.

This report is divided into nine chapters. The HISTORIC BACKGROUND places the structure and associated archeological site in historic perspective within the Western Reserve area of northern Ohio. It also provides a brief summary of historic and archeological research on the structure conducted in recent NPS studies. In that section of the report, important gaps in knowledge about the history of the structure are defined. Those historical, economic, archeological, and architectural gaps are combined to form archeological research questions in the GOALS section of the report.

The related field and laboratory methods utilized to approach the project goals are presented in the METHODS chapter. The relatively complex stratigraphy exposed during site excavation is discussed in the next section, SITE STRATIGRAPHY, in which specific placement of excavation units is also described. Features exposed during excavation are described in the next chapter, ARCHEOLOGICAL FEATURES. In the next section of the report, MATERIAL CULTURE, the large artifact assemblage is described and analyzed. Chronologically and functionally diagnostic cultural materials are given considerable attention, since the problem orientation for the project was largely focused upon temporal and functional concerns. In SITE CHRONOLOGY, site stratigraphic information and analytical data from artifact studies are synthesized to address chronological questions defined in the GOALS chapter. In the final chapter, the economy and lifestyle of the residents and users of the structure are summarized based upon combined historical and archeological lines of research. In this section of the report, the nineteenth-century historic and economic roles of the structure are refined. APPENDIX A by W. E. Sudderth and Jeffrey Richner consists of a description of glass bottles from the site.

As a result of this project, archeological and architectural data not replicated in the existing historical record were collected and analyzed. Considerable refinement of existing site structural chronologies and functional ascriptions has been accomplished.

HISTORIC BACKGROUND

In this chapter, HS 125 will be placed in historic perspective with regard to the settlement and development of the Western Reserve and the Cuyahoga River Valley. The constructional and occupational history of the structure will be outlined. These discussions will be brief, and will summarize more thorough and detailed presentations on the early development of the region (Bond 1941; Cherry 1921; Hatcher 1966), local area (Condon 1976; Miller and Hurry 1983; Scrattish 1985; Unrau and Scrattish 1984), and the specific history of the structure (Johnson and Newman 1984). Emphasis will be placed on the history of the property on which HS 125 was built, with regional historical development treated in a more cursory manner.

The Western Reserve

Eastern seaboard states' claims to western lands were relinquished in the late 1780s and early 1790s upon congressional request. Connecticut complied, but reserved a three-million-acre strip of land along Lake Erie, known as the Western Reserve. After the Indians released their claim to the portion of this tract east of the Cuyahoga River through the Treaty of Greenville (1795), plans for subdividing and settling the land were developed. A consortium of speculators purchased the land and later organized under the Connecticut Land Company. In 1796, survey of the land was initiated by Moses Cleveland, and in 1797, the area east of the Cuyahoga River was surveyed and divided into five-mile-square townships (Hatcher 1966:14-39).

County delineation and organization in the Western Reserve underwent several phases, with Cuyahoga County initially established in 1807, and county officers elected in 1810. Early settlement in Cuyahoga County, and the Western Reserve in general, was sporadic, and began on the east side of the Cuyahoga River. The precise date for development of Independence Township is not known, but apparently predates 1814 (Johnson and Newman 1984:10-11). Valley View was settled in 1806, and other houses were built in the area by 1810, during initial emigration to the valley. The slow pace of settlement continued until after the War of 1812 when the threat of hostilities in the region had been removed. The years 1817-1825 marked a second phase of emigration which led to relatively rapid population growth in the area. However, population density remained low within the township, numbering well under 500 until the decades following the completion of the Ohio and Erie Canal through this area in 1827. Prior to completion of the canal and development of transportation and communication systems, the Western Reserve in general, and Independence Township in specific, were economically isolated from eastern markets, and could be characterized as exhibiting frontier settlement systems.

From about 1800-1820, settlement was widely scattered, with the local population evenly distributed across the area in small clusters. This reflected the nature of sale and development of the Western Reserve lands, which tended to encourage a scattered

settlement pattern (Scrattish 1985). Only a few minor concentrations of population along rivers existed during this period (Hatcher 1958). Transportation and communication systems were very poorly developed, and subsistence agricultural pursuits characterized the economy of both land-owning settlers and squatters (Brose et al. 1981:161-168). Brose has examined the economic and social base of both land owners and squatters. Prior to about 1820, the two groups shared nearly identical homes and lifestyles, although actual economic value (property owned) and social differences were apparent. There was a shortage of currency, and a barter system was in operation. Manufactured goods and other merchandise including ceramics and other domestic products were very scarce, and cash to purchase any such goods was nearly nonexistent (Miller and Hurry 1983). Wild game, and corn and pigs were important local subsistence resources for both squatters and land owners. Subsistence-level farming characterized the economy of the area.

The construction of the Ohio and Erie Canal through the Cuyahoga Valley from 1825-1827 brought dramatic economic and social impacts (Brose et al. 1981; Unrau and Scrattish 1984). Approximately 1,500 canal workers were employed in the segment from Cleveland to Akron, and they brought a much-needed influx of cash into the local economy. Local settlers capitalized on this development, as the isolation of the area began to diminish. Despite problems associated with canal construction, including many deaths from disease and weather in 1826, the local economy began to diversify and improve. After the opening of the canal segment from Cleveland to Akron in 1827, jobs were created for quarry and lumber needs, and settlers shifted from small scale subsistence agricultural pursuits to a cash crop economy. Wheat and cattle raising replaced subsistence corn and pig farming, and the canal opened the valley to U.S. and European markets. Local products (i.e., wheat, coal, flour, beef, and cheese) were shipped north on the canal, and general merchandise, salt, and fish were sent south. The availability of British and other merchandise during the late 1820s contrasts markedly with the lack of goods during the earlier decades of the nineteenth century (Miller and Hurry 1983). As other segments of the canal were completed, trade flourished, and local crop prices and land values increased. By 1832, over 5,000,000 pounds of merchandise were shipped down the canal from Cleveland, and this amount had quadrupled by 1839.

The Ohio and Erie Canal was most important to local development from 1827-1840, after which a long and steady decline in its importance has been documented (Scrattish 1985; Unrau and Scrattish 1984). Although the weight of materials shipped on the canal peaked in 1851, the canal's condition had begun to deteriorate during the 1840s, and its monopolistic role in local and regional transportation had been ended through competition with other canals. During the 1850s, furious regional rail development detracted extensively from the importance of the canal. The canal was plagued by repair and management problems, and fell into a spiral of declining condition over the next 50 years. Although the canal continued to be used into the early 1900s, its heyday passed after about 1840. Despite a bewildering history of repair and

destruction episodes lasting until 1913, the canal trade never again reached its earlier prominence. The disastrous flood of 1913 formally ended the life of the canal as a transportation artery, but its decline was rooted in the mid-nineteenth century. As early as 1860, tonnage shipped on the canal had slipped drastically. The canal was the primary catalyst for economic growth and development in the Cuyahoga Valley, but the project area retained its rural flavor, even in the face of dramatic population growth and the industrial development of Cleveland and Akron.

The History of HS 125

Considerable information has been compiled on the complex changes in ownership of the property on which HS 125 was constructed (Johnson and Newman 1984). Information on the twentieth-century ownership will be discussed only with regard to structural modifications made during that period which could be expected to be reflected in archeological data. As one might expect, land records are less complete for the earlier history of the property and the structure. Despite extensive examination of primary and secondary sources of information, Johnson and Newman (1984:11-34) found many gaps in the historic records for the property. These gaps included the initial construction date, and dates for subsequent alteration and improvement of HS 125.

Initial purchases of land within the Western Reserve were largely speculative, and involved relatively large tracts. The system for division of lands among the shareholders of the Connecticut Land Company involved drawing of lots, and awarding of additional lands as compensation for unequal land values. Through this system, in 1798 Joseph Barrel and William Edwards acquired land which included Tract 4, Township 6, Range 12 (Johnson and Newman 1984:12). On the same day that they acquired this land they sold it to Nehemiah Hubbard. By about 1803 Hubbard had gained clear title to Tract 4, and maintained ownership of portions of this acreage into the 1830s. Despite numerous land transactions in the area, Hubbard never resided in Ohio.

It is during Hubbard's ownership of the land in Tract 4 that some suggestions of construction of a store and tavern on the property currently containing HS 125 have surfaced. It has been reported that about 1818 Richard Kennen ran a tavern and store in a structure located near the north boundary of Lot 10 within Tract 4, but references to this construction are secondary in nature, and may be of questionable accuracy (Johnson and Newman 1984:14). Johnson and Newman were unable to locate 1850 court records referred to in the tertiary (1939) documentation of the store. Records regarding any developments on Hubbard's land are incomplete, and the use of this land from the 1810s through the 1830s is known only in a general way. Since it is likely that HS 125 was constructed during this period, the lack of more thorough documentation is unfortunate. It is known that some subdivision of Hubbard's holdings in Tract 4 occurred by about 1832, and that sale of the one-acre lot which currently contains HS 125 is not referenced until 1837.

In addition to the poorly documented report of a store being present as early as 1818, there is also evidence to suggest that a public house was located along the Ohio and Erie Canal near Lock 38 in the early 1830s (Johnson and Newman 1984:16-18). It is known that Mary Ann (Ma) Parker paid personal property tax in Independence Township between 1831-1835, and county road and survey records have been interpreted to indicate that Parker's public house or tavern was located near Lock 38. However, there "is no good evidence to suggest that it is or is not the same building or site which is now being studied" (Johnson and Newman 1984:18). Petitions and road records document that Parker's public house was located near a bridge across the canal, but it can not be conclusively demonstrated that this bridge is equivalent to the one which was formerly present about 130 feet north of HS 125.

The first reference which conclusively documents the presence of a building on Lot 10 reports the sale of a structure on July 28, 1835, to Albert Lloyd. The structure was sold by John Rowan who described it as a "certain frame structure situated on the west side of the Ohio Canal at Lock No. 38 in which I now live and which is occupied for a store and tavern..." (Johnson and Newman 1984:19). Sale price was $558, but there is no evidence that the mortgage was paid, and it appears that Rowan retained the structure as late as 1838, when a sheriff's sale at Rowan's grocery is documented. During the 1830s, Hubbard owned the land upon which Rowan's structure was located, but in 1837, he sold one acre of Tract 4, Lot 10, to William H. Knapp (Johnson and Newman 1984:21). Knapp was active in local politics through the 1830s and 1840s, and had served as a "junior assistant" on the canal while working for the Corps of Engineers.

On May 15, 1840, Knapp sold the one acre to Moses Gleason for $1,000 to be paid in six annual payments. This date marks the beginning of 68 years of Gleason family ownership of the property. Unfortunately, no legal documents reference a store or tavern on the property after the 1835 Rowan/Lloyd transaction. However, ample evidence has been gathered to show that a structure here continued to be used as a store and residence for many years. Nineteenth-century court record summaries developed by the WPA indicate that about 1840-1841 Moses Gleason repaired buildings on the one-acre lot and spent $1,000 for a new store building (Johnson and Newman 1984:24). Johnson and Newman have used this information to conclude that this construction doubled the size of the original structure, and gave it the twin configuration which it maintains today. However, there is no direct evidence from which to document the configuration of any structures on the property during specific points in the mid-nineteenth century. The 1840s were a period of local prosperity spawned by the success of the Ohio and Erie Canal, and the Gleason family capitalized on this prosperity by operating a store at Lock 38. Moses Gleason's son-in-law operated a store and tavern at the structure from March, 1841 to April, 1842. Moses' son Edmond took over the business in 1843. E. Gleason took out tavern licenses in 1842, 1843, and 1846, and was fined for not having a license in 1848.

On May 8, 1852, Moses Gleason sold the one-acre property to his son Isaac Gleason, at which time Lot 10 had an assessed value of $335 (Johnson and Newman 1984:27). In 1854, the property was evaluated at $630, although the actual tax paid on the property remained roughly the same. During this time it was reported that Isaac Gleason operated a mercantile store at the lock, but the precise dates for the duration of his management of the store are not documented. Isaac Gleason owned two canal boats and was active in politics through the late 1840s - 1850s.

Although little is known about Isaac Gleason's operation of the store, there is considerable information about his political activities, legal problems, and finances. His financial difficulties are pertinent to the present discussion, since they resulted in another transfer of the property. In 1860, Isaac was successful and solvent, but by 1868 he was insolvent, and the subject of lawsuits and other difficulties (Johnson and Newman 1984:29-30). The Lot 10 property was sold to Isaac's younger brother Sardis B. Gleason in 1867, but Isaac's family continued to occupy the structure until, at least, February, 1868. At that time, Sardis willed the property to Harriet Gleason, Isaac's wife, to insure that the property would remain in the family, despite Isaac's financial problems.

The duration of Isaac Gleason's family occupation of the house is uncertain, but there is evidence which strongly indicates that Sardis Gleason was the occupant in 1874 (Johnson and Newman 1984:31). There is no evidence of commercial use of the structure during the 1870s. It is extremely unlikely that the structure was used commercially during Sardis Gleason's occupation, since he was a farmer. Sardis died in 1875, at which time Harriet Gleason inherited the property. The property was mortgaged to H. Wain in 1886, but the Gleason family continued to pay taxes on the property into the early 1900s, indicating that they satisfied the mortgage and maintained ownership of the house.

In the last years of the nineteenth century, the Gleasons rented the house to Frank Gorris. Photographs showing the Gorris family outside the house are the earliest views which have been located of the structure. Unfortunately, it is difficult to determine the initial date of the Gorris occupation from available information. Gorris apparently operated a blacksmith shop (possibly located north of the house). His son-in-law Matt Hill and family reportedly lived in the basement about 1900. Hill was a lather and cabinetmaker. Gleason's ownership ended in 1908, when Harriet Gleason was forced to sell the property. George Ford bought the house, and became the first of numerous other twentieth-century owners.

The twentieth-century ownership of the house is beyond the scope of this report, but is presented in Johnson and Newman (1984:35-38). Of particular interest is the series of modifications made to the structure during the 1920s. These modifications included altering the basement floor, installing utilities, adding front and rear porches, shortening basement windows, and extensively modifying the south elevation and the

first floor entrance to the north component of the structure. The house and property were acquired in 1978 by the NPS.

Previous Archeological Research

A small-scale archeological investigation of site 33-Cu-314 was initiated by the Midwest Archeological Center (MWAC) in 1981 (Hsu 1984). Preliminary testing was accomplished to determine if more extensive work was warranted, and to examine areas of the structure where architectural questions remained despite extensive fabric investigations. As a result of test excavations, several features were recorded, and a large artifact assemblage was recovered. In basement Room 001, two deep pits of undetermined function were discovered, and the staging of foundation wall, door, and window modifications was examined. In basement Room 003, evidence of a former porch was recorded, and multiple floor layers were reported. Exterior excavations along the west wall exposed the base of a chimney and an area disturbed by foundation modifications. Hsu (1984) concluded that the occupants were "fastidious" in their disposal of refuse. This observation is contradicted by the large number of artifacts, including faunal remains, recovered inside and immediately adjacent to the structure.

GOALS

HS 125 was constructed in two major phases during the first half of the nineteenth century. Although the early history of the structure is not well documented, NPS historians and historical architects have been able to piece together a plausible construction sequence and occupational history (Johnson and Newman 1984). This synthesis of the early use of the structure utilized a variety of primary and secondary documentation including tax records, census data, contemporary newspaper accounts, land ownership records, historic photographs and other sources of information. Although considerable effort was invested in this study, the historic data left several information gaps in the nineteenth-century record. Even after extensive research efforts, several questions regarding the occupational history of the house were unanswered, including the date of initial construction. In the absence of firm documentation, Johnson and Newman (1984:38) suggest that the original part of the structure was built during or after the construction of the canal. Similarly, they determined that the south half was added in 1840, but were able to discover only secondary, and rather tenuous, documentation for this important construction episode. For these reasons, one of the major goals of 1983 archeological research at site 33-Cu-314 was to collect information which could be used to evaluate the construction staging scheme proposed through architectural and historical research. Archeological fieldwork and subsequent laboratory analyses have contributed new information for investigating site construction and occupation histories. This research has filled some gaps in the historic record and provides an independent set of data for evaluating the developmental scheme proposed by Johnson and Newman (1984).

A second major focus for 1983 archeological research at 33-Cu-314 involved investigation of the multiple functions postulated and/or documented for the structure from its initial construction until about 1900. Just as details regarding the initial construction date of the building and precise dates for its improvement and expansion are not firmly recorded in available historical documents, data regarding the various functions of the structure through time are similarly sparse. No store or tavern records, ledgers or other information were discovered, and no sketches, plans or photographs of the structure (prior to about 1890) were located. Except for legal records, there is a startling lack of primary documentation for the structure throughout the nineteenth century. The situation is further complicated by the considerable age and apparent multiple uses of the building, coupled with colorful local legends which have arisen about its early history. The structure's multiple functions have included residential and commercial uses. Documented mid-nineteenth-century functions include family residence, store, and tavern. Additional functions including locktender's house, dance hall, brothel, and smithy have been postulated for the nineteenth- and early twentieth-century use of the structure. Many of the functions suggested for the structure are unsubstantiated, and it appears that for much of its history the structure was a residence, with additional use as a store/tavern during the period about 1835-1860 (Johnson and Newman 1984:20-34). Of particular interest is the common name of the structure—the Locktender's House. Despite local oral history and often-repeated written historical accounts, there is no

documentary evidence to suggest that a locktender ever occupied the structure (Johnson and Newman 1984:8).

The ambiguity of the historical record regarding the various functions of the structure led to the second goal of archeological research at the site, which was to attempt to find direct evidence in datable contexts for isolating commercial versus residential uses of the structure. It was known prior to initiating fieldwork that this goal would be difficult to reach. However, it was hoped that uses reported in the historic literature might be confirmed through identification of functionally specific artifact assemblages. It has proven possible to examine the use of the structure through time as evidenced by the archeological record in a general manner. This information is interpreted with more difficulty than the chronological concerns described above. The archeological investigation has contributed new information, which when combined with the available historical record, provides a more detailed glimpse of the changing uses of the structure through the first 75 years of its history.

Another goal of the archeological research conducted at 33-Cu-314 was focused at a lower level of complexity than the goals defined above, and resulted from discussions with NPS historical architect Paul Newman. His architectural investigation of structural fabric contributed important data for developing a proposed chronology for construction events. It also raised additional questions which could not be answered through a combination of architectural and historical studies. It was hoped that archeological investigation might clarify some of these questions. Where possible within the project boundary constraints imposed by the proposed locations for restoration-related ground disturbance, several of these architectural questions were addressed. These included identifying the staging, size, elevation, and relationship of dirt, sandstone, and concrete basement floor levels; confirming the presence and location of a porch believed to have been along the south wall of the original, or north half, of the structure; and examining the history of various structural modifications including the addition, modification, and/or sealing of various basement and first floor doors and windows. Prior to fieldwork it was uncertain if these questions could be addressed in any detail, since it was not known if archeological data pertinent to investigating these questions were present. As excavation progressed it became clear that all these architectural questions could be addressed to varying degrees through analysis of archeological data.

Several previously unknown architectural features were discovered during 1983 archeological fieldwork and subsequent stabilization and restoration actions. These include retaining walls, exterior brick walls of undetermined function, massive sandstone door sills and stoops, repaired and altered foundation walls, a sandstone cobble pavement, and perhaps most importantly, original and subsequent historic grades. The identification of the original and subsequent historic grades has important implications for determining the staging of construction events and later alterations of the structure.

In addition to historical and architectural concerns, other goals of archeological research were focused upon developing data pertinent to regional archeological and anthropological studies of nineteenth-century life. It was anticipated that archeological investigation of the structure would provide information regarding the economic status of former residents, and the role the structure played within the local and regional economy of the mid-nineteenth through the late nineteenth century. The strategic location of the structure on the Ohio and Erie Canal strongly suggested that the site could provide economic data for examining lifeways during the initial success and later decline of that important transportation resource. In addition, it was anticipated that the site would contain a set of archeological data to compare with earlier, pre-canal era sites in the Cuyahoga Valley, such as the Hale Farm site (Brose 1972). In this vein, it was hoped that site 33-Cu-314 would provide data on the early years of economic development following important transportation improvements in the Cuyahoga Valley. This data would contrast markedly with information from sites of the isolated, initial settlement period which has been previously investigated (Brose et al. 1981; Miller and Hurry 1983). Although these archeological and anthropological studies were not the major focus of the project, it has proven possible to address economic and other concerns at a general level.

The goals of archeological research at site 33-Cu-314 were closely tied to the ongoing historical and architectural investigation of the structure, particularly as related to restoration and adaptive use plans. Development of additional data for examining chronological and functional aspects of structural and occupational history provided the main focus for the archeological project. Nineteenth-century economic concerns and lifestyles, and specific investigation of architectural details formed secondary goals for research. All of these goals were addressed through related field and laboratory procedures which are described in the METHODS section of this report. The degree to which the goals could be addressed was dependent to some extent upon the scope of planned restoration activities at the site. All excavations were confined to areas to be disturbed through stabilization and restoration-related activities. The areas of planned ground disturbance were found to contain important and extensive archeological deposits which held information for addressing all of the project goals. However, due to the restricted nature of the restoration project areas, portions of the site likely to contain additional information for these lines of research were not investigated. An important consideration throughout the archeological project was to attempt to protect in place as much of the original deposit as possible. The appropriateness of this concern was underscored when the extensive scope of proposed restoration-related ground disturbance was identified in 1983 and 1984 restoration plans. Since the site has National Landmark status, the minimal impact excavation strategy was appropriate to the broader goal of protecting significant subsurface archeological and architectural deposits at National Register sites (Hume and Weeks 1983).

METHODS

In this section, the related field and laboratory procedures utilized to approach the project goals are presented. Fieldwork at site 33-Cu-314 was undertaken during April 11-29, 1983, by a Midwest Archeological Center (MWAC) crew consisting of Museum Aids Herb Beamer, Donna Benson, Julie Guda, Bob Mensforth, and Rusty Weisman under the direction of Archeologist Jeff Richner. Approximately 90 person-days were expended in the field by this six-person crew. Additional assistance was provided by NPS volunteers Herb and Jerry Richner. Poor weather conditions in the northern Ohio area during much of the three-week field season hampered excavation efforts to some degree, but little time was lost due to weather since extensive excavations were undertaken within the basement of the house where there was protection from the cold and wet conditions. During the field season, about 70 sq m (28 cu m) of the site were excavated, and a large sample of historic cultural material and architectural data was recovered.

Field Methods

The field methods utilized during the 1983 season consisted of excavating small, generally 1 m x 1 m, units, which were occasionally grouped to form larger blocks. Vertical provenience was maintained within natural or cultural levels where these could be identified, or within arbitrary 10-cm levels where excavations could not readily be undertaken following natural and cultural depositional strata. In a few instances, arbitrary levels exceeded 10 cm, particularly in heavily disturbed deposits. Most matrix was removed with shovels and passed through 1/4-inch hardware cloth. Areas containing features, or concentrations of fragile cultural materials, were removed with trowels and dust pans, and were also screened through 1/4-inch mesh. Considerable variation in the rate and amount of cultural deposition was discovered across the site, with cultural deposits ranging from a minimum thickness of about 10 cm in basement Room 001 to a maximum depth of over 2 m along the exterior of the eastern foundation. Given this situation, extensive areal coverage could be completed within some areas of the site with relative ease and considerable speed, while sampling of other portions of the site proceeded slowly and with difficulty.

Excavation units were positioned with respect to two major components of the structural restoration plan. They were excavated to evaluate the condition and content of archeological deposits which would be impacted through planned ground disturbance, and to mitigate such impacts through appropriate data collection. The ground disturbing components of the restoration plan included repointing the exterior of the sandstone foundation and installing a perimeter drain and removing the historic floor levels in the basement to provide a new base grade for restoration-related and adaptive-use construction plans. The exterior repointing project required that an approximately one meter wide area of soil be removed around the entire structure to the base of the foundation. It was anticipated that nineteenth-century refuse deposits, which might

contain information important for evaluating the construction chronology at the site, would occur along the foundation. Therefore, intensive efforts were expended in excavating a large sample of matrix around the perimeter of the structure. A total of 24 sq m, or about 42 percent of the area to be disturbed through repointing and drain placement, was investigated through excavation of a series of units on all four sides of the structure (Figure 4). Extensive and surprisingly deep cultural deposits were encountered in the excavation units, and a large sample of artifacts and ecofacts was recovered. Most of the artifacts were in primary context. Some disturbed areas were discovered, but the majority of units placed around the perimeter of the foundation yielded archeological and architectural data in contexts amenable to addressing the four project goals defined earlier. It was clear after limited excavation around the foundation that extensive and stratified cultural deposits were present. This indicated that mitigation of anticipated restoration-related impacts would need to take the form of extensive data collection through excavation. This situation was anticipated prior to fieldwork. However, the depth and stratified nature of the cultural deposits and the density of nineteenth-century artifacts exceeded pre-fieldwork expectations.

Units were excavated immediately adjacent to the foundation to collect data within the repointing and drain installation area. Seven units were also placed one to three meters away from the foundation near the west and south basement wall entrances. These units were excavated to expose stratigraphic profiles away from the foundation and to collect larger samples of cultural material around the door openings. The units also provided a method for evaluating the condition and content of cultural deposits in areas which were tentatively proposed as locations for utility lines. Subsequently, in 1984, additional excavations were undertaken in areas a few meters away from the foundation as part of a utilities development project for the ongoing restoration of the structure.

The second focus for excavations in 1983 was within the basement of the structure. Previous limited excavations in the structure suggested that architectural as well as archeological data were preserved under existing concrete and sandstone floor levels (Hsu 1984). Since all of the historic grade of the basement was to be removed to facilitate adaptive restoration construction activities, extensive excavations were initiated within the basement (Figure 4). While each wall of the structure had formed a sampling stratum for the exterior excavations, the north and south halves of the structure and room divisions within these major components formed the basis for sampling within the basement.

Prior to MWAC fieldwork in 1983, the basement floor in the structure exhibited several levels and was constructed from three media. In Room 001 in the original half of the structure, the surface was dirt over the northern portion, while the southern portion had a poured concrete floor. Remnants of the concrete floor could be seen at select areas (adhering to piers and walls) of the dirt portion of the room, clearly indicating that the dirt had been formerly covered with a concrete floor. During archeological fieldwork at the site, Cuyahoga Valley National Recreation Area (CUVA) workers broke and removed the remaining concrete floor in Rooms 001 and 004. Nine

1-m x 1-m units were excavated in Room 001 (Figure 4), and a shallow, but interesting, archeological deposit was discovered. Unfortunately, most of the central and southern portions of Room 001 had been extensively disturbed through earlier twentieth-century utility and sewer installation, repair, and removal.

While Rooms 001 and 004 had concrete and dirt floors, Room 002 in the north half of the structure, and Rooms 003, 005, and 006 in the south half of the structure exhibited sandstone slab floors. After the sandstone floor was removed, five excavation units were placed in Room 002, and 21 units were excavated in Rooms 003 and 005 (Figure 4). A single excavation unit was also placed in the small Room 006. The majority of the units were placed in a large block in Room 003, where a shallow, but stratified, cultural deposit was discovered. This deposit was crucial in examining site chronology and function, since it occurs in an area that was initially the backyard of the original portion (north half) of the structure, and was subsequently covered by the addition (south half) to the structure. The cultural deposit was then sealed under a sandstone floor until 1983. Important information regarding construction chronology and site function was discovered during excavations in Rooms 002, 003, and 005. This information will be discussed in later sections of the report.

The southwestern portion of Room 003 and all of Room 004 were found to be highly disturbed through early twentieth-century structural modifications and were not the focus for excavations. The underground utilities in Room 004 considerably disturbed the cultural deposit in the northern portion of that room. All of the original grade had previously been removed in the southwest edge of Room 003 and most of the southern portion of Room 004 when a large boiler was installed in the 1920s. This required lowering the floor by several inches in that area, after which a portion of the sandstone floor was reinstalled at a lower elevation. Apparently, the floor was lowered to provide clearance for the massive boiler unit which would not otherwise fit under the first floor joists. Workers removed this boiler during April, 1983.

After excavation of 61 units within the basement of the structure and around its perimeter, approximately 50 percent of the previously undisturbed area to be impacted by foundation repointing and drain installation and 50 percent of the undisturbed portions of the basement had been investigated through archeological excavation. These samples were deemed sufficient for mitigating restoration-related impacts in all areas except the eastern foundation wall, where less than 2 sq m of area were excavated to historic grade. These excavations had to exceed 2 m in depth to reach sterile subsoil. It was determined that additional investigation of the important deposit at original grade would be undertaken when overburden was removed preparatory to repointing efforts. Unfortunately, an accident during restoration of the foundation footing in the basement led to a change in these plans. During removal of soil for pouring a new footing for the east foundation wall in the basement, workers inadvertently weakened the wall, and subsequent heavy rains led to collapse of an 8-m-long section of the wall (Richner 1983). The site was examined by the author on May 13, 1983, at which time the Midwest Regional Office (MWRO) and CUVA restoration team devised a plan for reconstructing the wall. Since an in situ cultural lens was exposed at, and slightly above,

original grade at the exterior base of the wall, it was recommended that an archeologist be on site during the reconstruction process. W.E. Sudderth of MWAC monitored this work during May 22 - June 2, 1983, and excavated three additional test units (Figure 4) with the help of the CUVA staff (Sudderth 1983). Data collected during the monitoring and excavation in May by both Richner and Sudderth are incorporated in this report. After the May fieldwork was completed, the excavated sample along the east wall had been increased to 70 percent of the impact zone.

Laboratory Methods

A variety of laboratory procedures was applied to the large artifact assemblage recovered from site 33-Cu-314. Artifacts made from glass, clay, bone, wood, rubber, and metal were collected from the site, and these media required differential stabilization and analytical processing. All laboratory procedures were aimed at producing information which could be used to address the four project goals articulated earlier in this report. Most of the analytical procedures were directed at deriving ages and functions for particular specimens and classes of materials. Initial processing was essentially the same for all materials, with specific analyses undertaken for different functional groups after the collection was sorted. All the materials were returned to MWAC and cleaned, stabilized, and, where possible, reconstructed. This was a time-consuming process, given the fragmentary nature of much of the assemblage. All but the most fragile or porous materials were washed in water, after which they were sorted into bottle glass, window glass, ceramic sherds, pipe fragments, buttons, and other similar groupings. Metal artifacts posed considerable curation and analysis problems, since the iron artifacts from the site usually exhibited an advanced state of corrosion and decomposition. Metal artifacts thought to be temporally or functionally diagnostic (other than nails) were sorted out for additional cleaning, while metal scrap and nails were washed and counted. The potentially diagnostic metal artifacts were cleaned through a combination of acid baths, sonic agitation, and electrolytic reduction. Treatment depended on the nature of the specimen and its condition. All of the iron specimens were then immersed in micro-crystalline wax, dried, and placed in chemically treated zip lock plastic bags to inhibit additional oxidation. Without this extensive processing, the metal artifacts could only have been identified and analyzed at a very cursory level. An additional consideration in the extensive treatment of the metal artifacts was the probability that some of these items would later be placed on display at CUVA.

Other artifacts in clay, bone, glass, and wood media required less treatment to insure their stability, but were often subjected to more detailed analyses than the metal specimens. The data recording procedures applied to specific artifact classes is outlined below, with additional focus on statistical manipulation and other analytical procedures presented in various portions of the MATERIAL CULTURE section.

Window Glass

All window glass fragments were identified and separated from bottle glass. Since a variety of studies have shown that window glass has utility for dating based upon increasing thickness through time (Moir 1982; Roenke 1978; Schoen 1985; Walker 1971), the glass from 33-Cu-314 was a focus for analysis with the goal of improving the existing site chronology for initial construction and structural renovation phases. Glass thickness was measured to the nearest 0.05 mm. The color of glass (i.e., clear, green, and aqua) was recorded, evidence of burning was noted, and the size or area (to nearest sq cm) of each fragment was measured and recorded. Data input and search programs were developed that allowed the glass to be analyzed by a combination of proveniences, or other variables, and resulted in the generation of basic descriptive statistics including mean, standard deviation, and range, for glass thickness and size. Since over 7,000 window glass sherds were measured and analyzed in this manner, a very large data set was produced. This information was used to supplement temporal examination and assessment of select proveniences across the site which were based upon more traditional technological and stylistic analyses of artifact classes such as ceramics and bottle glass. The window glass analysis was a useful and important part of efforts addressing the project goal of evaluating site construction chronology.

Bottle Glass

Over 2,000 fragments of bottles, including a few complete specimens, were recovered during excavation at the site. All sherds were labeled with provenience information after cleaning to facilitate reconstruction, especially for cross matching across horizontal and vertical proveniences. After intensive attempts at reconstruction, individual vessels were identified based upon diagnostic elements such as bases, finishes, and body sherds with embossed lettering. All diagnostic vessels were subject to detailed technological and functional analysis through comparison with a wide variety of sources (e.g., Baldwin 1973; Kendrick 1966; Ketchum 1975; McKearin and McKearin 1948, 1950; Munsey 1970; Wilson and Wilson 1968, 1971; Zumwalt 1980). This analysis was quite rewarding, and a large amount of specific temporal and functional data was recorded for the 130 identifiable vessels. This information was then used to address the project goals described earlier. In addition, all the glass bottle fragments were recorded in a standardized format for computer analysis. The variables recorded in this analysis are presented in Table 1.

Tobacco Pipes

A sample of 865 fragments of white clay tobacco pipes was recovered from the site. Although most pipes are represented only by small stem or bowl fragments, several nearly complete and/or reconstructable specimens were recovered. Sorting and identification of the pipes followed a format similar to bottle glass, with emphasis placed upon cross matching fragments from various proveniences. While numerous matches were made within and between levels in individual excavation units, relatively few matches were made across horizontal units. All bowl fragments and decorated stems

were subdivided into types and varieties based upon comparison of the 33-Cu-314 assemblage with other published nineteenth-century collections (e.g., Davey 1979; Hanson 1971; Humphrey 1969; Omwake 1965; Oswald 1975; Pfeiffer 1980, 1982; Sudbury 1980, 1983). Only a tiny fraction of the pipe sherds were marked by their manufacturer, and the makers of most of the pipes remain unknown. Some style changes through time could be documented based upon occurrences in stratified deposits at the site, but the pipes did not provide specific chronological data from which the precise dates of various stratigraphic units could be determined.

Ceramic Vessels

Perhaps the most interesting class of artifacts from the site is ceramic vessels. Detailed analyses of the large number of sherds from the site were undertaken, focusing on age, function, and style. This information was important for addressing all of the project goals. In particular, ceramic vessels provided information regarding site chronology and the lifestyle and economic status of site occupants. Ceramic sherds were initially sorted by ware group and provenience, with whiteware, stoneware, yellowware, porcelain, and redware groups being identified. All sherds were labeled to facilitate cross matching and reconstruction. Extensive cross matching was accomplished across vertical levels and horizontal provenience units. This had important implications for defining analytical blocks within and between provenience units, and contributed extensively to understanding the depositional history, and chronology, of the site. Cross match and chronological data obtained from analyses of the sherds were used along with stratigraphic data to lump or split the arbitrary and natural excavation levels into more meaningful analytical units. The extensive chronological information recorded from the ceramic sherds was a key element in evaluating the proposed construction staging history of the structure.

After the sherds were sorted into ware groups and extensive efforts toward cross matching and reconstruction were made, they were analyzed in a standardized format for input into PC File on an IBM personal computer. Analysis focused on both functional and decorative aspects, and a total of 11 variables was recorded for each sherd. Within each ware group, decorative type formed the major basis for subdivision. For example, within the whiteware group, the decorative types of hand painted, annular, sponge decorated, edge decorated, transfer print, and plain white (including molded designs) were recognized. Within each of these categories specific varieties and individual patterns were also recorded. For example, within the decorative type, transfer print, several varieties were identified, and numerous patterns were recorded for each variety. This approach was very useful, since many patterns could be ascribed to specific manufacturers, and even the broader levels such as decorative type often exhibited considerable temporal specificity. A wide variety of archeological reports and ceramic "collector" publications were utilized as a basis for subdividing, identifying, and analyzing the ceramic sherds (e.g., Camehl 1971; Coysh and Henrywood 1982; Dervin 1980; Larsen 1975; Miller 1980; Price 1979; Smith 1983; Williams 1973, 1978, 1981). Because of the excellent potential of the site's ceramic assemblage to contribute information for

addressing problems defined in the GOALS section of this report, ceramic analysis was emphasized.

In addition to focusing on decorative aspects of the ceramic wares, functional analysis was also undertaken. Variables recorded for this study included functional class, vessel form, element, and where applicable, rim and footring form. Individual vessels were defined from the sherds based upon a combination of variables including ware group, decorative type, variety, pattern, vessel form, and element. Vessels were defined conservatively, usually on the basis of rims or other diagnostic elements. Vessels were rarely defined based upon the presence of single body sherds, unless the decoration was clearly unique. A total of 434 vessels was identified among the 2,819 sherds recovered from the site.

Metal Artifacts

As discussed earlier, stabilization and curation posed considerable problems for the metal artifact assemblage from the site. Due to the poor state of preservation of iron, a large percentage of these artifacts was given only cursory examination. Those relatively few diagnostic and/or well preserved specimens could be more thoroughly analyzed after extensive stabilization efforts. Hardware and other tools were identified based upon comparison with examples in numerous period trade catalogues (e.g., Association for Preservation Technology 1980). Patent and manufacturing information was rarely present, so little could be done to accurately date the specimens or determine their place of manufacture. An important exception to this statement was the silver and copper coins recovered from the site. A total of 46 coins was found, many of which were corroded or damaged through local soil conditions. Despite this, legible dates were present on 37 of the coins. This information was especially important for determining the age of certain archeological deposits at the site. The distribution of the coin assemblage was also used for examining site function through time.

Other Artifact Classes

A variety of other artifacts including buttons, combs, and structural debris (i.e., brick and mortar), was also recovered from the site, but their numbers are small compared to the groups discussed above. These artifacts were analyzed through methods similar to those described above, but they were not entered into computer file programs. All diagnostic specimens were identified based upon pertinent archeological reports and nineteenth-century trade journals and catalogs.

Faunal Remains

Animal bones comprise one of the major groups of cultural material recovered from the site. After the 1,598 faunal elements were sorted and cleaned, they were sent to Jim Oliver of the University of Kansas for identification and analysis. This analysis focused upon identification of the cuts of meat represented by the recovered elements.

The methodology utilized for analyzing the faunal remains, and the results of that analysis are presented in a separate report (Oliver 1985).

Functional Groups

After analyses were complete, artifacts were tabulated within functional groups to facilitate examination of activity areas at the site and site function through time. The groups are: Kitchen; Architectural; Furniture; Arms; Clothing; Personal; Tobacco; Activities; and Miscellaneous.

Summary

The combined field and laboratory methods were designed to address the major project goals to the fullest extent possible. Chronological data derived from the laboratory analyses were combined with stratigraphic information to generate several analytical units comprised of groupings of vertical and horizontal excavation provenience. These units served as the basis for evaluating the proposed occupational and constructional history of the site, and for examining the function of the site through time. These studies formed a major focus for the project. In addition, studies of select artifact classes and architectural data were combined to define and describe aspects of the architecture of the structure which were poorly known prior to archeological fieldwork. While few *major* changes to the proposed structural staging and architectural scheme (Johnson and Newman 1984) can be suggested based upon archeological research, considerable refinement and/or confirmation of previously available data has been accomplished. Archeological research has added to knowledge regarding the staging of basement floors, and historic grade levels on all elevations of the structure. New information on the presence of retaining walls, door sills and stoops, and a variety of other previously unrecorded architectural features has also been developed. Finally, the combined field and laboratory methods have generated considerable data regarding the local and regional economy, and the lifestyle of the occupants of the structure. Analysis of faunal remains and other artifact classes from the site has provided data for these studies which were not available from any existing combination of sources. The results of the field and laboratory investigations are presented in the following sections of the report.

SITE STRATIGRAPHY

The long and varied use of HS 125 has led to the accumulation of large amounts of soil and cultural material around the perimeter of the structure, as well as within the basement. Siltation from occasional flooding and slope wash from the adjacent canal towpath have combined with refuse discard activities to create relatively deep, stratified deposits. Although the deposits accrued gradually, several specific depositional episodes can be identified from stratigraphic profiles in the excavated units. The nature and extent of these deposits vary considerably across the site, although some strata occur in all the excavated areas. Of particular interest are differences in the stratigraphic profiles of excavation units from different sides of the house. For example, the profile seen on the east side of the structure is very different from west and south wall deposits. Determining the stratigraphic relationships among deposits from various portions of the site is a prerequisite to examining construction chronology and changing site uses through time. In this section of the report, site stratigraphy will be described, and the major sources of material constituting the deposits will be identified.

Since there are considerable differences in the deposits across the site, stratigraphy will be summarized for seven areas including each exterior wall, and basement Rooms 001, 002, and 003. The typical profile of each area will be described, and stratigraphic profiles of select excavation units will be illustrated. Disturbed areas of the site will be identified, and horizons which occur over all areas of the site will be defined.

South Wall

Eight 1-m x 1-m units were excavated adjacent to the south side of the structure. During subsequent monitoring (Richner 1983, Sudderth 1983), an additional area at the south basement doorway was investigated after being exposed during foundation repointing efforts. With the exception of one major disturbance, the cultural deposits on the south side of the structure are relatively undisturbed and reflect a long sequence of occupation. A consistent stratigraphic profile was recorded in all the units on the south side of the structure, although depths of individual strata varied considerably between units, and from east to west along the foundation wall. Units 4, 6, 42, and 45 exhibited the least disturbed profiles, while the original sequence in Units 1, 2, 39 and 46 was partially disrupted by a drainage ditch (Features 1 and 9). The typical soil profile along the south wall is shown in stratigraphic profiles from Units 4 and 6 (Figures 5 and 6). In these units, the original soil surface is covered by about 80 cm of soil and coal layers which all contain a variety of cultural materials. The stratified nature of these deposits is seen not only in the clear layering shown in Figures 5 and 6, but is also reflected in the ages of temporally diagnostic cultural materials from the surface to the base of the deposit.

The east wall profile of Test Unit 4 provides a typical view of the stratigraphy along the south wall of the structure. The deepest strata exposed in this unit, Strata 8a

and 8b, constitute a paleosol horizon which has been covered by about 80 cm of cultural deposits. Stratum 8a is a dark grayish brown loam which is the original topsoil, or A horizon, while Stratum 8b, an olive brown silty clay loam, is the B horizon of the paleosol. This paleosol is an important horizon which formed the ground surface when the structure was initially built. With the exception of a few features, all of the cultural deposits at the structure accrued over this original soil surface. The paleosol surface is at an elevation of 610.75 feet above mean sea level (amsl) in Unit 4. Stratum 7 is a 25-cm-thick deposit which overlays the old soil surface. This layer is a very dark grayish brown loam, and contains numerous artifacts and angular pieces of sandstone rubble. Above Stratum 7 is a thin (4 cm) lens of gray sandy loam which contains a substantial amount of coal. Relatively few artifacts occur in this lens. Above this thin lens of coal is a 10 cm - 24 cm thick layer of very dark gray loamy sand. This stratum (5) contains numerous artifacts. Stratum 4 is a second coal-rich layer of very dark gray sandy loam. Above this stratum is a 24-cm-thick layer of grayish loam (Stratum 3), over which an even darker loam (Stratum 1) occurs. Stratum 1 contains roots and recent cultural debris and forms the current surface of the site.

The east wall profile of Test Unit 6 exhibits the same strata as the profile in Unit 4, although the A horizon of the paleosol is poorly defined in Unit 6 (Figure 6). In addition, Unit 6 exhibits a third coal lens (Stratum 2) very near the current surface. The thickness of the strata differs between the two units, but the same sequence occurs in both units.

Units 45, 39, 42 and 46 exhibit most of the strata exposed in Units 4 and 6. They also contain an additional layer which has important implications for interpreting the chronological construction staging of the building. The east wall profile of Units 39 and 42 is shown in Figure 7. In both of these units there is a thin, but continuous, layer of angular sandstone rubble (Stratum 12) overlying the paleosol surface. This layer was also recorded in Units 45 and 46 on the south wall, and in 17 of the units in basement Room 003. The rubble layer contains important artifactual information for interpreting site chronology and function. In Units 39 and 42 (as well as in all the other units where it occurs), the rubble lies directly on the surface of the paleosol A horizon, and some of the pieces are pushed a few cm into the dark grayish brown loam. The rubble is usually distributed evenly across this surface, and is surrounded and covered by laminated dark brown and yellow-brown silt (Stratum 11).

Two other aspects of the east wall profile of Units 39 and 42 have important implications for examination of site chronology. At the east edge of Unit 42 a thick, dressed sandstone slab was exposed in profile immediately above the laminated silt layer which covers the rubble (Figure 7). The slab extends into Unit 42 only a few cm. Its full horizontal extent was not determined until the site was monitored in May, 1983, when it was determined that the slab extended from Unit 42 east to the corner of the structure (Figure 8). The surface of the slab occurs at precisely the same level as the sandstone door sill in the south basement doorway (Figure 9). It clearly served as a

massive stoop outside the door. The positioning of this slab is important since its elevation reflects the approximate ground surface after construction of the south half of the structure. Cultural fills at or above the level of the slab accrued from activities related to the completed double configuration of the structure, rather than its earlier, single configuration. It is also clear from the stratigraphic profile that the surface was not maintained at this level for very long. Fill consisting of about 70 cm of soil and artifacts accumulated over the slab as the years passed. As this fill accumulated, the door sill was raised by sloppily adding bricks and mortar until the sill was raised 70 cm from its original level. The total door height was shortened by that amount from its original 6 foot 6 inch height. The presence of an additional sandstone slab above the large one suggests that another stoop or walkway was in place some years after the original had been covered with silt and debris.

A second important aspect of the Unit 39-42 stratigraphic profile is the presence of a narrow, cinder-filled trench labeled Feature 9 (Figure 7). This trench begins near the top of the profile, and cuts through all strata down to the stratified silt which overlays the rubble layer. This feature is interpreted as a drainage ditch which was filled with cinders from a coal-fired furnace. This feature was also recorded in Unit 46, where it extended to a maximum depth of 75 cm below surface. The probable function of this cinder-filled ditch was to channel water west, or downslope from the structure. A similar ditch (Feature 1) was recorded in Units 1 and 2 near the southwest corner of the structure. This feature was filled with brick rubble, broken ceramic drain tile, and sandstone cobbles (rounded rather than angular) (Figure 10). In Unit 1, the ditch ended at a ceramic drainage pipe. It is likely that Features 9 and 1 are portions of a single ditch that extended the length of the south side of the structure, roughly parallel with the foundation wall, and served to improve drainage around the building. Feature 1 disrupted much of the original stratigraphy in Units 1 and 2, leaving only small portions of those units undisturbed.

Excavation of units on the exterior of the south foundation wall exposed a surprisingly deep cultural deposit, which ranges in thickness from about 100 cm in Unit 42 to about 75 cm in Unit 1. Figure 7 shows the current grade along the south foundation wall contrasted with the paleosol, rubble horizon, and sandstone door stoop. The extensive filling above the original grade (paleosol surface) is apparent from this view. Within this thick fill zone, a large amount of historic cultural debris was deposited, judging by the numerous artifacts recovered from the eight 1-m x 1-m excavation units placed in that area. The rapid build-up of soil and cultural material apparently derived from three major sources: slope wash from the higher ground at the canal towpath, siltation from flooding, and purposeful discard of household debris, including thousands of artifacts and large amounts of coal, cinders, and ash.

West Wall

Ten 1-m x 1-m units were excavated along the west foundation wall of HS 125 in 1983. In 1980 three excavation units of varying dimensions had been excavated along the west wall (Figure 4). Excavation units XU 1 and XU 2 from the 1980 fieldwork were positioned to examine the northwest side of the structure where a double doorway had been constructed and later closed in, and to determine the relationship of this doorway to a suspected chimney location. The intact base of the chimney was discovered in these units. The excavation units placed along the west wall in 1983 exposed a stratigraphic profile similar to that seen along the south wall, but considerably more shallow. The surface of the paleosol was difficult to isolate along the west wall due to the nature of subsequent cultural deposition. However, the transition from the grayish brown A horizon to the olive brown B horizon of the paleosol could clearly be seen in all of the test units placed along the western wall. This transition occurs in several units at about 610.8 feet amsl, and marks the lowest level at which cultural materials were recovered in this area. The cultural deposit over the A/B transition is a maximum of about 56 cm thick in Unit 36, but the average depth of the deposit is about 40-45 cm. When the thickness of this matrix is contrasted with the deposits on the south side of the structure, it can be seen that considerably less aggradation has occurred along the west wall.

Typical stratigraphic profiles from excavated units along the west wall of the structure are seen in Figures 11 and 12. The profile is considerably less complex than that on the south wall, although the west wall deposit is also stratified. In all of the units, the profile includes an undulating gradation between the A and B horizons of the paleosol near the base of excavation. This level is overlaid by a thick, very dark, grayish brown loam (Stratum 7) which constitutes the primary cultural deposit. The base of this cultural fill could not be separated from the paleosol topsoil (A horizon), and it appears that the A horizon has blended with the cultural fill. In several units, small concentrations of artifacts occurred just above the tight textured, olive brown B horizon. These artifacts include large ceramic sherds from reconstructable vessels, and one nearly complete, but fragile, bottle. The large size and fresh condition of these artifacts suggest that they were covered with soil soon after deposition. These artifacts predate the south addition of the building.

The very dark, grayish brown loam deposit (Stratum 7) varies in thickness from unit to unit, but averages about 25-30 cm thick (Figures 11 and 12). Within this cultural fill level were several concentrations of ash. The ash (Stratum 13) occurs in lenses, usually near the base of the loam fill. Ash lenses were found in Units 31, 32, 33, 35, 36, and 37. The lenses are thin (<5 cm in most cases), and contain charcoal fragments and artifacts including numerous ceramic sherds. The ash lenses were discontinuous except in the southernmost excavation unit on the west wall (Unit 31), where a 10-cm-thick ash deposit extended over most of the unit (Figure 12). Similar ash lenses were also recorded in Units 1 and 2 at the southwest corner of the structure.

The dark loam and ash layers comprise one of two major components of the west wall stratigraphic profile. This important mid-nineteenth-century deposit is overlaid by two distinct strata which appear to be roughly equivalent with regard to age of deposition. Over many of the units along the west wall, the loam and ash layer is overlaid by a thick deposit which consists mainly of burned coal, or cinders (Stratum 9). This layer is about 10-20 cm thick, and is clearly separate and distinct from the dark brown loam beneath it. The cinder layer could be "peeled" from the loam, and only a few cinders had become incorporated in the upper few cm of the loam. The cinder layer also contained some dark gray soil, and numerous artifacts. In some areas, the cinder layer was very thin, and actually formed lenses which were discontinuous in profile. In those areas, the cinders were replaced with a very dark brown loam which ranged from 10-16 cm in thickness.

The current grade along the west wall is considerably lower (about 612.4 feet amsl maximum) than the grade along the south wall which reaches a maximum of about 614 feet amsl. The major part of this difference appears to be the result of slope wash deposition from the canal towpath area accumulating along the south wall, with the deposit becoming deeper toward the canal (east). Thus, the cultural deposit along the west wall is more compressed than that along the south wall, and attains a total thickness of about one-half that on the south wall. In addition, the rubble lens and associated stratified silts (Strata 12 and 11) which occur near the base of several units on the south wall do not occur in any of the west wall units. The westernmost extension of the rubble was recorded in Unit 45 on the south wall.

Despite certain differences between the west and south wall deposits, there are also many similarities among the cultural deposits. The very dark grayish brown loam (Stratum 7) zone is present in both areas. The cinder layer (Stratum 9) on the west wall may correlate with the coal lenses (Strata 2, 4, and 6) recorded along the south wall. Other more specific similarities also link the south and west wall deposits. In Unit 30, a sandstone slab was recorded immediately outside the west basement doorway (Figure 11). The highest surface of this 8-cm-thick slab was at an elevation of about 611.46 feet amsl. The slab appears to have settled to the south where its surface is about 611.3 feet amsl. Although this slab is not nearly as large as the one positioned in front of the south basement door, it apparently also served as a door stoop. Similar to the south door, the west door sill has also been filled in with brick and mortar to raise the sill to compensate for debris which had accumulated outside the doorway. The sill has been elevated about 22 cm at the west door. It is interesting to note that the surface of the south door sandstone stoop is at an elevation of about 611.52 feet amsl, or only .06 foot higher than the west stoop surface. This difference is negligible. It appears that the two stoops were placed at the same time and at the same elevation, parallel with their associated door sills.

Another important similarity between the south and west wall deposits is the presence of narrow linear ditches which parallel the foundations in both areas. On the

west wall, Feature 8 was recorded in Units 3, 5, and 38. This cinder-filled ditch was also recorded in Units 31, 32, and 33, although it was quite shallow within those units. Apparently, the ditch began at either side of the west doorway, and extended north and south, with the southern extension possibly joining Feature 1 near the southwest corner of the structure. The ditch reaches a maximum depth of about 70 cm below the present surface in Units 5 and 38, where it was dug well into the olive brown B horizon of the paleosol. On the west wall, this ditch is filled exclusively with cinders. The ditch apparently served to improve drainage around the foundation. It constitutes the largest disturbance of the original cultural deposits along the west wall.

Disturbance to the mid-nineteenth-century cultural deposits along the west wall has also occurred from construction of brick and cement pier supports for the porch formerly present south of the basement doorway (Johnson and Newman 1984:123, 125). This porch was apparently built during a period of structural renovation in the 1920s. The two porch pier foundations and the drainage ditch are the only major twentieth-century features which disturb the mid-nineteenth-century deposit in areas examined along the west wall in 1983. It is also clear that the history of chimney removal, door construction and modification at the northwest corner of the structure led to massive disruption of the cultural deposits in that area. These deposits were examined in 1980 in test units XU 1 and XU 2 (Hsu 1984). Despite these disturbance factors, much of the original deposition sequence as represented by the thick, very dark grayish brown loam (Stratum 7) remained intact along the southern portion of the wall prior to recent archeological research and structural restoration activities.

The upper component of the stratigraphic profile along the west wall has also been disturbed to some degree. A utility trench immediately adjacent to the foundation has disturbed this deposit, as has the construction of porch pier supports. The upper level contains numerous artifacts, including several types which are considerably different from the cultural material in the lower component. Of note is the discovery of two complete bags of cement which had hardened and been deposited within the dark soil zone (Stratum 1). These cement bags were probably deposited during a major restoration of the structure, perhaps in the 1920s, indicating a relatively recent age for at least a portion of the upper cultural fill.

North Wall

Excavations along the north foundation wall were not extensive (5 sq m), but served to expose a stratigraphic profile somewhat different from that seen along the south and west walls. The complex layering of cultural deposits seen along the south wall is absent along the north wall, with only a gravel layer (Stratum 10), and a thick mottled loam zone (Stratum 17) present. In Units 14 and 15, temporally diagnostic cultural materials suggest that the thick loam deposit is essentially undisturbed, despite the lack of clear layering of the cultural deposit. The profile of Unit 19, and data

pertaining to the configuration of the western portion of the north foundation wall, suggest that the deposits immediately adjacent to the structure at, and west from, Unit 19 have been disturbed through foundation modification. This repair episode will be discussed in more detail in a later section of the report.

The nature of the undisturbed deposit along the north foundation wall is best shown in Unit 14. Here, 70 cm of cultural fill occur over the paleosol A horizon. Artifacts extend to a maximum depth of 76 cm, which is the level where the transition from A to B horizon occurs in the paleosol. The surface of the paleosol is at 610.92 feet amsl, which matches the level of this horizon in Unit 6 on the south wall. This demonstrates that the original local surface topography was flat prior to construction of the house and canal. The amount of deposition along the north wall over the original soil surface is almost precisely equivalent to that seen along the south wall. There is the apparent absence of any entrances on the north facade, either at the basement or first floor levels. Despite this, cultural fill has accumulated to the same depth there as along the south wall, where a basement entrance occurs, and where a first floor entrance is hypothesized to have previously occurred (Johnson and Newman 1984). One might have anticipated that the cultural deposit would have been deeper in areas near doorways where household debris could be expected to be discarded. Slopewash from the higher ground to the east (canal towpath) appears to have been an important source for soil deposition along these walls. Continual trash discard and fill episode(s) also led to the accretion of matrix in both areas. The gravel and cinder fills may have been purposefully added to improve drainage adjacent to the foundations.

There are two distinct deposits along the north wall, a mottled tan and gray loam (Stratum 17) and a 30-cm-thick gravel layer (Stratum 10) which caps the deposit. In terms of age, origin, and thickness, the mottled loam is essentially comparable to the dark loam deposits (Strata 5 and 7) on the south and west walls. The gravel appears to be a late addition, probably dating after about 1900. Photographs of the north elevation about 1890 show that the surface grade along the wall was about 30 cm lower than present grade, indicating that the gravel was deposited sometime after the photographs were taken. Associated artifacts suggest an early twentieth-century age for the deposit. More information on the dating of these and other strata will be presented later.

Despite the similarity in amount of deposition on the north and south walls, differences in the nature of the deposits are apparent. The primary north wall cultural deposit is essentially undifferentiated, and consists of mottled dark grayish brown and lighter tan fill, which extends from 30 cm below surface to the B horizon of the paleosol. Of particular interest is the presence in Unit 14 of a distinct layer of artifacts at an elevation of 612.23 feet amsl, or 50 cm below surface. This deposit consists of window glass, and large pieces of four reconstructable whiteware and redware vessels. These sherds were not scattered, crushed, or frost spalled, suggesting that soil covered these materials soon after their deposition. The presence of this undisturbed layer within

the thick mottled loam zone indicates that the deposit is undisturbed and internally stratified despite the lack of clear soil layering.

East Wall

While there are differences in the deposits seen along the north, south, and west walls, these deposits are more similar to each other than they are to the deposit which occurs along the east wall. When excavations were initiated along the east wall, it was assumed that the resultant soil profiles might provide data for confirming or rejecting Johnson and Newman's conclusion that the structure was contemporaneous with, or postdated canal construction. If the structure postdated the canal, it was anticipated that construction might have necessitated cutting into the towpath in order to construct the east wall, while if the structure predated the canal, towpath fill would have been piled against the formerly exposed east foundation wall. The profiles exposed during excavation along the east wall demonstrated that the actual relationship between the east wall and the towpath was more complex than had been anticipated, and that historic grade had been altered to a greater extent along the east wall than along the other three walls of the structure.

During the three-week April, 1983, field season, two excavation units (34 and 44) were opened along the east wall of the structure (Figure 4). Both of these units were 1 m x 2 m in extent, but only the north half of each unit was excavated to below historic grade. The north half of each unit was excavated to depths of 225 - 230 cm below surface, or an elevation of about 610.15 feet amsl. After the collapse of the east foundation wall, archeological monitoring and limited excavation during wall reconstruction resulted in the partial excavation of the south half of Unit 34, 1-m x 1-m Unit 62, and 1-m x 2-m Units 63 and 64 (Figure 4). In those units about 2 m of fill was quickly removed and briefly examined for cultural material, while the lower 30 cm of the deposits were carefully excavated and all cultural material recovered. The upper fill zone contains relatively few artifacts, while the lower portion of the deposit contains two important cultural strata.

Profiles showing stratigraphy along the east wall are presented in Figure 13. The dark grayish brown and mottled loam deposits recorded along the south, west, and north walls are absent in the east wall profiles, where the bulk of the deposit consists of light yellow/brown mottled sandy loam (Stratum 14). While some artifacts occur in this stratum, artifact density is considerably lower than along the other walls. In all areas along the east wall, the sandy loam deposit extends to a depth of about 180 - 190 cm below surface (or an elevation of about 611.35 feet amsl). There it abruptly ends over a dark gray layer (Stratum 15) which contains a dense amount of cultural materials, particularly ceramics, ash, and charcoal. Most of the artifacts from this layer are burned. The deposit ranges from 4 - 18 cm in thickness.

The burned deposit overlays a layer of stratified silts (Stratum 11). This silt layer is thin, ranging in thickness from 4 to 10 cm. This layer is equivalent to the silt layer recorded in Units 46, 39, 42, and 45 along the south wall. There, the silt occurred around and over a rubble layer. On the east wall, the rubble layer is absent, and the silt layer occurs directly over the paleosol surface (Stratum 8a). In Unit 44, artifacts were recovered from the paleosol A horizon, and in Unit 34, artifacts were recovered from the silt lens directly above the paleosol. The surface of the paleosol is at an elevation of about 610.7 feet amsl in Unit 44. This is comparable to the elevation of this horizon across all the areas investigated in 1983. Numerous artifacts at and immediately above the paleosol surface are in distinct, stratified, cultural deposits along the east wall. This indicates that this surface was exposed during the initial occupation of the structure, just as it had been along the other walls.

Unfortunately, the association between the east foundation and the lower levels of the stratigraphic profile is not well known. This is because the foundation was in very poor condition and could not be completely exposed due to safety concerns. The appropriateness of this concern was underscored by the later collapse of a large segment of the wall. It is difficult to determine how long the historic grade remained at or just above the level of the paleosol, since relatively few temporally diagnostic cultural materials were recovered from the lower cultural deposits along the east wall. However, a substantial cultural deposit was present at and immediately above the paleosol surface in Strata 8a, 11, and 15. This suggests that the east foundation wall of the structure may have been exposed for a considerable period of time before the remaining 2 m of fill (Stratum 14) were added along the wall.

The thick (about 2 m) sandy loam deposit (Stratum 14) along the east wall has some internal layering, especially near the top of the profile (Figure 13). These indistinct layers tend to slope down to the west. All of the levels identified in this fill sequence contain basically the same soil — a mottled brown and yellow sandy loam. It is important to note that small clam shells and fish bones were recorded in this fill, along with a limited cultural assemblage. It appears very likely that the fill represents spoil dredged from the canal, and perhaps more specifically from the lock. An east/west profile from the structure to the lock has not been exposed. However, it appears that the fill immediately adjacent to the structure is not part of the towpath. The towpath is relatively narrow, and would not have extended to the east wall.

Of interest within the sandy loam fill is stratigraphic evidence for foundation wall repair episodes. This evidence was recorded in both Units 34 and 44. However, it is perhaps best seen in the north wall profile of Unit 34. Here a trench was excavated to a depth of about 1 m into the fill immediately adjacent to the foundation wall. Mortar and brick fragments within this deposit suggest that the purpose of the trench was to expose the foundation for repair. The upper 30 cm of the wall at Unit 44 has clearly

been repaired through the pouring of cement and placement of a large board along the wall (Figure 13). There is also some evidence for a deeper trench, which may have extended to about 70 cm below surface in this area.

Disturbance to deposits along the east wall appears to be limited to the trenches dug for wall repair efforts, and to numerous rodent burrows which were recorded in both Units 34 and 44. This is the only area around the perimeter of the foundation where such extensive rodent activity was recorded. In addition, rodent remains and evidence of gnawing of faunal remains have been recorded within basement areas (Oliver 1985). The role of rodents in disturbing and mixing the sandy loam fill (Stratum 14) should not be underestimated, since modern plastic was recovered at a depth of over 150 cm below surface in one burrow.

Room 001

Eleven units were excavated within basement Room 001 (Figure 4). Previous excavation of a small area adjacent to the chimney base in this room suggested that features might be present at considerable depths below current grade (Hsu 1984). The 1983 excavations showed that nineteenth- and early twentieth-century cultural deposits in this room are actually quite shallow, with the exception of a builder's trench along the north wall, and utility line trenches which have disturbed a considerable portion of the earlier deposits in Room 001. The features partially excavated by Hsu were completely excavated in 1983 (Unit 7), and were found to represent deep utility line trenches which had been filled with soil and a mixture of cultural materials representing a long time span. Excavation Units 8, 11, 10, 13, 20, 9, and 21 showed considerably less previous disturbance. The typical stratigraphy in these units consisted of a 10-cm-thick layer of loose, dusty silt (Stratum 18) which contained a dense accumulation of cultural material. The bulk of the artifacts from Stratum 18 appears to date to the end of the nineteenth century and beginning of the twentieth century. Earlier materials were found in a narrow builder's trench recorded in Units 10 and 13, which extended to a maximum depth of about 66 cm below surface (Figure 14). With the exception of this builder's trench, and a narrow trough or trench in Units 9 and 21 (Feature 4), cultural material was not recovered below the 10-cm-thick fill.

The cultural fill was positioned directly over the A horizon (Stratum 8a) which was recorded over the entire site area. The A horizon was essentially devoid of cultural material, except where recent utility lines had cut through it (Unit 24). The typical stratigraphic profile in Room 001 consisted of the remnants of a concrete floor overlying a 10-cm-thick cultural level (Stratum 18). Under this level was the soil A horizon. This sequence was disturbed in several areas by utility trenches (Units 7 and 24), which appear to postdate 1920.

Room 002

Only two excavation units were placed within the northern portion of Room 002 due to time limitations and a relatively low yield of cultural material from that area. The room initially had a sandstone slab floor, which was removed by the CUVA staff in 1983. Excavation of Units 22 and 23 revealed a simple stratigraphic profile which consisted of a layer of sand and pea gravel (Stratum 16) over the original soil surface. In addition, a builder's trench was exposed along the east foundation wall in Unit 23. The southern portion of Room 002 was sampled more intensively, since the interface between the two structural components (north and south halves of the structure) occurs at the southern edge of the room (Figure 4). Units 41, 25N, and 43 were excavated at this interface, where the south wall of the structure had originally stood. Sandstone blocks which might be from this wall remained in place at the interface between the two structural components (Johnson and Newman 1984:135).

Excavation of Units 25N, 41, and 43 exposed a builder's trench associated with the former south wall. It was difficult to determine if this trench was dug during initial construction of the wall, or during its removal when the south half of the structure was added.

Room 003

Room 003 in the southeast portion of the south half of the structure was found to contain stratigraphic information important in evaluating the proposed construction sequence, and for correlating the east and south wall profiles. The room was covered with a sandstone slab floor which was removed by CUVA restoration specialists during the 1983 archeological fieldwork. After the floor was removed, a total of 20 units was excavated in the area. Most of these units were 1 m x 1 m in extent, with Units 12, 51, and 52 being somewhat larger (Figure 4). Although the quantity of artifacts recovered from these units was relatively small compared with the yield from many of the exterior units, the importance of these artifacts for interpreting site chronology and function is considerable.

A consistent stratigraphic profile was found in the units in Room 003. Immediately beneath the sandstone slab floor was a layer of sand and pea gravel (Stratum 16) which contained a small number of artifacts. This level was not recorded in any exterior units, but occurred in Room 002. The sand and pea gravel level averaged about 5-10 cm in thickness. Below the sand and gravel layer, a distinct layer of angular sandstone rubble (Stratum 12) surrounded by stratified brown and yellow-brown silt (Stratum 11) was recorded (Figure 15). In a few areas the silt completely covered the rubble, but in most areas the top of the rubble protruded from the silt lens. The rubble was one layer thick in most areas, and the size of the fragments ranged from very large (40 cm) to fist sized and smaller pieces. The rubble was deposited directly

upon the A horizon of the paleosol (Stratum 8a). The angular rubble was often embedded in the top few cm of the humus. Artifacts including ceramic sherds, pipe fragments, window glass, and coins were found in the stratified silt around the rubble. Very few artifacts were found in the A horizon in Room 003, and those were recovered from Unit 12 which did not have a distinct rubble layer. The rubble layer was distributed evenly across all excavation units except Units 60, 12, 25S, and 26 (Figure 16). The absence of rubble in 25S is particularly striking, since the rubble layer begins immediately south of that unit. Where the rubble was absent, the sand and pea gravel layer rested directly upon the A horizon of the original soil profile.

Disturbance to the cultural deposits in Room 003 was minimal, with the sandstone slab floor effectively sealing the deposits from disturbance since their deposition. An exception to this is the southwestern portion of Room 003 where the floor had been lowered to permit installation of the large boiler furnace (Johnson and Newman 1984:136). In that area, the sandstone floor was reinstalled below the original soil surface. The deposits in Room 004 had been similarly removed during furnace installation. Much of the spoil was discarded in Room 006.

Of interest in Room 003 are two features which extended below the A horizon surface. The first was a sandstone rubble-filled trough or pit immediately adjacent to the foundation wall in Unit 12. This pit occurred adjacent to the original south foundation wall entrance which had been sealed with sandstone blocks when the south half of the structure was added. It is possible that this pit represents a low spot formed by foot traffic through this former doorway, or, more likely, a pit for a porch support post, which was filled with construction debris to level the floor prior to laying the sandstone slab floor. The second feature in Room 003 (Feature 7) was very distinct. It consisted of a 66-cm x 94-cm rectangular pit excavated 50 cm below the original soil surface. The bottom of the feature contained a rich organic fill with several mid-nineteenth-century artifacts. This pit was subsequently filled with sandstone rubble and brick fragments. Based upon the shape of the feature, the nature of fill at its base, and the artifact content of the fill, it is interpreted as a privy.

Summary

From the preceding discussion, it is clear that extensive cultural deposits accrued in and around HS 125, beginning soon after construction, and continuing until at least the 1920s. While use and modification of the structure during this approximately 100-year period has disturbed some of these deposits, a surprisingly large area remained relatively undisturbed prior to foundation repair efforts in 1983. All of the deposits in and around the structure contain cultural material, some of which can be used to examine questions of site age and function. The density and distribution of cultural material is highly variable across the site, and reflects several sets of activities. These include construction events, and long-term trash disposal activities. In the following chapter, features recorded during 1983 are described and interpreted.

ARCHITECTURAL FEATURES

Archeological fieldwork at site 33-Cu-314 in 1983 led to several previously unknown architectural features being exposed and recorded. In addition, other architectural features known to be present were further examined through archeological investigation. The architectural features exposed through excavation add to an understanding of the construction staging of HS 125, while also raising additional questions regarding the early configuration(s) of the building. The primary architectural elements exposed during excavations include: south and west elevation doorways, including original sills and stoops; the base of the sandstone foundation around the entire structure; a sandstone cobble pavement; a privy; a sandstone block retaining wall; and two brick walls of undetermined function. In addition, basement floor levels were exposed and studied.

South and West Basement Door Areas

The massive build-up of silt and cultural debris around the foundation of the structure was described in the chapter on SITE STRATIGRAPHY. As this matrix was removed from the doorway areas on the south and west elevations of the southern portion of the structure, the original configuration of these doorways became apparent. As the silt and cultural debris accrued outside these doors, no attempt was made to clear the area to maintain grade at the level of the sills. Instead, bricks and mortar were rather haphazardly added to the door thresholds to raise the sill levels to match the rapidly aggrading exterior ground surface. Several episodes of such additions to the sills are apparent, as the occupants tried to keep silt and debris from washing back into the basement. Eventually, at the south door, the sill was raised about 70 cm, while the sill at the west door was similarly raised 25 cm. This development can be seen in Figures 8 and 9 for the south doorway. This build-up was extensive, resulting in a doorway so shortened that one had to bend over and step down into the basement. Initially, the basement sandstone floor had been at approximately the same level as exterior grade, and a full six and one-half foot high doorway had been present.

When CUVA workers removed the brick and mortar fill from the door sills, the original door sill construction elements were exposed for the first time in many years. Carefully constructed sandstone sills are present, and are illustrated in Figure 9. Outside the doorways, massive sandstone slabs were placed as stoops, and these features are shown in stratigraphic profiles (Figures 7 and 11) and in Figure 8. An extremely large slab (3 m x 1 m x 0.2 m) was placed at the south entrance, while a similar but smaller slab was placed at the west entrance. The surfaces of these slabs are at an elevation of about 611.5 feet amsl, which is also the level of the original door sills. Thus, historic grade at the time of construction of the south portion of the structure was not greater than about 611.5 feet amsl, which contrasts markedly with the current grade, particularly at the south door where current grade is approximately 614 feet amsl. The original grade prior to construction of HS 125 was approximately 610.8 feet amsl.

Retaining Wall

In addition to the presence of the sandstone slab door stoop at the south door, a retaining wall was also discovered in this area. The wall was exposed during the foundation repointing process, and was subsequently recorded during limited archeological fieldwork in May, 1983. The wall consists of four courses of dressed sandstone blocks. Mortar used in this wall remains in place between many of the blocks, unlike in the main structural foundation where most of the mortar had been replaced, or had deteriorated and eroded without replacement (below grade). The wall is *bonded* to the southeast corner of the foundation, and forms a southern extension of the wall. The bonding of this wall to the foundation strongly suggests that it was constructed at the same time as the "south" structure's foundation. The massive door stoop described above extends east from the doorway and abuts tightly against the wall. It is apparent that these structural components were placed during one construction episode.

The southern extent of the wall was not determined in 1983, although this feature was further examined during 1984 fieldwork. Its function as a retaining wall is indicated by the difference in fill on the east and west sides of the wall, and by the configuration and location of the wall. On the east side of the wall, light colored sandy deposits are present, while dark, artifact-laden deposits are present on the west side. The west face of the wall is carefully dressed, while the east side is irregular and poorly dressed, strongly indicating that the east side was not meant to be exposed to view. The west side was exposed for a considerable period of time after construction. Fill washing down from the high ground east of the wall eventually breached the wall. That aspect combined with the continuous dumping of cultural debris along the south elevation of the structure brought the local surface grade to a level above the wall, negating its initial function of protecting the doorway from slopewash and silt build-up. The wall is in an excellent state of preservation owing to its burial under silt and cultural debris.

Base of Structural Foundation

The excavation of numerous units around the exterior of the foundation exposed large areas of its base. Figures 17, 18, and 19 show this foundation on the south, west, and north walls of the structure. It can be seen from the configuration of the dressed exterior of these walls that a large portion of the walls was intended to be exposed to view. It has been reported that the basement windows were shortened during structural modification in the 1920s (Johnson and Newman 1984), and this can be clearly seen in the block and mortar pattern of several of the windows. The windows were probably shortened in direct response to the aggrading exterior surface described above. Over most of its extent, the foundation is well-constructed and stable, with the lower one or two courses of blocks somewhat wider than the rest. This formed a solid base for construction. The wall was built directly upon soil, except in a few areas where brick-bats and sandstone rubble concentrations were present below the wall. No clear footing

was present below the sandstone blocks, although the CUVA staff has subsequently installed a poured concrete footer at the base of the foundation around the entire structure. Only a very shallow builder's trench was excavated for the foundation, which was essentially built directly upon the former ground surface.

While over 85 percent of the foundation is made from quarried and shaped Berea Sandstone, a portion of the northeast corner of the structure exhibits a poorer grade of stone which apparently derived from riverine deposits. Masonry skill evidenced in the construction of this segment is very poor compared with the remainder of the foundation. The change occurs at archeological Test Unit 19, with the poorly constructed portion extending east to the corner from this point. Site stratigraphy indicates that the deposits along the *north* half of the structure are disturbed and mixed from Unit 19 west and south to approximately the west basement entrance of the south portion of the structure. It appears that the foundation of the original structure was extensively rebuilt when the south portion of the house was added. This resulted in the well-constructed foundation extending around most of the completed, "double" structure. The masonry technique (and skill) and differential materials in the walls support this interpretation.

East Foundation Wall

The east foundation wall, particularly the southern half of the wall, exhibits architectural features which make its construction difficult to interpret. Two aspects of the east foundation in basement Room 003 suggest that the wall in that area may have been modified after it was initially constructed. A straight linear seam was apparent in the masonry at a point about 16 feet from the southeast corner of the structure. This seam is illustrated in Johnson and Newman (1984:133). It has the appearance of a former door opening, yet only one seam is apparent, rather than a clear door opening like that present in the remnant south wall, where a doorway has clearly been blocked in with sandstone (Johnson and Newman 1984:130). Archeological excavation in the area of the "seam" on the east wall yielded a plain whiteware sherd wedged into the base of the foundation at this location. The presence of this mid- to late nineteenth-century sherd in this location and the masonry seam suggest that the wall was modified after its initial construction. However, the original configuration and extent of modification is unclear from available evidence from the interior of the structure.

Excavations along the exterior of the wall were limited in scope, providing no additional data for examining the possible presence of an entrance along the wall. However, information was collected by the CUVA maintenance staff during and after the collapse of about a 30-foot segment of the wall. This information provides some suggestion for the presence of an entrance in the area where the vertical seam was recorded on the wall's interior. It was reported (Kevin Caan, personal communication, 1983) that two brick walls were encountered as a backhoe removed the soil overburden, sandstone foundation blocks, and debris from the wall collapse. The configuration of

the walls was not determined prior to their removal, but it is thought that they extended perpendicular from the foundation for several feet. These parallel walls were located at 6.09 m (20 feet) and 4.88 m (16 feet) from the southeast corner of the structure. The southern brick wall's location corresponds with the interior vertical seam present on the sandstone wall before its collapse. Other useful information recorded by the CUVA restoration team included the observations that one side of the bricks was covered with white paint or whitewash, and that the bricks were similar to those used for constructing piers in the south basement rooms.

When the author monitored the wall collapse area in May, 1983, none of the brick walls remained intact, and no evidence of their configuration could be determined. Since the size and configuration of these brick walls will remain unknown, it is difficult to suggest a functional interpretation. It is possible that they formed a chamber, which when combined with an opening in the wall served as a niche, or storage area. Another, more likely interpretation is that they served as an entryway for a door which was formerly present through the east wall. While this seems improbable when viewing the current grade along the east wall (soil level is near the top of the foundation), it is more plausible when archeological evidence for former grades is examined.

Historic Grade

The extensive changes in the historic grade around the perimeter of the structure have been described in the previous section of the report. During initial construction, grade was about 610.7 to 610.8 feet amsl, with the surface formed by the top of the soil A horizon. By the time the southern portion of the structure was added, it appears that grade had built up by nearly one foot. The precise grade during this second construction episode was probably slightly lower than 611.5 feet amsl, which is the surface of the basement door sills. Historic grade built up rapidly after completion of the structure, with the rate of aggradation fastest along the eastern portions of the north and south walls, and slowest along the west wall. Specific fill episodes (other than long-term, gradual accumulation of cultural debris) occurred along the east and north walls. On the east wall, grade was near the base of the foundation (about 611.3 feet amsl) until the structure was completed. At a later date, the light tan fill was added. The relative scarcity of cultural material in this fill, and its internal homogeneity indicate that the fill was deposited in a single episode. This radically changed the grade on the east side of the structure, and covered all but the uppermost portion of the foundation.

On the north side of the structure, historic grade reached about 612.23 feet amsl near the central portion of the wall by about 1890, after which about 30 cm (1 foot) of fill was added along the wall, and the basement windows shortened accordingly. This modification had occurred by about 1920, as evidenced by the cultural material within the upper 30 cm of fill along the north wall. Early twentieth-century deposits were also present along the south and west walls, but were not as distinct as along the north wall.

Figures 20a and 20b summarize the development of grades in and around the structure in a generalized fashion.

Basement Floor Levels

Information on basement floor levels has been discussed previously, and is summarized in Figure 20. The continuity of the rubble and silt layers inside and outside the structure is particularly noteworthy. The rubble and silt zones predate the south addition to the structure.

Privy

Feature 7 in Room 003 was a 66-cm x 94-cm rectangular pit, which was dug to a maximum depth of 50 cm below the original soil surface (Figures 21 and 22). The bottom of the feature contained a rich organic fill and mid-nineteenth-century cultural material including numerous coins, slate pencils, a tobacco pipe, a glass tumbler, and bone underwear buttons. The remainder of the feature was filled with sandstone rubble and brick fragments. The shape of the feature, the molds from the boards which formerly encircled it, the fill at its base, and its artifact content indicate that it was a privy. One would not expect a privy to be located within a structure. The privy's location, stratigraphic information, and the presence of burned soil combine to indicate that it was used, burned, and filled prior to, or during, construction of the south half of the building.

Other Features

Few previously unknown structural features were discovered through excavations around the exterior of the structure, although the chimney base from the original structural component was re-examined, and the pier supports from the twentieth-century porch addition on the west wall were exposed through excavation. The most noteworthy feature discovered around the perimeter of the foundation was the rubble and cinder-filled trench system, designated as Features 1, 8, and 9. This drainage ditch extended along the south and west wall of the structure. Several other archeological features were recorded during excavation, and these are interpreted in Table 2.

MATERIAL CULTURE

This chapter contains descriptions and analyses of the large artifact assemblage recovered from 33-Cu-314 in 1983. The material is presented by functional groupings. Not all artifacts are analyzed in detail. Instead, emphasis is placed upon temporally and/or functionally diagnostic materials which can contribute information for study of the research concerns defined in the GOALS section of this report.

Kitchen Group

Glass Bottles

After initial attempts at reconstruction of the numerous bottle glass fragments were undertaken, the sherds were analyzed and the data input for computer storage and manipulation (see Table 1 for variables recorded). As a result, 2,277 bottle glass sherds were analyzed and identified. The sherds ranged in size from about 1/4 inch to complete vessels. After the initial analysis was complete, temporally and/or functionally diagnostic sherds were separated for additional investigation. This study led to the identification of 126 different glass bottles (Appendix A). This number is a conservative "minimum number of individual bottles," and does not reflect the total number of bottles represented by the 2,277 sherds. The 126 bottles represent all vessels that are sufficiently complete and/or functionally and technologically diagnostic to allow confident identifications to be made. During the course of sorting and identifying these vessels, additional matches were made, and several sherds from differing proveniences were mended. This reduced the sherd count to 2,260, since throughout the analysis, mended sherds were counted as one specimen.

Twelve variables were recorded for each of the sherds: color, element, finish technique, finish type or shape, mold type, base marks, vessel function, vessel shape, base shape, and the presence or absence of evidence of burning, patina, and air bubbles within the glass. Given the fragmentary nature of many of the sherds, vessel form and function, finish and base shape, finish technique, mold type, and base marks could be recorded for only a small number of sherds. Color, element, and presence or absence of burning, patina, and bubbles were recorded for all 2,277 fragments. The information developed from this analysis provides a useful summary of the bottle glass assemblage, particularly when it is combined with the more detailed identifications developed for the 126 individual vessels. The data take on added significance when they are viewed with regard to excavation proveniences and analytical blocks which group equivalent provenience units. In this section of the report, the bottle glass data will be descriptively presented, while chronological and functional data collected during the study will be synthesized in later sections of the report. The bottle glass has contributed considerably to examining project goals including site chronology, function, and lifestyle of site occupants.

Color. Eleven different colors were identified among the bottle glass sherds, with a twelfth category (other) utilized for sherds which did not seem to fit the other 11 colors. The assemblage is dominated by colorless and aqua color sherds, followed by green, brown, and blue shades in decreasing frequency (Table 3). The large number of colorless sherds reflects the increase in use of bottle glass in the later portion of the nineteenth century (and early twentieth century) at 33-Cu-314. Most of the colorless glass sherds derive from vessels dating about 1880 and after, based upon technological attributes present on diagnostic vessels. Coupled with the 966 colorless glass sherds are an additional 52 sherds which have a purple tint. This tint is caused by the presence of magnesium in the glass, which was used as a clearing agent about 1880-1915 (Munsey 1970). The distribution of these "purple tint" sherds is particularly useful for estimating the age of associated cultural deposits.

Aqua color bottle glass is nearly as frequent at the site as colorless glass (Table 3). The aqua color vessels represented by the 898 sherds overlap in age with colorless glass vessels to some degree, but do not span the fully-automatic production age (post-1904) in the site assemblage. Thirty-nine of the sherds contain landmarks indicative of production during the hand-finished era (pre-1860), while an additional 16 are indicative of vessels finished by lipping tool (about 1860-1915). A wide variety of vessel forms and functions are represented by the aqua sherds, including beer, soda water, panel medicine bottle, mason jar, and flask. The large number of sherds showing patina (248/898) is in contrast to the smaller number (145/966) of colorless glass sherds showing similar decomposition. This suggests different constituents for the glass in these two colors, and, greater age for many of the aqua sherds.

With the exception of olive green sherds, which usually represent nineteenth-century wine bottles, few of the other colors have temporal or functional specificity. The small number of cobalt blue sherds represent relatively recent Bromo Seltzer bottles, with the exception of a single nineteenth-century mineral water bottle. A variety of forms and ages is represented by the green and brown shades.

Vessel Element. All of the 2,277 sherds were identified as to the portion of the vessel which they represent (Table 4). These counts are tabulated for the initial sort, and again after several sherds were mended across different proveniences. A corrected total of 75 finish elements and 102 bases was recorded. In addition, 35 sherds exhibited a portion of a vessel neck, and 11 complete vessels are present. These counts suggest that as many as 218 vessels may be present within the bottle glass assemblage. However, when these potentially diagnostic sherds were more carefully examined, only 126 contained technological and/or functional landmarks useful for defining and identifying specific vessels.

Vessel Construction Technology. A total of 75 finish and 113 base elements was sufficiently complete to allow analysis of technological characteristics and form. Manufacturing technology was identified within three groups which represent advance-

ments in vessel manufacture. The first group includes various "hand finishing" techniques. After the bottles were blown in molds, they were removed through application of a pontil to the base, and held via this pontil while the rim, or finish, of the vessel was formed with simple hand tools. Thirty-three vessels were finished through this method (Table 5). This finishing technology includes applied or "laid on string," tooled finishes, and simpler finishes formed by flaring or folding the excess glass at the neck with hand tools. The hand tooling finishing technique is an early to mid-nineteenth-century method. This was replaced by more efficient and consistent finishing methods during the mid-nineteenth century. While no precise date can be given for the shift from hand finishing to more mechanized methods of completing bottles (lipping tool finishing), in this report 1860 will be used as an approximate date for this shift. It is recognized that some bottles were finished with lipping tools before this date, and that hand finishing continued in some glasshouses after 1860.

Twenty-one sherds from 21 separate vessels exhibit varieties of tooled finishing techniques. An additional 28 sherds bear technological landmarks indicating they were held with glass or iron rods attached to their bases during finishing. A minimum of 14 vessels is represented by the 28 sherds. Two of these vessels were also recorded as having tooled finishes, and are included in the count of 21 vessels with tooled finishes. When this overlap is taken into account, a total of 33 vessels (47 sherds) exhibiting hand finishing technological landmarks is obtained. These vessels are described in APPENDIX A, and are tabulated by provenience in Table 5.

The lipping tool was an important innovation in finishing technology which created finishes more efficiently and in more consistent form than hand tooling. Although lipping tools were introduced in about 1850 in the U.S., there was some time lag before they were used in all glasshouses. There is some disagreement over use of terminal dates for hand tooling, with many authors suggesting 1860 (e.g., Munsey 1970), and others indicating that some hand finishing (folded lip) continued until about 1870 (Deiss 1981). From site 33-Cu-314, 36 sherds from 35 separate vessels have finishes produced by lipping tools (Table 5). In addition, 18 basal sherds from a minimum of 18 vessels exhibit landmarks indicating that they were not empontilled or produced in automatic bottling machines. It is very likely that these vessels were also finished with lipping tools. When overlaps in recording of base and finish elements from identified vessels are accounted for, 50 sherds and 49 vessels from site 33-Cu-314 were finished by lipping tool.

The final form of manufacturing technology represented at the site is automated production. Machine-made bottles are uniform in shape, contrasting markedly with the earlier, hand-tooled bottles. Machine-made bottles were recovered only from early twentieth-century contexts at the site. All of the machine-made bottles postdate about 1904, when the automatic bottling machine was introduced in the United States. Twenty-six sherds have technological landmarks from automatic production. A minimum of 16 vessels is represented by these sherds (Table 5), and reflects the most recent phase of

purposeful discard of household trash within, and immediately adjacent to, the structure.

Bottle Function. The function of identifiable bottles from the site is summarized in Table 5. More detailed information on individual vessels is presented in APPENDIX A. These functional data are further interpreted in a later chapter of the report which focuses upon archeological evidence for structural use. Several broad functional groups were recognized within the bottle assemblage. These include beverage, medicine, food, cosmetic, and other uses (Figures 23, 24, 25, and 26). Beverage bottles are the largest group at the site, with 47 vessels identified. These include 29 bottles which contained alcohol products, and 18 vessels which contained soda or mineral water. Nearly all of these bottles derive from post-1860 proveniences at the site. This time frame was expected for the soda and mineral water bottles, since those products achieved their heights of popularity in the last decades of the nineteenth century. The relative lack of pre-1860 alcoholic beverage bottles may reflect the general scarcity of bottle glass in the region until the middle and late nineteenth century and different packaging of those products during the earlier parts of the century. A few soda and mineral water bottles are marked by manufacturer, with local and nonlocal sources represented (APPENDIX A). The few marked bottles with alcoholic contents reflect local, turn-of-the-century brewers. Within the the group of alcohol products are 15 beer or ale, three wine, and nine ardent spirits bottles.

The second most numerous functional group of bottles includes various medicinal preparations. A total of 82 sherds representing a minimum of 31 vessels was identified as portions of medicine containers. Surprisingly few of these bottles were embossed, or contained other specific markings regarding their contents (Appendix A). An important exception is two "Turlington Balsom" bottles which are associated with the initial occupation and use of the structure. None of the other bottles could be conclusively identified as to manufacturer and medicinal content. One unusual bottle from excavation Unit 8 in basement Room 001 contains remnants of its original contents, but this material has not been analyzed. The bottle is a "homeopathic" form, and was part of a curative system which had wide application. The example from 33-Cu-314 is machine made, and appears to date to the first decades of the twentieth century.

A total of 40 sherds from a minimum of 26 vessels derived from various food products. Surprisingly few of these vessels (n=4) were home canning jars. Glass lid inserts from five jars were also recorded, but it appears that home canning efforts played a relatively minor role in the subsistence of the occupants, particularly during the mid-nineteenth century. Most of the food-related glass bottles formerly contained spices or condiments (n=10), pickles (n=4), or oil (n=2). A single milk bottle is also present.

In addition to the groups listed above, six vessels held cosmetic products, ranging from perfume to hair care products. Several of these bottles were marked with

manufacturer's information (Appendix A). In addition, a single ink bottle was recorded. Fourteen vessels could not be conclusively identified with regard to original contents.

Tumblers

Colorless glass drinking tumblers are one of the most common artifact types recovered from the 1983 excavations. A total of 238 fragments from a minimum of 29 vessels is present. Several varieties of vessels are represented, including fluted and unfluted forms. The fluted tumblers include specimens with 5, 6, 7, and 8 flutes (Figure 27). Despite this variation in style, all the tumblers share the common characteristics of thick, heavy bases, and bodies which taper to thin, rather delicate, rims. In addition to stylistic variation, the tumblers exhibit a considerable range in technological attributes which result from various production methods. Several bases exhibit clear pontil marks from three empontiling methods; blow pipe, iron bar, and "improved." However, many of the specimens contain no indication of technological methods used in their production, possibly due to obliteration of mold seams or other landmarks through firepolishing (Innes 1976:60).

The distribution of tumbler fragments by element and provenience unit is shown in Table 6. The totals reflect fragment counts prior to reconstruction of individual vessels within proveniences and mending of select sherds across different provenience units. Fragments were recovered from excavation units along each wall of the structure in addition to basement Rooms 001 and 003. The rather high frequency of fragments from units in Room 003 is particularly striking, given the shallow nature of the cultural deposit in that area. Interpretations regarding the distribution of the sherds, their utility in addressing site function, and chronological refinement of associated cultural deposits based upon technological landmarks on tumblers are discussed in later sections of the report.

With regard to chronological implications, the presence of paneling or fluting is a potentially important variable. Prior to about 1850, tumblers were plain. During the 1850s, various paneled or fluted styles were developed (McCain 1979:348). This is potentially important for dating select proveniences at the site where fluted tumblers are present. Feature 7, within basement Room 003, provides a good example. There a fluted tumbler with an "improved pontil" scar on the base was recovered. This empontiling technology dates from about 1845 to 1860. The presence of the flutes strongly suggests that the vessel was made after 1850, thus refining the age of use of Feature 7. Feature 7, a privy, must have been in use after about 1850. When the presence or absence of fluting is combined with pontil marks or other technological landmarks, considerable chronological data can be derived from the tumbler assemblage.

In Table 7, twenty-nine vessels defined from the 236 tumbler fragments are briefly described with regard to their form and technological attributes. Vessels were defined conservatively, based upon the presence of distinct rim, body, and/or base fragments,

combined with provenience information. Similar to identified bottle vessels, the actual number of tumblers represented by the 236 sherds is undoubtedly greater than 29, but only those individual vessels which could be clearly identified were described. The 29 tumblers should be viewed as a minimum number of vessels.

Other Glass Vessels

Layered Glass. Two vessels are made from bright colored "cased" or "overlay" glass, and are unlike any glass bottles or other glass vessels from the site. One vessel is represented by 18 sherds. The exterior is translucent, dark green, while the interior is opaque white. This large vessel could not be reconstructed, but may have been a lamp shade, or possibly a large bowl. The sherds were recovered from Units 5 and 32 along the west wall of the structure. Several of the fragments occurred within a cinder-filled drainage ditch (Feature 9). The specimen is represented by rim and body fragments.

Six sherds from a second layered glass vessel with a bright orange exterior and a clear glass interior were also recovered from the west wall excavations. The shape and function of this artifact could not be determined. "Case" or "overlay" glass was introduced about 1840, but did not become popular until after 1853 (Innes 1976:392-395). Popularity peaked in the 1860s (McKearin and McKearin 1950:33-34), but this style persisted through the end of the century in vases, bowls, fancy dishes, and lamp shades (Innes 1976:396). Although no longer popular, case glass is still available today from select manufacturers. The two examples from 33-Cu-314 appear to date to the late nineteenth century, based upon the proveniences from which they were recovered.

Milk Glass. A total of 46 sherds of semitranslucent to opaque white glass, often called "milk glass," was recorded at the site. The number and shape of vessels represented by these sherds could not be determined, although at least one cold cream jar is present. Numerous vessel forms were made from milk glass, including various bottles, jars, bowls, covered dishes and other forms. The milk glass sherds from 33-Cu-314 were recovered from along the south (n=13), west (n=30), and east (n=1) exterior walls, and from Room 001 (n=2). The shallow provenience of the sherds from the exterior units, and the association with turn-of-the-century materials in Room 001 suggest that the milk glass was in use at the site during the later portion of the nineteenth century and the initial decades of the twentieth century.

In addition to the single identifiable cold creme jar, fragments from five separate inserts from canning jar lids were also recovered. As described earlier, home canning appears to have played a minor role in the subsistence of the site occupants. Like the other milk glass fragments, the lid inserts were deposited late in the archeological sequence at the site.

Pressed Glass. A total of 38 sherds of clear glass with impressed exterior designs was recovered from 33-Cu-314. A wide variety of vessel forms and designs was produced

from clear and colored pressed glass from the mid-nineteenth century to about 1920 (McCain 1979:4). Vessel forms including salt and pepper shakers, pitchers, goblets, and a variety of other shapes were produced in a rather bewildering array of patterns. None of the patterns from 33-Cu-314 could be specifically identified, although several different decorative elements (e.g., diamonds and fans) were recorded (Table 8). Pressed glass sherds were recovered from units in all six of the sampling areas at the site, but were most numerous from excavation units along the south wall (n=12).

Other Glass. A total of 54 colorless glass fragments could not be identified by function or shape due to their fragmentary nature. It is likely that many of these sherds derive from bottles, but it is possible that other functional forms (e.g., lamps) are also represented. Due to the non-diagnostic nature of these sherds, they were not further analyzed.

Glass Summary

When all forms are combined, glass fragments from 33-Cu-314 number 2,677, and represent a minimum of 167 different vessels. Bottle and tumbler fragments constitute the bulk of recovered glass sherds. Bottle fragments represent about 85 percent of all glass fragments. Tumbler fragments constitute about 9 percent of the glass assemblage. Other forms are present in small numbers. The fragmentary nature of the layered, "milk," and pressed glass sherds precludes further analysis of those groups. However, it appears that the vessels represented by those sherds served a variety of functions, including food containers and lamps. It is probable that some served primarily "decorative" functions. Glass fragments combine to make up one of the largest groups of artifacts from the site, and have considerable utility for addressing the chronological and economic concerns which are discussed later in this report.

Ceramic Vessels

Fragments of ceramic vessels were the second most numerous artifact class recovered from excavations at 33-Cu-314. Counting mended specimens as one sherd, a total of 2,808 ceramic sherds was recorded in five ware groups. A large number of sherds could be mended within individual provenience units and over 200 sherds were mended across provenience units. The total number of fragments recovered during excavation was much larger than the 2,808 mended fragments. The ceramic assemblage proved to be very important for addressing several of the project goals. The ceramic data contributed extensively to attempts to answer chronological and economic questions. The ceramic sherds were used for chronological studies in several ways. The cross match information was used to compare the 292 individual provenience units. The cross match information and temporal data from ceramic sherds and other artifact classes were combined with stratigraphic information to group related proveniences into larger analytical blocks. These blocks formed the basic units for examination of site chronology and function. The ceramic information used for chronological and economic studies was

developed from technological and stylistic attributes with known temporal parameters, including vessel form and paste characteristics, maker's marks, and decorative techniques and patterns.

Several variables were recorded for each ceramic sherd. Initially, the sherds were sorted into ware groups. Despite concerns about the applicability of some of these ware groups to ceramic groups recognized by nineteenth-century potters and merchants (Miller 1980), their application to nineteenth-century archeological ceramic sherd assemblages has been largely successful, especially for consistent reporting of data and for chronological studies (Price 1979; Smith 1983). Miller (1980) has demonstrated that many terms used for wares in the nineteenth-century bear little resemblance to the terms as used by archeologists. In this report, decorative groupings are utilized as a basis for further sorting and analyzing the ceramic assemblage. Numerous books aimed at the ceramic collector market and archeological studies of nineteenth-century ceramics were used for identifying particular wares, makers, decorative techniques, and patterns (Arman and Arman 1977; Coysh and Henrywood 1982; Gaston 1983; Godden 1964; Greaser and Greaser 1973; Larsen 1975; Little 1969; Moore 1903; Schaltenbrand 1977; Thorn 1947; Webster 1980; Wetherbee 1980; and Williams 1973, 1978, 1981). These sources proved to be particularly useful for the identification and dating of transfer printed whiteware.

The concerns expressed by Miller (1980) were taken into account during the sorting and analysis. Particular attention was given to the problem of separating whiteware, pearlware, and ironstone. Marked sherds in the assemblage occasionally reinforced some of the typological concerns forwarded by Miller. For example, sherds marked with ware names such as "Pearl" and "Opaque Pearl" did not exhibit the characteristics of "pearlware" as used by Price (1979), Smith (1983), Sussman (1977), Turnbaugh and Turnbaugh (1977), and others. In this study, all white-bodied earthenwares were grouped within the "whiteware" category, which was further subdivided according to differences in surface and/or paste color. Sherds marked with terms like "Opaque Pearl," "Celtic China," and "Ironstone" were found to have essentially similar paste characteristics and were grouped within whiteware. Glaze and surface color, vessel form, and decorative styles rather than trade names were used to further sort the sherds. Since ware group was only one of several variables recorded for each sherd, it was possible to group the sherds according to sets of decorative techniques and specific patterns of decoration, as well as vessel form. By using these categories, the whiteware/pearlware/ironstone identification problem could be minimized, and the sherds could be organized in units approximating nineteenth-century sale groupings for analysis (cf. Miller 1980).

Five ware groups were identified for the 33-Cu-314 ceramic assemblage, with several subdivisions within these groups. These are stoneware, redware, yellowware, whiteware, and porcelain. As described above, the definitions for these groups were taken from a large body of historic archeological literature (e.g., Dervin 1980; Price 1979). Yellowware and redware sherds were easily identified and sorted based upon

obvious differences in paste color and texture. For these and all other sherds, ware group identification was made by breaking a small portion of the edge of each sherd to provide a clean profile. Similar to yellow- and redware, stoneware was readily separated from the remaining wares, although a few poorly fired stoneware sherds were difficult to separate from redware. Despite the definition of stoneware as a paste impervious to water after firing, some stoneware was made of paste which included varying percentages of red and other poorer quality clays, to "stretch" the stoneware clays. This factor, when combined with incomplete firing, resulted in the production of some poor-quality stoneware vessels which, when broken, exhibit nonuniform paste color characteristics, and which grade toward redware.

Porcelain sherds were easily identified, based upon their white and/or translucent, vitrified paste. Porcelain is very poorly represented in the site assemblage. The whiteware sherds were readily separated from the remaining four ware groups, but a large amount of consistent glaze color variation was seen within this group, suggesting that further subdivision would be appropriate. The whiteware was subdivided into cream, white, blue, and green tinted colors. These colors reflect differences in glaze more than paste. In addition, sherds exhibiting a gray paste, and a steel gray exterior color were identified. The gray sherds were all undecorated except for molded designs, and are often referred to as "Ironstone." However, this category is *not* equivalent to the term "Ironstone" as marked and identified by nineteenth-century potters (Miller 1980) or twentieth-century ceramic collectors (Wetherbee 1980).

Whitewares called "Ironstone" and other names to suggest hardness and durability were produced as early as 1813, and remained popular throughout the nineteenth century (Wetherbee 1980). These wares exhibit a wide variety of paste and glaze recipes. However, most of these wares (including over 26 named varieties) (Wetherbee 1980:17) look so similar that few, if any, of the varieties can be recognized unless the specimens are marked. Most of the steel gray sherds from 33-Cu-314 could be readily separated from the other whiteware sherds on the basis of paste texture and color differences. More of a gradation, or continuum, was seen among the cream color, white, and blue tinted varieties, especially for the white and cream color sherds. The blue and green tinted sherds were sorted following Price's (1979) criteria for separating pearlware from whiteware. This distinction was found to be consistent across several decorative groups.

In the following section, the major ware and decorative groups at the site are discussed, and details regarding makers and specific patterns are presented.

Whiteware. Whiteware ceramics are the most numerous (n=2,080) and varied ware group recovered from the site in 1983. Variability within the group includes subtle paste and glaze differences, in addition to the presence of a wide variety of decorative styles. The ceramic sherd data are organized by decorative type, variety, and pattern, since the subgroups recognized within whiteware (e.g., cream color, white, and blue tinted) cross

cut the decorative types. For example, transfer print decorated sherds include specimens with clear, cream, and blue tinted (pearlware) glaze characteristics.

Transfer Print. This decorative type is the most numerous of the whiteware types from the site with 947 specimens and six colors represented. Blue is the most common color for the transfer printed sherds, followed by dark, or "Staffordshire," blue, brown, red, mulberry, and black. Transfer printed whiteware ceramics were manufactured over a long period of time beginning before 1780, and continuing until the present day. However, the period of greatest popularity of this decorative technique is from about 1795 to 1860 (Coysh and Henrywood 1982:8-11; Smith 1983:171). The methodology for producing this decorative technique has been reviewed in detail elsewhere (Copeland 1982; Coysh and Henrywood 1982) and will not be repeated here. Of more relevance to this report are changes through time in style and color of scenes used to decorate these ceramic vessels.

Very Dark Blue and Dark Blue. A total of 132 sherds representing a minimum of 15 different patterns and 22 vessels was recorded in various shades of dark blue. These are separated into dark and very dark blue. The dark blue group contains sherds of several different hues, while the very dark blue group contains only those sherds with a deep cobalt blue color. This color was widely used for import wares with American historical scenes (Coysh and Henrywood 1982; Larsen 1975). This dark blue hue has been called "Old Blue" (Moore 1903) and "Staffordshire Blue" (Demeter and Lowery 1977). Every sherd within this group exhibited blue tinted glaze, with numerous blue "spots," and strong blue puddling where the glaze is thick. These characteristics place them within the pearlware category as defined by Price (1979), Smith (1983), and others. Since the dark Staffordshire prints faded in popularity by the early 1830s (Coysh and Henrywood 1982; Demeter and Lowery 1977; Larsen 1975; Little 1969), and since blue "pearlware" glaze declined in use after about 1830 (Price 1979; Smith 1983), it is likely that the vessels (minimum number = 22) represented by the 132 dark blue and very dark blue sherds were manufactured prior to about 1830. All of the vessels contain carefully executed and detailed prints, often rather precisely copying published engravings or aquatints.

Of the 15 different patterns, nine could be identified by name and ascribed to a particular manufacturer. In all cases, identification of patterns was carefully and conservatively accomplished through the presence of maker's marks and/or comparison with published photos. The match between the fragmentary archeological sample and the complete published example had to be exact for a sherd to be ascribed to a certain pattern and/or maker. Identified Staffordshire Blue patterns include: "Grapevine Border Series - Belvoir Castle," "Shell Border Series," "French Series - Moulin sur la Marne a Charenton," and "Landing of the Fathers at Plymouth" (E. Wood and Sons); "Don Quixote Series - The Meeting of Sancho and Dapple" (J & R Clews); "Picturesque Scenery Series" (Ralph Hall); "Fruit and Flower Border Series - Philadelphia, The Dam and Waterworks" (Henshall, Williamson and Co.); "Medallion Portrait Series" (R.

Stevenson and Williams); and "The Ottoman Empire Series - The Musketeer" (J. Rogers and Son). Most of these patterns are illustrated in Figures 28 and 29. References and chronological details for the patterns are presented in Table 9 and are discussed later in this section.

All of these patterns are distinct, and cover the rim of the vessels on which they occur. Numerous different central scenes may occur with any one pattern; for example, the Grapevine Border Series was produced with a different central scene on each different form in a complete service, with 58 different central scenes known to exist (Coysh and Henrywood 1982:161). "Belvoir Castle" is the scene represented on the single identifiable vessel of this pattern from 33-Cu-314. The number of sherds and vessels for each pattern and the central scenes represented for specific patterns are presented in Table 10. Detailed chronological data has been developed for these identified patterns. It is possible in several cases to identify the date of manufacture for these vessels within very narrow time spans. This information is presented later in this chapter, and is used in examining site chronology questions in a later section of the report.

Brown. A total of 142 sherds representing a minimum of nine different patterns and 26 vessels is printed in a dark brown color. Three of these patterns were identified by name and manufacturer (Table 9). Although brown transfer print may have been produced during the early portion of the nineteenth century (Demeter and Lowery 1977; Price 1979), it has generally been accepted that brown, underglaze transfer printing was not widely used until after about 1829, and became popular about 1830 to 1845 (Larsen 1975). Most archeologists have used the period from about 1830 to 1860 to date brown transfer print whiteware ceramics (Smith 1983). In contrast to the blue tinted glaze seen on the Staffordshire Blue sherds, all of the brown printed sherds exhibit clear or cream color glaze. The blue "pearlware" glaze occurs *only* on the Staffordshire Blue prints, and is notably absent on *all* other color transfer prints. This correlation strongly supports the 1830 terminal date for pearlware suggested by many authors (Smith 1983), since the other color prints were not available until about 1830. Demeter and Lowery (1977) have reported the presence of different colored transfer prints (including brown) with pearlware glaze, and have suggested that pearlware glaze was used at least until about 1840. It is probable that they used a broader definition of pearlware than is currently favored, and have used marked ware names such as "Pearl China" to arrive at a later end date for pearlware. It is certainly likely that blue tinted or "pearlware" glaze (glaze with cobalt added) continued to be used after 1830 by some manufacturers (Turnbaugh and Turnbaugh 1977). However, at site 33-Cu-314 it occurs on *no* sherds which can be dated after about 1830.

Of the nine patterns identified from the 142 brown transfer print sherds, three could be named and associated with a particular manufacturer (Table 11). A fourth was also identified (Williams 1978:701), but the name and maker of this pattern are unknown. A single sherd from the pattern "Ceylonese" made by G. Phillips (Williams 1978:614)

was identified. This pattern has been recorded at the Berrien Springs Jail in Michigan in a post-1838 context (Demeter and Lowery 1977). An interesting pattern, "Moral Maxims," is represented at 33-Cu-314 by four sherds. Although this pattern has been ascribed to J. & R. Clews (Williams 1978:646), a sherd of the pattern from this project bears the mark of J. & J. Jackson, a firm with a very short span (about 1831 to 1835). Most of the identified brown transfer print sherds from 33-Cu-314 were assigned to the pattern "Antique Vases" (Williams 1978:59). The specimens from the site included one sherd marked with the pattern name and "J. Clementson," and several others with the mark "A. S. Gardner (& Co), Cleveland, O" (Figure 30). Two other Clementson patterns also bear the Gardner mark under glaze. Research in the Business Directories for Cleveland revealed that Gardner was an importer of ceramics, and his firm can be traced from about 1839-1869 at a variety of addresses in Cleveland. Since Gardner's mark occurs *only* on patterns for which J. Clementson marks are also present, it appears very likely that Clementson produced the ceramic vessels which bear Gardner's mark.

Overall, the brown transfer print patterns are usually rather carefully and clearly printed, and all exhibit clear or cream color glaze (Figure 31). Although Clementson's firm remained in business until about 1864, it is likely that the "Antique Vases" pattern dates somewhat earlier than that company's closing date. The "Moral Maxims" and "Ceylonese" patterns can be dated to about 1831-1835 and 1834-1848 respectively. The vessel forms represented by the brown transfer print sherds are summarized in Table 11.

Mulberry. A total of 74 mulberry color transfer print sherds representing a minimum of five patterns and 12 vessels was recovered from 33-Cu-314. It can be stated with some certainty that this color was first produced about 1829 (Larsen 1975), and was marketed to North America soon after that date. Four of the five patterns defined for the mulberry transfer print ceramics could be identified by pattern name and maker. Two of these patterns were produced during the initial years of colored (other than blue) printing. "Picturesque Views" (Williams 1978:375; Larsen 1975:61) made by J. & R. Clews (about 1829-1834), and "Clyde Scenery" (Williams 1978:231) made by J. & J. Jackson (about 1831-1835) are similar to the Staffordshire Blue patterns in that numerous named central scenes were produced in a series which shared a common border pattern. The examples from 33-Cu-314 are clearly printed, and exhibit excellent engraving and care in production (Figures 32 and 33).

The other identified mulberry patterns, "Caledonia" and "The Pet" (Williams 1978:210, 517), were made by W. Adams, and appear to be somewhat later in date. Laidacker (1951:11) has dated these patterns from 1830-1840, but documentation for that span is limited. A limited number of central scenes was available for the "Caledonia" pattern, and "The Pet" had a single scene. As shown in Table 9, "Clyde Scenery" was also identified in red transfer, and "Picturesque Views" was identified in black, in addition to mulberry. The vessel forms represented by the mulberry sherds are shown in Table 12, along with sherd counts by pattern.

Red. A total of 127 sherds representing a minimum of 19 patterns and 22 vessels was recorded. While the mulberry sherds are all essentially the same hue, the red transfer print sherds exhibit a considerable color range from light to very deep red. Ten of the red transfer print patterns are identified by name and maker. In addition to the "Clyde Scenery" pattern discussed above, other patterns include: "Bologna," "Cyrene," "Fountain Scenery," and "The Sower" by William Adams and Sons; "Tyrolean" and "Oriental" by W. Ridgway (and Co); "Arabian" by F. Dillon; "Canova" (multiple makers, including T. Mayer and G. Phillips); and "Indian Temples" by an unknown maker (Table 13). The character and quality of the wares produced by these makers vary considerably (Figures 34 and 35). For example, both of the Ridgway patterns are fine wares which are very clearly printed and are covered by a thick, shiny glaze. However, the Adams patterns are printed in a much deeper red (maroon) color, are less clear and are poorly glazed. The Adams vessels also exhibit a softer and more crumbly paste than the Ridgway vessels. As can be seen in Table 13, most of the red transfer patterns are represented by only a few sherds, with Pattern 38 a notable exception. For all of the identified patterns, there seem to be a very limited number of associated central scenes, often with only one scene for each pattern (e.g., Tyrolean, Cyrene, and others). This contrasts markedly with the dark blue patterns where numerous central scenes were used within each pattern. The vessels represented by the red transfer printed sherds are presented in Table 13.

Chronological information for the red transfer printed sherds is summarized in Table 9. Conservative date ranges are used in this table. It may prove possible to date these patterns with more precision. Laidacker (1951:11) dates all the Adams patterns to 1830-1840, based upon color and vessel shapes. However, some of the patterns could date somewhat later. "Cyrene," which occurs on a multi-sided plate, probably dates after about 1844 (Pilling 1984).

Black. A total of 50 sherds representing a minimum of six patterns and six vessels was recovered from site 33-Cu-314. Most of the sherds derive from the "Picturesque Views" pattern discussed earlier, and the "Fruit Basket" pattern. The other identified pattern is "Venetian Scenery," with two additional patterns also represented. The dating of black transfer is somewhat uncertain, since it appears that it was used prior to red, mulberry, green, and other colors (Demeter and Lowery 1977; Price 1979). However, none of the identified black transfer patterns from 33-Cu-314 can be dated prior to about 1829 (Table 9). The black transfer sherds from the "Picturesque Views" and "Venetian Scenery" patterns show careful and detailed engraving and printing, and are early in the transfer printing sequence. The majority of black transfer print sherds (n=26) are from a single hollowware vessel (pitcher?) in the "Fruit Basket" pattern (Table 14). Little is known about this pattern, although it has been suggested that W. Smith may be the maker (Coysh and Henrywood 1982:148). Black transfer printed vessels are a minority type within the transfer print collection, and it is clear that a few individual vessels, rather than complete dinner services, of this color were in use at the site.

Blue. The group includes sherds of medium and light blue hues. These are distinct from the dark, "Old Blue" patterns discussed earlier. Medium and light blues were by far the most popular colors for transfer print ceramics at site 33-Cu-314. A total of 355 sherds representing a minimum of 26 patterns and 61 vessels is present. Considerable time depth is encompassed by this group. A variety of light and medium blue shades were popular prior to about 1815-1820, and again after about 1830. The intervening period was dominated with very dark, "Old Blue" colors (Copeland 1982; Laidacker 1951:ix; Little 1969:34).

At least three patterns appear to date to the first quarter of the nineteenth century. Two patterns (57 and 65) are marked "R. Stevenson." The pattern names for these could not be determined with certainty, but Pattern 65 is probably "Swiss" (Laidacker 1951:66). Both patterns are light blue, and somewhat blurry prints. These patterns, in addition to Pattern 64 which may also be a Stevenson pattern, occur on very fine, thin-bodied vessels, similar to the finer Staffordshire Blue ("Grapevine Border Series") wares, and the earlier (pre-1835) vessels in other colors. Since the Stevenson vessels can be confidently dated to pre-1832, it is clear that these thin-bodied, finely made plates are early in the ceramic sequence at the site. The remainder of the blue printed wares at the site are of medium shades of blue, occur on a heavier-bodied whiteware, and date post-1830 (Figures 37 and 38).

The complete list of blue transfer patterns, and the number of sherds and vessels for each of the patterns is presented in Tables 9 and 15. Several of the patterns will be discussed here to provide an overview of the variation within the blue printed group, and to summarize the chronological implications of these patterns. With the notable exception of the Stevenson patterns, all the blue patterns can be dated to post-1830, with most dating after 1840.

Two patterns with very precise temporal parameters are "Log Cabin" by J. Ridgway, and "Sirius" by J. & T. Edwards. "Log Cabin" is a pattern commemorating the election of Harrison to the presidency of the U.S. in 1840, with the pattern being issued in October, 1840 (Larsen 1975:94-5; Williams 1978:239). Harrison died soon after that date, and the pattern was no longer marketed. The single sherd from this pattern at 33-Cu-314 was certainly manufactured late in 1840, providing the tightest chronological control for any single ceramic sherd recovered from the site. Similarly, "Sirius" was apparently produced only from 1839-1841, again providing a very short time span for a particular pattern. Both "Log Cabin" and "Sirius" are clearly printed patterns which occur on thick bodied vessels.

Other patterns were made over a longer period of time, often being sold or transferred to different makers. "Florentine" represents a blue pattern with an initial date of about 1843, and a terminal date about 1860. The example of this pattern from the site is very sloppily printed, and is an inferior ware, especially when compared to wares known to predate about 1840.

The other post-1840 patterns, "Ontario Lake Scenery," "Lucerne," and "Siam" reflect considerably more care in their production despite their relatively late date. "Ontario Lake Scenery" was produced between 1845-1853 by J. Heath. It is one of the more common patterns at the site, with 23 sherds and a minimum of five vessels represented. Numerous vessels (a set?) of this pattern were in use at the site after 1845. A similar situation applies to "Lucerne" and "Siam," which dominate the transfer print assemblage (Table 15). Several sherds of these patterns marked "J. Clementson," or "A. S. Gardner," or "A. S. Gardner & Co, Cleveland, O" were recorded (Figure 36). Clementson has been previously documented as the maker of these patterns (Williams 1978; Hanson and Hsu 1971), and it is probable that the firm also made the vessels with the "Gardner" mark, since the vessels bearing these marks and patterns are identical in every respect. Alonzo S. Gardner was an importer of china from about 1839-1869, and was listed at several addresses on Superior Street in Cleveland during this period (Cleveland Business Directories). No specific information regarding his association with the Clementson firm or for the shipping and distribution of these patterns has been located.

"Siam" is a pattern whose production apparently reflects British interest in that area (Thailand) about 1850. The pattern was registered July 8, 1850 (Laidacker 1951:133), and it is unlikely that it was produced earlier (Coysh and Henrywood 1982:338). The large number of sherds of "Siam" (n=68), the numerous partially reconstructed vessels (n=13), and variety of forms strongly suggest that a complete set of Siam was in use at the structure in the early 1850s. It is a pattern with a single central scene, unlike the early nineteenth-century patterns discussed previously which featured numerous central scenes. This difference is probably accounted for by the difficulty of developing original patterns after 1842 (Copyright Act), and the shift toward cheaper production as the market became saturated with transfer print ceramics. The "Lucerne" pattern is similar to "Siam," and the numerous sherds and associated vessels suggest that a service in this pattern was also present at the site. Since the date for "Lucerne" is not known with precision, its temporal relationship to "Siam" was not determined. However, several of the "Lucerne" vessels are 12-sided, which apparently places them about 1844-1856 (Pilling 1984). "Ontario Lake Scenery" vessels from the site are also 12-sided, and that pattern is known to date from 1845-1853. These three patterns constitute 45 percent of blue transfer print sherds and vessels from the site.

Flow blue. Flow blue sherds are poorly represented in the collection. Only six sherds from a minimum of three vessels are present. Three patterns are present, but none could be identified by name or maker (Table 9). Flow blue had two distinct periods of popularity. The first was after initial introduction in the mid-1840s, and the second occurred about 1900. Both the initial and "resurgent" periods of popularity appear to be represented in the small sample of flow blue sherds from 33-Cu-314. Two sherds from a plate in Pattern 85 were recovered from Unit 6 Level 7. This deposit is of mid-nineteenth-century age. Two sherds from a saucer in Pattern 86 and two additional sherds in Pattern 87 from a vessel of unidentified form were recovered from

mixed and late nineteenth-century contexts. It is likely that these represent resurgent flow blue patterns.

Summary and Chronology. From the preceding discussion, it can be seen that a variety of transfer printed earthenware vessels was used at the structure. The identification of numerous patterns in several colors provides a much clearer picture of stylistic trends and chronology than would be possible when using the traditional archeological dichotomy of early (dark blue transfer on pearlware, pre-1830) and late (numerous transfer colors on whiteware, 1830-1860) transfer printing periods. In the following section, these trends are discussed further, and the patterns and vessels from 33-Cu-314 are summarized according to their chronological placement.

During the period of popularity and extensive production of transfer printed whiteware ceramics, several technological advances and stylistic shifts occurred. Archeologists have generally relied upon two of these changes to divide the era of extensive production and popularity of transfer printing into early and late periods. The shift from pearlware to whiteware (blue tinted to clear glazes) and from dark blue to a variety of other colors of transfer print designs have been used to make this division. Many authors have used 1830 as the dividing line, since it has been reported that whiteware supplanted pearlware about the same time as different colors were introduced. Turnbaugh and Turnbaugh (1977:101) date the pearlware phase to about 1795-1840. Others have reported that pearlware continued in use after 1840 (Pilling 1984). Smith (1983:171) has synthesized numerous reports and dating schemes to arrive at a 1795-1830 span for pearlware, blue transfer prints. Most authors have used the period from about 1830-1860 as the time frame for production of other colors of transfer print on whiteware. A careful examination of available literature regarding transfer print ceramics suggests that these phases have considerable merit, although 1830 should not be viewed as a precise date for the shift from pearlware to whiteware, or from dark blue to other colors of print. While the pearlware/whiteware dichotomy and color shift are useful chronological indicators, other information is available to further refine the dating of transfer printed ceramics.

First experiments in transfer printing began in England during the 1750s, and culminated in the ability to successfully produce and market transfer printed earthenware by about 1784 (Copeland 1982:7; Coysh and Henrywood 1982:8). Although the early patterns were all copies of Chinese designs on porcelain, the development and production of the transfer printed wares was solely an English invention. The initial period of development and experimentation has been called the "Chinoiserie Period," which lasted from about 1780-1800 (Coysh and Henrywood 1982:8). Designs from Chinese porcelain were copied or adapted by craftsmen who engraved copper plates from which the designs were transferred via ink and tissue paper to earthenware plates. Blue was the primary color used in these designs, since it was the only hue which was discovered to maintain its color and form when the final glazing and firing of the vessels were completed. During this period, a very dark blue color was used, which occasionally resulted in

blurred patterns. Mass production of the ware was not undertaken at this time, and some of the vessels produced are considered works of art. Plates and dishes were made without footrims, and the glaze covering the transfer design was often uneven and rippled (Coysh and Henrywood 1982:9).

The period from about 1800-1815 is a transitional period during which engraving skills were improved (addition of stippling techniques to line engraving), and flowers and details were added to the formerly more simple Chinese designs. In addition, other subjects were pictured, with illustrated books and topographical engravings of European and Asian scenes serving as a source for transfer patterns. Prints during this period exhibited more shading and detail, and various shades of blue were also produced (Copeland 1982; Coysh and Henrywood 1982:9; Laidacker 1951:ix; Little 1969:34). Prior to about 1820, transfer printed vessels exhibited simple, round, curved edges.

Coysh and Henrywood (1982:10) have termed the period from 1815-1835 the "Vintage Years" of transfer printing on earthenware. The end of the Napoleonic Wars resulted in the opening of vast markets in North America, Europe, and India to blue printed earthenwares. Patterns proliferated, and potters and engravers searched for sources of designs. For the first time, dinner services with different scenes on each shape (but with all sharing a common border pattern) were produced. Scenes were taken from illustrated topographic books which proliferated as the public became enamored with the "cult of the picturesque" (Coysh and Henrywood 1982:10). This period of printed earthenware production is relevant to site 33-Cu-314, since the structure is known to have existed by 1835, and since numerous patterns from the "Vintage Years" were recovered from the archeological deposits at the site.

Massive imports of Staffordshire wares were made to North America from 1820 to 1830 with Boston, New York, Philadelphia, Baltimore, and New Orleans as major destinations. The 1820s marked the height of popularity of dark blue ("Old Blue" or "Staffordshire Blue") patterns. Pilling (1984) has suggested that the dark blue prints were produced only from about 1824-1829, but this span appears to be too limited, since there are documented dark blue vessels which predate 1824 (e.g., "Landing of the Fathers at Plymouth" by Enoch Wood). Similarly, there was some use of dark blue after about 1830, although dark blue was rapidly surpassed in popularity by other colors. The American trade in dark blue peaked between 1825 and 1830. E. Wood, A. Stevenson, J. and R. Clews, R. Stevenson and Williams and a few other potters dominated the market (Little 1969:27). Vessels from all of these makers were found at 33-Cu-314.

About 1829, a major breakthrough in printing was accomplished. This allowed use of a variety of colors other than blue to be used on transfer print ceramic vessels (Larsen 1975). The colors were quickly mass produced, with reds, mulberry, and other colors becoming popular after 1830. Various light and medium shades of blue replaced the dark blues of the previous decade. Several vessels from 33-Cu-314 by the Clews, Jacksons, and other firms reflect early 1830s production in numerous colors.

The period from about 1835-1845 marked a second transitional period for transfer print manufacture (Coysh and Henrywood 1982:10). The middle class market had become glutted with blue transfer prints, and it became necessary to produce wares affordable for the farm and mill laborers. Quality of potting declined as cheaper mass production was initiated. Patterns became more standardized during this period. Glazes during this period were clear and smooth, compared to the blue tinted and rippled glazes of the early periods of production. Vessel edge forms changed from the slightly indented rims popular in the 1820s to scalloped rims and fancy shapes in the 1830s. The pattern "Indian Temples" from 33-Cu-314 exemplifies this shape (Figure 34a).

The period from about 1845-1860 has been called the Romantic Period (Coysh and Henrywood 1982:10-11). The indiscriminate copying of published works of art led to the Copyright Act of 1842, which forced designs to be registered, effectively putting an end to copying of engravings and other works from books. These sources were replaced by production of an astounding variety of fanciful romantic scenes, most of which followed a distinct formula. These patterns included the presence of rivers, trees, classical buildings, and other elements such as urns and fountains. In nearly every case, the scene bears little if any resemblance to its name. In the 1840s, angular, multisided vessel shapes became popular. Pilling (1984) has dated the beginning of this style to 1844, and has suggested tight temporal parameters for 10-, 12-, and 14-sided vessels. It appears likely that multisided vessels were produced as early as about 1840, since an example of "Sirius" at 33-Cu-314 is multisided, and dates about 1839 - 1841. "Lucerne," "Siam," and "Ontario Lake Scenery" patterns occur on 12-sided vessels at 33-Cu-314, and all date to about 1850.

The period after the 1850s represents the decline in popularity of transfer printed designs (Coysh and Henrywood 1982; Miller 1980). Although the overall quality of wares had declined by the Romantic Period, some excellent wares were produced until about 1860. Evidence from company records, import lists, and other sources indicates that little transfer print was imported after about 1860 (Miller 1980). One important exception is the resurgence of flow blue designs at the end of the nineteenth century.

Recently, information regarding stylistic changes in pattern composition and ascription of patterns to certain manufacturers has been used to further refine site chronologies based upon transfer print ceramic sherds (Carley 1982; Hunt 1986; Klimko 1983; Samford 1985; Smith 1983). In this report, information on stylistic changes was combined with the early/late division (about 1830) and documented production dates of firms identified through hallmarked sherds and/or ascribed patterns. This provided additional chronological refinement for the transfer print assemblage, and for dating site 33-Cu-314. The identification of 38 patterns and 18 makers led to refined dating for 427 sherds, while 520 were separated only into early (1815-1830) and late (1830-1860+) periods.

No transfer print patterns from 33-Cu-314 can be dated with certainty to the period prior to 1815, but numerous patterns from the "Vintage Years" (1815-1835) are present in the collection. From Table 16 it can be seen that the majority of these patterns can be rather accurately dated. Numerous patterns date between about 1824-1835. Few, if any, of the patterns date to the first few years of the "Vintage" period. The earliest pattern identified from the site, "Landing of the Fathers," was produced in 1820. Although an important shift in ceramic technology occurred about 1830, with the production of clear glazes and multiple colors of print, all of the patterns from this period share the characteristics of being carefully engraved and printed. In addition, the scenes borrow heavily from published engravings and aquatints, and often depict actual structures and geographic locations. "Vintage" period patterns from 33-Cu-314 are listed in Table 16. They have been divided into two groups to reflect the 1830 switch to multiple colors and clear glaze finishing.

The period from about 1835-1845, Coysh and Henrywood's "Second Transitional Period," is also represented by several patterns at 33-Cu-314. Although it is probable that many of the unascribed patterns from the site date to this period, only those which can be rather firmly identified and dated are included in Table 16. It appears likely that Clementson's "Antique Vases" pattern dates from within the period about 1839-1850, although precise dates for this pattern were not located. Many of the patterns from this period reflect considerable care in production, although the engraving and printing is not as finely executed as on the "Vintage" patterns. It is also important to note that there is no overlap in ceramic manufacturers between the two periods. Reasons for this shift could include changing supply, local purchasing patterns, or occupancy changes at site 33-Cu-314. More importantly, several manufacturers (Stevenson, Hall, Jacksons) of "Vintage" patterns were out of business by 1835. Extensive competition, dramatic changes in mass production of ceramics, and changing styles drove many early nineteenth-century potters out of business.

The "Romantic Period" (1845-1860), is also represented in the transfer print assemblage by a number of patterns (Table 16). It is certain that other unidentified patterns from the site also date from this or the "Second Transitional" periods. The "Romantic Period" patterns reflect the proliferation of mass-produced, inexpensive transfer print wares. The quality of the printing and designs are usually rather poor compared with the earlier patterns, although some of the patterns are clearly printed. "Formula" patterns with the common characteristics of rivers, temples, elm trees, and other elements characterize most of the Romantic period patterns from the site. Samford (1985) suggests that romantic patterns were popular over a much longer period than reported by Coysh and Henrywood, overlapping their "Second Transitional Period." However, Samford's analysis used the manufacturer's dates of operation rather than more specific information, to develop temporal trends for patterns. This approach may have blurred actual periods of popularity for pattern styles.

"Romantic Period" patterns from 33-Cu-314 are dominated by "Siam" and "Lucerne" by J. Clementson. "Antique Vases," another Clementson pattern, may also date to this period. These patterns are represented by numerous vessels in a variety of shapes. Complete services of each pattern were apparently in use at the site. This is the first evidence for matched sets of ceramics at the site. For earlier years, "sets" probably consisted of similar color transfer prints of a variety of different patterns. The shift to use of sets may reflect the declining cost of transfer print vessels in the mid-nineteenth century, as production was cheapened, and mass production expanded.

From the preceding discussion, it can be seen that transfer print ceramics have technological and stylistic attributes which can be used to separate a large assemblage into several groups with finer temporal parameters than a simple pre- and post-1830 dichotomy. The temporal data collected from this assemblage will be further utilized in a later section of the report which focuses upon questions of construction staging, site function, and economic concerns.

Edge Decorated. One of the most common early and mid-nineteenth-century ceramic decorative styles is edge decoration. This style includes a simple painted band around the rim of the vessel, which is usually combined with a molded design. A variety of molded designs have been recorded, and this aspect of the decorative technique displays considerable variability. Early styles are often quite ornate, with plumes, dots, and other complex molded designs common (Hunt 1986; Price 1979; Sussman 1977). Both dark blue and green painted bands are combined with the molded designs on early edge decorated vessels. Similar to transfer printed whiteware, a blue or green tinted pearlware glaze covers the vessels from about 1780-1830 (Sussman 1977:105; Turnbaugh and Turnbaugh 1977:101), while clear glazes dominate from about 1830 until the decline of edge decoration about 1860. Pilling (1984) has recently provided evidence that edge decoration continued in use throughout the nineteenth century. However, its popularity waned after about 1860. Evidence from sales lists strongly supports this decline. The use of green color edge decoration ended about 1836. The more elaborate molded patterns are also early in the sequence, and are replaced by simpler designs after about 1830.

Throughout the period of popularity of edge decoration, especially after about 1800, the ubiquitous "shell edge" molded design is the dominate edge decorated pattern. There are several stylistic shifts within the period of production of edge decorated wares (Sussman 1977). These changes have not been as well documented as stylistic trends for other whiteware decorative techniques such as transfer printing. Despite this problem, a few motif changes and decorative trends have been reported.

In addition to the pearlware/whiteware shift, the decline in use of green color, and the general trend of molded pattern simplification after about 1830, other stylistic changes with known temporal parameters include: (1) production of 10-inch plates, concave brims, and double low ridge footrings after 1820; (2) development of rims with

indentations at short and long intervals after 1810; (3) use of bright "purple-toned" blue color after 1820; and (4) production of smooth rather than sculpted rims after 1850 (Demeter and Lowery 1977; Price 1979:18; Sussman 1977:108-110). Although several of these designs are present on the edge decorated assemblage from 33-Cu-314, it has not proven possible to order the assemblage with the chronological precision of the transfer printed sherds.

A total of 97 sherds from 33-Cu-314 is from edge decorated vessels. A minimum of 30 vessels is present, with 16 decorative patterns identified. All of the vessels are plates or platters. While edge decoration does occur on other vessel forms (Price 1979; Sussman 1977), it is most commonly applied to plates and platters. Since the majority of an edge decorated plate is plain and undecorated, it is probable that many other ceramic sherds from site 33-Cu-314 currently grouped within plain whiteware are actually from edge decorated vessels. The minimum number of 30 vessels was determined from rims and partially reconstructed vessels. The identification of 15 patterns within the edge decorated assemblage represents a "splitting" rather than a "lumping" approach to ceramic typology. Of the 15 patterns, nine are variants of the common "shell edge" decorative technique, while the remainder reflect other combinations of molded and painted designs. Nearly half (12/30) of the identified vessels have blue or green tinted (pearlware) glaze, with the remainder covered with clear glaze. None of the edge decorated vessels have maker's marks, so it is not possible to provide information on manufacturers.

The edge decorated patterns and vessels are summarized in Table 17 and are illustrated in Figures 39 and 40. A sample of the shell edge patterns is illustrated along with all of the non-shell edge patterns. Chronological data from the edge decorated sherds are used and interpreted in a later section of the report.

Annular. A variety of annular decorated wares has been recovered from nineteenth-century archeological sites (Price 1979:18). These decorative styles are often grouped under the term "mocha," because of the similarity in some annular designs to the mocha stone, a dendritic quartz, and from the name of a coffee market town, Mocha, in South Yemen (Robacker and Robacker 1978:24). "Mocha" is a nickname used for certain varieties of annular decoration, but the nineteenth-century manufacturers usually called their wares "Banded Creamware." In this report, the term "annular" is used, since it best describes the single decorative element which is shared by a wide range of similar decorative styles on refined earthenware vessels. The common characteristic of these decorative styles is the presence of parallel, colored bands, usually applied around the exterior of mixing bowls or other hollowware vessels. The decorative bands were applied as the vessel was turned on a horizontal lathe (Demeter and Lowery 1977:64). Considerable variability occurs in the width and color of these bands, and in additional decorative elements placed within and/or between the bands. Varieties which have been reported for nineteenth-century sites include: (1) plain banded, (2) mocha, (3) swirl, (4)

marbled, (5) circle and cube, and (6) engine turned (Price 1979:18). Several of these varieties are reflected in the annular decorated sherd assemblage from 33-Cu-314.

Annular decorated whiteware is considered a "cottage" ware (Robacker and Robacker 1978). Although there is some doubt regarding initial date of production, it is likely that the Adams family of Tunstall, England, was producing annular decorated ceramics by the final decade of the eighteenth century. Enoch Wood was also producing annular decorated ceramics about 1790. Annular decorated ware was popular for export. Numerous advertisements from the Boston and New York areas in the 1810s and 1820s confirm that considerable amounts were imported by the early years of the nineteenth century. A variety of vessel forms including water pitchers, waste bowls, mixing bowls, sugar bowls, cream pitchers, mugs, mustard dishes, tankards, cups and saucers, chamber pots, teapots, and handled pots is known to exist in modern collections of nineteenth century annular vessels. From available archeological literature, it appears that mixing bowls and pitchers are the most common forms.

A total of 74 sherds from a minimum of 19 annular vessels was recorded within the 33-Cu-314 whiteware assemblage. Sixteen patterns are represented in the collection, with 11 vessels (32 sherds) in eight patterns exhibiting broad central bands which contain additional swirled, or marbled, designs. It is very likely that most of the other eight patterns, and the numerous sherds not ascribed to a particular pattern, are also of those varieties. Most of those sherds were identified solely through the presence of annular bands near the rim of very fragmentary vessels. The central portions of the vessels containing the additional decorative elements are missing.

One of the most common annular varieties from 33-Cu-314 combines a swirled decorative element encircling the vessel within a wide, green annular band, and additional wide white and/or blue bands and black stripes. This decorative pattern has been called by several names, including "finger painted," "cable," "worm," and "earthworm." The key design element combines several colors in a "swirled" effect. A similar "circle" or "cat's eye" marbled pattern is also well represented in the collection. These patterns with a multicolor decorative element in the central wide band dominate the assemblage.

Nearly all of the identified vessels are mixing bowls, with other unidentified hollowware vessels also present. Several of the partially reconstructed vessels from the site are mixing bowls in a shape which has been referred to as the "London" form (Demeter and Lowery 1977:66). The annular designs occur with blue or "pearlware," and clear or "whiteware" glazes. Little apparent difference is seen in the annular patterns applied to vessels with blue tinted or clear glazes, and the wide band swirl and circle patterns dominate vessels with both glaze types. Broad band "swirl" pattern annular vessels essentially identical to those from 33-Cu-314 have been illustrated in several reports (Demeter and Lowery 1977:65; Price 1979:49; Robacker and Robacker

1978:25; Smith 1983:160). Several minor variations in the swirl and circle designs from 33-Cu-314 have led to definition of eight patterns containing these elements (Table 18).

Patterns other than broad band swirl and circle variants are poorly represented in the whiteware annular decorated assemblage from 33-Cu-314. For example, the brown "mocha" design, with its typical dendritic, flowing style is represented by only a single pattern and vessel. No two vessels decorated with this improbable "tobacco and urine" combination are identical. In some reports, "mocha" seems to have been used as a "catch-all" category for annular designs, but in this report it is used only for the unusual brown dendritic design set between annular bands of decoration.

Chronological subdivision is possible within the annular decorated whiteware assemblage, based upon findings from other areas. Price (1979:18) has noted a shift through time in both color and complexity of decoration. Vessels from earlier sites in the Ozark region exhibit earthen tone colors with blue, green, brown, yellow, and black predominating, with numerous colors used on a particular vessel. Later vessels tend to have wider background bands of brighter colors (brighter blue, yellow, and white) on which narrow black and white bands were used. Demeter and Lowery (1977:66) report that the "worm" pattern of multicolor swirl design was popular from about 1820-1850. In addition, they report that a variety of annular ware with alternating broad blue and narrow white bands and black stripes was made by the United States Pottery Company in Bennington, Vermont, during the 1845 to 1858 period. Edward Bennett of Baltimore was also producing annular decorated ceramics about 1850 (Robacker and Robacker 1978:24). In addition to stylistic trends, the pearlware-whiteware shift at around 1830 has also been reported for annularware vessels (Price 1979:18; Smith 1983:271). It appears likely that most of the annular vessels from 33-Cu-314 were manufactured between 1820-1850, but precise dating is not possible. Since none of the vessels are marked, manufacturers could not be determined.

The annular whiteware patterns and vessels from 33-Cu-314 are summarized in Table 18. The 16 patterns are listed by broader varieties, similar to those defined by Price (1979:18). Examples of annular decorated whiteware vessels are illustrated in Figures 41 and 42.

Hand Painted. Hand painted designs, usually consisting of floral and/or simple linear motifs, are a common nineteenth-century decorative technique applied to whiteware ceramics. Several varieties of hand painted designs have been discovered, with numerous individual patterns within these varieties. Three varieties of floral patterns occur with considerable regularity in mid-nineteenth-century ceramic assemblages. These have been identified by several different terms in the archeological literature. One variety includes broad line floral patterns in which the painted design occupies the majority of the surface of the vessel. A second variety includes fine-line floral elements characterized by small designs which occupy a minor portion of the vessel surface. The third variety,

usually called "sprig," consists of a very small motif or element which is repeated around the vessel (Price 1979:20).

These hand painted varieties have been termed "Early, Middle, and Late Gaudy Dutch" by Pilling and others (Demeter and Lowery 1977:66-67), but those terms will not be used here to avoid confusion with a specific group of extremely bright colored hand painted ceramics referred to in the ceramic collector market as "Gaudy Dutch." A final hand painted variety apparently consists solely of simple painted band(s) around the rim (Price 1979:21). However, such bands also occur on the floral varieties, and this variety may actually reflect the fragmentary nature of ceramics from the archeological record rather than representing a distinct variety.

Demeter and Lowery (1977:66) suggest that the broad line variety is dominated by use of dark cobalt blue, although red, mustard yellow, powder blue, and drab green pastels also occur as secondary colors. Pilling (1984) has reported that black, bright green, and brown are absent prior to about 1830. Price reports that soft pastel or earthen hues dominate until about 1830, when lighter, brighter colors become popular. She indicates that this shift correlates with the "pearlware/whiteware" shift (Price 1979:21). Price also notes that fine-line, earthen color decorations occur on vessels with pearlware glaze, while brightly colored fine-line, sprig, and broad-line decorations occur on vessels with "whiteware" glaze. Pilling has indicated that after about 1835, black stem lines and black lines inside the rim are used. He further suggests that from the late 1830s through the early 1850s smaller motifs with bright green leaves, red and yellow stamens, and black stems are prevalent.

Price suggests that the pearlware fine line wares date about 1790-1830, with the brighter color fine line, broad line, and sprig styles dating about 1830-1860. Demeter and Lowery (1977:66-67) have suggested even more precise temporal parameters for these styles, and differ in suggesting that the broad-line designs (especially in cobalt blue) are early, rather than late in the sequence. They date the sprig wares to about 1835-1850 based upon unreported archeological evidence. It would appear that Price's "fine line" and "broad line" varieties crosscut Demeter and Lowery's "Early" and "Middle" series, while the "sprig" category is synonymous with their "Late" category. It is likely that consistent temporal subdivisions will eventually be developed for hand painted whiteware styles. Currently, dating is inconsistent across different geographic areas and by different researchers.

Although hand painted designs occur on a variety of vessel forms including pitchers, plates and other forms, it appears that the technique was most commonly applied to cups and saucers (Demeter and Lowery 1977; Smith 1983).

A total of 79 hand painted sherds representing a minimum of 27 vessels was recovered from 33-Cu-314. All three floral varieties described above were recorded in the assemblage, with the fine-line and sprig varieties being the most common. The

preponderance of the sherds have clear glaze, with only three pearlware specimens recorded. This is in considerable contrast to transfer print, edge, and annular decoration, for which numerous pearlware sherds were recorded. This indicates that most of the hand painted sherds from 33-Cu-314 date after about 1830. Hand painted patterns and vessels are tabulated in Table 19, and are illustrated in Figures 43 and 44.

Plain and Molded. This category includes all identifiable whiteware sherds and vessels which have no painted, printed, or decal designs added under or over glaze. Molded (repousse) and plain, undecorated forms are included in the 736 sherds and 73 vessels. This decorative group is a "catch-all" category, since it undoubtedly contains fragmentary sherds from decorated vessels. For example, annular, transfer, hand painted, and edge decorated vessels all have areas which are devoid of decoration. This is especially true for edge decorated vessels, which have only a narrow band of decoration around their rims. Small sherds from vessels of any of these decorative types might be devoid of decoration and would be included within plain whiteware. However, this group also contains numerous vessels which were originally without any colored decoration or molded embellishments. To provide some indication of the contribution of sherds from other decorative types, plain and molded whiteware vessels and patterns were identified very conservatively, based upon relatively large rim and/or body sherds.

The majority of sherds in this group have white paste which matches the paste from the decorated whiteware types which have been previously examined. However, during sorting of the large number of plain sherds, a "cold gray" or "ice blue" paste was also identified. These sherds were separated from the white paste sherds, and are tabulated and analyzed as a subgroup of plain whiteware. Paste differences are apparent between the groups, but decorative treatment and vessel shapes are largely similar.

White Paste. A total of 550 whiteware sherds from 33-Cu-314 contains no colored, decorative embellishments and exhibits white paste. A few of these sherds exhibit molded designs, usually near the rim or on handles. The 550 sherds are divided into four types reflecting glaze tints: blue, green, cream, and white (colorless glaze). While some sherds were difficult to sort due to subtleties in glaze color, most sherds could easily be assigned to one of the four groups. With regard to the three colored glazes, all are tints, rather than dark colors. The blue (n=22) and green (n=100) tinted sherds represent pearlware vessels. The paste of these sherds is white, and does not appear to differ significantly from the paste of the cream color or colorless glazed specimens. Most of the green tinted sherds appear to derive from edge decorated vessels, but could not be mended with those vessels despite repeated attempts. Many of the sherds are quite small, and only one vessel was defined from this group. The vessel is a pitcher consisting of stepped horizontal bands (Figure 46b). The attachment areas of the handles are embellished with detailed molded designs. The sherds which make up this vessel were recovered from a disturbed context along the north wall of the structure. Many of the blue tinted sherds probably derive from vessels in other decorative categories (e.g., edge decorated), but could not be mended to any other

vessels. Only two vessels were defined from the 22 blue tinted sherds; a large bowl or wash basin, and a cup. It is apparent that very few undecorated blue and green tinted vessels were used at the site, and that most of the plain blue and green tinted sherds derive from decorated vessels.

While the 122 blue and green tinted plain sherds represent only three vessels not defined in other decorative types, a much different situation is seen for the clear and cream color whiteware sherds. A total of 246 cream color sherds represents a minimum of 18 vessels (Table 20). Two of the vessels have molded designs near the rim, while the remainder are devoid of any decoration. These cream color sherds and vessels exhibit a distinct surface color and were easily separated from the blue, green, and white (clear glaze) plain whiteware sherds. The cream color reflects the color of the glaze, rather than the paste of these sherds. Cream color glaze also occurs on a few transfer print vessels, and on at least one annular ware vessel. Undecorated, cream color ceramic vessels were the least expensive table and tea wares until about 1850 (Miller 1980:4).

A total of 182 sherds representing a minimum of 18 vessels exhibits plain white surfaces. This results from the application of clear, colorless glaze over a whiteware body. This form of whiteware has been referred to by a bewildering variety of trade, collector, and archeological names. It is likely that most of the 18 vessels postdate about 1850 when plain whitewares known as "ironstone," "stone china," "white granite," and a myriad of other names became popular (Miller 1980:4; Wetherbee 1980). Existing sales lists suggest that cream color plain wares were the dominant plain wares until the middle of the nineteenth century, when the white forms gained dominance. While the cream color wares were the least expensive available ceramics, the plain whitewares were considerably more expensive than other available whitewares after the mid-1850s.

Gray Paste. When the plain and molded whiteware sherds from 33-Cu-314 were carefully examined, numerous sherds with a "steel" or "cold grayish white" paste color were readily separated from the remainder of the assemblage. Pilling (1984) has called this color "ice blue." When the sherds are compared to any of the other whiteware sherds from the assemblage, including all of the decorated types, their surface and paste colors are clearly different. While all the other whiteware sherds are "white," the second group is more of a gray color. Pilling equates the gray paste sherds to "Graniteware," one of a variety of plain whiteware trade names which became popular in the 1850s. Price and others have suggested that the gray paste group may be a late variant of plain whiteware (or ironstone). Recent examination of whiteware from the cargo of the steamboat Bertrand, which sank in 1865, indicates that the gray paste wares occur along with white paste vessels in identical forms and molded designs (Leslie Perry, personal communication, 1988). Both colors even occur within individual shipping crates. Some of the gray paste vessels seem to exhibit much harder paste (semiporcelain), while others are similar to whiteware. The paste from the sherds at 33-Cu-314 was not tested for hardness.

All of the 186 sherds and 34 vessels in this group from 33-Cu-314 are devoid of painted or printed decoration. However, nine of the vessels have molded decoration near the rim. This usually takes the form of simple ridges, or indentations (Figure 45). One vessel (Figure 45d) has a raised pattern of "Wheat and Blackberry" around its rim (Wetherbee 1980:76). This pattern was made by several different manufacturers including: J. and G. Meakin, J.F.W. Taylor, Robert Cochran, and St. Johns Chinaware Co. These include British, Scottish, and U.S. manufacturers, all of whom were in business after 1855. Vessel forms, patterns, and sherd counts for the gray paste plainware vessels are summarized in Table 20.

Summary. The plain and molded whiteware from 33-Cu-314 reflects considerable time depth. The green and blue tinted sherds (n=122) and vessels (n=2) probably date pre-1830. The cream color sherds (n=246) and vessels (n=18) may reflect a considerable time span (late 1700s-1900), but it is likely that they date from about 1820-1860 at 33-Cu-314. The plain white sherds (n=182) and vessels (n=18) can also have a considerable temporal span (about 1830-1900). The provenience and association of most of these vessels at 33-Cu-314 suggest they date primarily from about 1850-1890. A similar time frame is also suggested for the gray paste ware, which is represented by 186 sherds and 34 vessels. It is also worth noting that very few maker's marks are present on the plain and molded whiteware sherds.

Sponge. Sponge decoration is poorly represented in the whiteware ceramic assemblage. Only 12 sherds representing a minimum of four vessels are present (Table 21). It appears that the outer surface of all these vessels was completely covered with amorphous, sponge applied decoration. Each of the vessels is decorated with a medium blue color. One vessel is a cup, one is a small bowl or saucer, and the other two vessel forms could not be determined. Little can be said about these sherds and vessels except that they were a popular utilitarian style which cost slightly more than plain, cream color whiteware during the early to mid-nineteenth century.

Decal and Gilt-edge. Only seven sherds from six different vessels represent this decorative type. Two of the vessels are essentially complete. Three vessels have a single gold gilded line parallel with the edge of the rim. One of these vessels is plain, other than the gold line (Figure 46a). A second vessel has a floral decal design in addition to a gold color line (Figure 46c). This vessel has the maker's mark "Ironstone China Warranted/ B.P. Co." This may be a mark used by the Buffalo Pottery Co. which was founded in 1901. The first wares from the company were produced in 1903 (Lehner 1980:33). An early twentieth-century date seems reasonable for this vessel. Four additional sherds, representing four different vessels, have decal designs. One blue floral, two pink floral, and a single multicolor geometric pattern are present. A plate, a relish tray, and other miscellaneous flat and hollowware vessels are represented (Table 21). All of the sherds and vessels are whiteware, and appear to date to the very late nineteenth or early twentieth centuries.

Unidentified. In addition to the large number of whiteware sherds which were identified with regard to decorative treatment, a total of 128 sherds remains unidentified. Most of these sherds are small and extensively burned, and their surface treatment can not be determined.

Whiteware Summary. A large sample of whiteware ceramic sherds was recovered from 1983 excavations at 33-Cu-314. A total of 2,080 sherds in eight decorative types is present. A minimum of 308 separate vessels is represented by the sherds. Considerable temporal and functional information was generated by analyzing the whiteware assemblage. In later sections of the report, these data will be utilized for examining questions regarding site age, function, and economy.

Porcelain. The porcelain ware group is poorly represented at site 33-Cu-314. This is especially true for tea and table service items. Porcelain was also present in other functional classes including electric insulators and furniture casters which will be discussed in later sections of the report. Porcelain vessels are represented by only 29 sherds. These sherds represent a minimum of seven vessels. Five of the porcelain vessels (1-5) appear to be decorative, rather than utilitarian forms. These vessels are quite fragmentary, but are probably miniature vessels which graced a "bric-a-brac" shelf. Vessel 1 has a pink floral decal design. Vessel 2 has a small fragment of a maker's mark present which reads "...P. Co." This mark could represent the Buffalo Pottery Company, but other associations are equally possible. Vessel 3 is represented only by a foot ring fragment. Vessel 4 is of undetermined shape, with a yellow and pink hand painted design. Vessel 5 is also of undetermined shape, and exhibits a blue and red geometric pattern. All five of these vessels were recovered from surface proveniences, strongly suggesting that they date toward the end of the archeological sequence at the site. All are probably of early twentieth-century age.

Porcelain Vessel 6 is a fragmentary cup, with gold gilt lettering. Unfortunately, the lettering is badly worn, and could not be deciphered. This vessel occurred in the tan fill (Stratum 14) along the east wall. This may be a "souvenir" cup, and could date to the middle or late nineteenth century. Vessel 7 is a cup, apparently devoid of decoration. It was recovered from a disturbed context along the north wall of the structure.

With the possible exception of Vessel 6, there is a complete absence of porcelain vessels from early to mid-nineteenth-century proveniences at the site. This is not surprising, and reflects the economic status of the occupants. Porcelain might be expected to occur with considerable frequency at a high status residence, but would be expected to be rare at a residential and commercial site like 33-Cu-314. The few porcelain vessels at 33-Cu-314 are not fine ware, but rather, are inexpensive turn-of-the-century curios.

Yellowware. Yellowware has a buff-yellow to yellow-gold paste with a clear glaze. It has primarily been used for common table wares, kitchen, and chamber wares. It was in production by about 1830 (Dervin 1980), and was mass-produced in New Jersey, Pennsylvania, Ohio, New York, and other states in the 1840s (Leibowitz 1985:9). Yellowware reached a peak of production in the 1860s and 1870s, then began to decline in popularity. Although it was produced into the 1930s, the turn of the century marked the demise of this utilitarian ware.

Enormous quantities of yellowware were produced in Ohio after about 1839 (Leibowitz 1985). The earliest wares were plain, and a wide variety of plain forms continued to be manufactured until about 1900. The first decorated forms were banded. The initial banded decorations were white, and to this were quickly added brown, blue, green, gray, red, and black. These bands are usually very narrow, and were often applied with a slip quill around the necks of hollowware vessels. By the 1860s, pressed, or molded forms were manufactured. A variety of molded forms, from simple to very complex, were produced. The most common yellowware decoration is Rockingham. This is a brown, manganese glaze which was spattered or dripped on a revolving piece. Nearly all firms made this decorative style by 1870. Other decorative types include mocha and cut sponge.

Since Ohio was the primary center of manufacture of yellowware (Leibowitz 1985:39), it was expected that a considerable amount of yellowware would be present at site 33-Cu-314. Production of yellowware began at East Liverpool about 1839, and continued into the twentieth century. Muskingum County and Cincinnati were also important manufacturing centers for yellowware. A total of 129 sherds from a minimum of 16 vessels is present in the 33-Cu-314 site assemblage (Table 22). Forms represented by these vessels include: one jar, six large bowls (mixing bowls), one shallow bowl, four other hollowware vessels, one pan, and three undetermined forms. Decorative types include Rockingham (3), clear glaze (8, of which 2 are molded), and annular or banded (5). The 16 identified vessels consist of 91 sherds. The remaining 38 sherds include annular, molded, Rockingham, and plain types. No mocha or cut sponge decorated sherds are present in the assemblage.

Yellowware sherds were found primarily within middle to late nineteenth-century and early twentieth-century contexts at 33-Cu-314. No yellowware sherds were associated with the earliest deposits along the north, west, or east walls, or in basement Room 003. However, two vessels were found near the base of the cultural deposit along the south wall (Unit 6 Level 7). These vessels include a clear glazed plate (Vessel 4) with a beaded rim, and a large bowl (Vessel 7) with annular blue rings. Based upon other temporally diagnostic materials in Unit 6 Level 7, it appears likely that the two yellowware vessels were deposited there during the early 1840s. These are the only yellowware vessels at the site which appear to predate about 1860. None of the vessels has a maker's mark. This was expected, since about 90 percent of yellowware vessels are unmarked.

Redware. A total of 108 redware ceramic sherds was recovered from 33-Cu-314. These sherds represent a minimum of 23 separate vessels. The total sherd count is somewhat misleading, since individual sherds range in size from nearly complete vessels to very small body framents. Further, redware Vessel 1 has been reconstructed into five separate pieces from numerous sherds. Decorative and functional variation within this ware group is quite limited. All of the vessel forms are utilitarian. Flower pots are well represented (n=11), and decoration is absent on many vessels (n=9). The form of seven vessels could not be determined, but they are probably various hollowware shapes. Vessel 17, a molasses jug, and Vessel 18, a milk pan, are the only other identifiable forms. Both of those vessels are shapes more commonly made from stoneware. In fact, the vessels might have been represented as stoneware when they were sold. There is some overlap between stoneware and redware in the site assemblage. These two vessels were placed within redware since their paste is red and porous. Both vessels were covered with Albany slip, but are otherwise undecorated. The paste characteristics of these vessels probably meant little to the users, and functionally, they probably fit within the stoneware group better than in redware.

With a single exception, decoration of the redware vessels was limited to slips which covered entire vessel surfaces (Table 23). Eleven vessels were treated with Albany or similar slips, while nine vessels have no surface treatment. The nine plain vessels are all flower pots. Vessel 1 is a flower pot decorated with polychrome glazes in a floral pattern (Figure 47). The vessel is covered with a clear glaze.

Most of the redware sherds and vessels were recovered from late nineteenth-century or more recent contexts at the site. Important exceptions include: Vessel 1 from an 1840s deposit (Stratum 17) along the north wall, Vessel 14 from an 1840s deposit (Stratum 7) along the south wall, and Vessel 9 from an early to mid-nineteenth-century context (Stratum 15) along the east wall.

Stoneware. Stoneware is a ceramic ware group which includes a variety of heavy, utilitarian forms used primarily for food storage, preparation, and service. The ware is fired to a very high temperature, making it nonporous. A total of 462 stoneware ceramic sherds was recovered from 33-Cu-314. A large majority of these sherds is undecorated, with Albany slip on the interior, and varying shades of gray on the exterior resulting from salt glazing. A few vessels are covered with Albany slip on both surfaces, and an even smaller number are finished with shiny lead glazes. Based upon paste characteristics, surface treatment, provenience, and shape, the 462 sherds were separated into vessels. Most of the sherds (n=360) could be assigned to specific vessels, while 102 sherds were too fragmentary or undiagnostic to associate with a particular vessel. A total of 68 vessels was defined from the stoneware sherds (Table 24).

Several vessels were partially reconstructed from the stoneware sherd assemblage. Profile drawings of some of the more complete vessels are shown in Figures 48 and 49. Several different forms are represented, with large jars, crocks, bowls, pitchers, pans, and

bottles identified. Examination of nineteenth-century sale lists and current archeological and historical reports indicates that a wide range of names has been applied to various stoneware vessel forms. To date there has been little consistency in terminology used for these various shapes. For this report the following forms were recognized: jar, pot, pan, bowl, bottle, jug, pitcher, miscellaneous globular, miscellaneous cylindrical, and unidentified.

Thirty-four of the vessels could not be identified to specific shape due to their fragmentary nature. However, 14 of those are globular forms, while six are cylindrical. The cylindrical vessels most likely postdate 1860. Globular forms are most often assumed to predate about 1860, but some manufacturers continued to produce globular shaped vessels well after that date. The assemblage includes two milk pans, eight pots, four bowls, two jars, six bottles, one jug, and four pitchers. A single butter churn was identified from a lid fragment. Examples of rim profiles for select vessels are shown in Figures 48 and 49. There is considerable variability in vessel forms and rim profiles in the assemblage, as seen from the illustrated examples.

Decoration on the stoneware vessels is extremely limited. Only 12 sherds and three vessels exhibit cobalt blue glaze decorations, which is the only form of colored embellishment on the vessels. None of the cobalt decorations are sufficiently complete to allow pattern determination. Overall, the extremely plain character of the assemblage is striking, and contrasts markedly with the bewildering array of designs and patterns present on refined earthenwares from the site. It appears that inexpensive, plain vessels were purposefully selected for food storage and other utilitarian functions, since decorated stoneware vessels were certainly available throughout the nineteenth-century occupation of HS 125. Many decorated forms, usually utilizing cobalt blue floral or other patterns, were widely available in the midwest U.S. during that time period (Webster 1980).

Along with a lack of decorative embellishment is an absence of maker's marks. Only a single vessel, an ink bottle, bears embossed or impressed maker's information. This vessel (18) is marked "VITREOUS STONE BOTTLE/J. BOURNE & SON/ PATENTEES/DENBY POTTERS/(????)/ P. & J. ARNOLD/LONDON." Ink bottles with this mark are commonly recorded from late nineteenth-century sites, and are illustrated in numerous publications. The near absence of decoration and maker's marks in the stoneware assemblage makes it very difficult to develop temporal or manufacturer data from the assemblage. The globular shaped and cylindrical shaped vessels can be *roughly* dated to pre- and post-1860, respectively. In addition, the few vessels which exhibit Albany slip on both exterior and interior surfaces can be rather securely dated to post-1848. Information has been developed on stylistic and form changes in stoneware vessels through time for select manufacturers. However, the assemblage from 33-Cu-314 is not amenable to this analysis given the small number of reconstructed vessels, and the uncertainty regarding the number of manufacturers represented by the 68 vessels.

Although there is essentially no manufacturer's information for the assemblage, it is probable that most of the vessels, especially the forms other than bottles, were manufactured locally, or in nearby states. New York was an important stoneware manufacturing center, as were several areas of Pennsylvania, including the area south of Pittsburgh. In addition, stoneware was manufactured locally, in both Cleveland and Akron. There was a major stoneware industry in Ohio by 1827, and local production began soon after that date (Blair 1965). Stoneware manufacturers were active in the Cleveland and Akron areas and could have readily supplied the stoneware vessels at 33-Cu-314.

Flatware

A total of 15 utensils is represented in the collection. These are often in a poor state of preservation, and most are fragmentary. Few examples from the earlier levels at the site have been preserved, with the majority of the collection reflecting later (post-1860) use. The flatware comprises several patterns which are simple and seem to reflect an economy and conservatism in style and quality (Figure 50). Almost without exception, the plated specimens are finished over thin base metal in patterns which persisted through numerous reintroductions by different manufacturers. The "Windsor" pattern is represented by five examples from four different late nineteenth- or early twentieth-century proveniences from the north and south walls, and basement Room 001. The pattern first appeared as early as 1850 by Rogers Bros. (Davis and Deibel 1972:209), and lasted at least until 1921 when it was produced in plated forms by the Holmes and Tuttle Manufacturing Co. (Davis and Deibel 1972:89). The pattern may still be available today in stainless steel forms.

Ferrous flatware with organic (wood or bone) handles also is represented by five specimens, all of which were recovered from basement Room 001. This form of utility ware was available at least as early as 1865 (Association for Preservation Technology 1980:350-352), and remained popular for many years, eventually evolving into a ware with celluloid handles by 1927 (Mirken, ed. 1970:527). Similar wares remain available today with plastic replacing the earlier bone and wood handles. The examples from 33-Cu-314 probably date to the very late nineteenth or early twentieth centuries.

Two utensils are in the "tipped" pattern, which has been one of the most popular patterns over a long time span. The pattern was available at least as early as 1847, and as late as 1914 (Davis and Deibel 1972:62, 242). The "French" pattern, which is an unusual modification of "tipped," is represented by one example from Unit 44. This pattern shares the same decorative motif with "tipped," but in the "French" pattern, the low relief design occurs on the reverse side of the handle, where it would be hidden from view in a typical place setting. According to Davis and Deibel (1972:152) this pattern was made by Rogers and Bros. in 1874. Two additional utensils are undecorated, and appear to date from about 1870-1900 (Davis and Deibel 1972:21, 308).

All of the utensil data are summarized in Table 25, which presents available data on manufacturer, material, pattern, form, and approximate age of the flatware.

Bone Group

The bone group from 33-Cu-314 is represented by 1,598 specimens from 16 genera and at least 100 individual animals (Oliver 1985). The analytical methods and data from the extensive faunal analysis conducted for this project are fully documented in Oliver's report. In this section, the results from that study will be briefly summarized. The faunal remains were identified and presented by horizontal contexts which include basement Rooms 001, 002, and 003, and north, east, west, and south wall groups. A final group, miscellaneous, was also defined for various surface and other collection units. When the analysis was undertaken, the sorting of other cultural material was also underway, and the results of stratigraphic and temporal studies were not available to Oliver. For this reason, he was unable to subdivide the assemblage relative to vertical provenience blocks and the entire assemblage was considered as a single unit. Therefore, the following summary of his work relates to the assemblage as a whole, rather than within finer stratigraphic subdivisions.

Species Composition

One striking aspect of the assemblage is the relative lack of wild game contribution to the total number of identified specimens. Domestic animals account for the great majority of identified elements. By count, and by "minimum number of individuals," cow is followed by pig and sheep in descending frequency (Oliver 1985: Tables 2 and 3). The same pattern holds when three different meat-yield calculations are developed (Oliver 1985: Tables 12, 13, and 14). These analyses clearly indicate that all three of these species were important contributors to the diet of the residents (and customers as well?) of HS 125. The near absence of wild game in the diet of the residents is apparently a function of the massive reduction of local game populations. This occurred during and after construction of the Ohio and Erie Canal through the area in the mid-1820s. Land clearing and development proceeded rapidly during the canal era (Brose et al. 1981). This contrasts markedly with the pre-canal era when wild game contributed extensively to local subsistence. The rather high contribution of sheep to the diet is probably explained through the practice of grazing sheep on the valley slopes during the mid-nineteenth century (Brose and Lee 1984:64). The presence of local nineteenth-century woolen mills suggests the relative importance of sheep to the valley economy.

Rat constitutes the highest count of identified specimens after cow, pig, and sheep. This represents accidental incorporation of rats into the archeological deposits, and certainly has no reflection on meat yields or diet. However, the distribution of rat remains across the excavated proveniences is of interest with relation to site use and

activity areas. The highest concentration of rat elements occurs in basement Room 001, followed by basement Room 003. Very few rat remains were recovered from exterior unit proveniences. The large number of rat elements (n=46), and minimum number of individuals (n=6) from basement Room 001 apparently reflects the extensive dumping which occurred in that area about 1890-1910. A diverse artifact assemblage, including a very large assemblage of faunal remains (n=610 specimens, 35 minimum number of individuals) was recovered from that basement room. Those numbers reflect the largest counts from any of the provenience areas at the site. In addition, extensive rodent gnawing of the faunal elements from that room (231 of the total of 305 rodent-gnawed bones from the entire site) indicates a rather extensive infestation of these rodents in basement Room 001. It is difficult to determine if this infestation occurred while the cultural material was being discarded (turn of the century), or if it occurred primarily after the cultural deposit was sealed by the pouring of a concrete floor over the 10-cm-thick cultural deposit. The presence of a least one rat nest under the sandstone floor in Room 003 (Unit 12 area) suggests that much of the rat infestation may be a relatively recent phenomenon, rather than being directly associated with nineteenth-century occupation. From the available evidence, it is difficult to determine the age of the infestation in Room 001, and it may have extended from the late 1800s until essentially the present day.

As can be seen from Oliver's report, the contribution of animals other than cow, pig, and sheep to the faunal assemblage is minimal. A total of only 12 turkeys and chickens was identified, and other species are even more poorly represented. Two food sources may be underrepresented in the assemblage due to excavation methods. Egg shells were noted in many excavation units, but relatively few specimens were collected through 1/4-inch screening. Therefore, the listing of eggshells in Oliver's Tables 2 and 3 is certainly an underrepresentation of the relative importance of eggs in the diet of the inhabitants. Likewise, the absence of fine-screening recovery techniques probably resulted in the underrepresentation of fish, since many fish bones would not be recovered through 1/4-inch screening.

Other animals represented in the faunal remains are horse/mule, snowshoe hare, dog/wolf, Canada Goose, duck, turtle, and fish. Of these, only goose, duck, and fish are likely to have been food remains. The horse/mule is represented by a single tooth. This may derive from a draft animal kept on the premises, or perhaps more likely, from an animal used to pull the canal boats. The dog was probably a family pet, while the turtle is an immature specimen, and probably represents accidental inclusion in the cultural deposit. Perhaps the most unusual animal represented in the faunal assemblage is snowshoe hare. If the identification of this individual from basement Rooms 001 and 002 is accurate, it represents the westernmost record for this hare in Ohio.

Cultural Modification of Faunal Remains

One important aspect of the faunal analysis was the identification of modifications to the bones through cutting and sawing. The nature of the butchering marks, and the presence of primary butchering refuse led Oliver to conclude that butchering of whole animals was occurring on-site. Further, there are indications from the modified bones that cows were butchered in a different manner from pigs and sheep. Considerable evidence of sawing is seen on the cow bones, while the pig and sheep remains reveal more evidence of being severed through chopping. The decision to use saws or cleavers/axes may be a function of the relative size of the respective bones.

Other marks were also recorded on the bones. Many of these are cut marks, which occur primarily on pig and sheep long bones, and are oriented perpendicular to the long axis of the bones. Such marks do not occur with as great a frequency on the cow long bones. The difference in occurrence of these cut marks can best explained by the nature of the cuts of meat and their consumption. While nearly all the cow long bones were sawn into round steak cuts, the sheep and pig long bones are complete, and represent legs of lamb and hams. The numerous cut marks on the shafts of the sheep and pig long bones represent carving of plate size portions from the larger meat cut.

Meat Consumption

Oliver calculated potential meat yields from the faunal assemblage by three different methods (Oliver 1985: Tables 12, 13, and 14), and found that the rank of contribution to the total amount of meat did not change regardless of the method used. Cow contributed about 62-65 percent, pig about 20-30 percent, and sheep between 6-11 percent. Other animals including chicken contributed negligible amounts of meat to the diet. These amounts are only *estimates* of the relative importance of each species, based upon the available archeological sample. Oliver argues that the even distributions of body portions within each of the three main meat sources further supports the assertion that livestock were butchered on-site. Oliver suggests that the meat cut frequencies do not provide an indication of the socioeconomic status of the residents. However, it appears that better cuts of meat (steaks and hams) may be disproportionally represented.

Architectural Group

Window Glass

Flat glass fragments from window panes are the most numerous artifacts from site 33-Cu-314, with 7,282 sherds recorded from the 1983 excavations. Window glass sherds were recovered from almost every excavated provenience, and were densely distributed in several units on the exterior of the structure. This high density was anticipated, since several excavation units were placed directly under windows, where

glass breakage and replacement could be expected to result in considerable accumulation of glass within the aggrading archeological deposits. In its mid-nineteenth-century configuration, HS 125 contained approximately 34 windows, including seven basement windows which were probably major contributors to the large archeological window glass assemblage. Photographs of the structure about 1890 show considerable deterioration, especially of the window areas, with shutters missing, and windows broken. From these photos it can be readily seen that window glass could be incorporated into the archeological deposit in large quantities. This is especially likely, given the thin and fragile nature of early nineteenth-century window glass.

Since about 1970, numerous studies have examined the relationship between window glass thickness and date of manufacture (Chance and Chance 1976; Demeter and Lowery 1977; Grosscup and Miller 1968; Grosscup 1972; Moir 1982; Roenke 1978; Walker 1971; Schoen 1985; Whelan 1985). While there is a lack of comparability between studies for providing the same calendrical date for a unique glass thickness measurement, all of the studies have clearly documented a trend toward increasing glass thickness through time throughout the nineteenth century. This direct relationship holds until about 1911 when production became automated. Several different approaches and methodologies have been applied to these window glass thickness studies, resulting in a variety of formulae and other dating schemes. It is beyond the scope of this report to extensively summarize these approaches. Interested readers should consult recent studies (Moir 1982; Roenke 1978; Schoen 1985; and Whelan 1985) for additional details.

Window glass dating schemes can generally be divided into two groups, since researchers have generally relied on two different measures (mean or mode) in developing chronologies from window glass assemblages. Schemes based upon window glass thickness means have been aimed at determining the initial construction date, while studies emphasizing modal occurrences have focused upon determining the mean date of occupation, or phasing of structural additions. One recent synthetic study has utilized mean glass thickness to examine both initial construction and mean occupation dates (Schoen 1985). Several researchers have defined potential methodological problems in developing absolute chronologies from window glass thickness (Moir 1982; Schoen 1985; Whelan 1985), but all agree that these problems can be lessened or overcome if the appropriate data set is utilized, and if careful data collection procedures are applied. The best results are obtained from sites occupied over a relatively short time span (Schoen 1985). Further, there is considerable regionalism in the results obtained to date, indicating that a window glass dating formula for one geographic area will not apply to other areas with equal accuracy. The application of available dating schemes to site 33-Cu-314 is thus complicated by the very long occupation span for the structure, and by the relative lack of comparable data from the project area. Despite these problems, window glass data from the site were extensively used as a relative dating tool to compare several intrasite proveniences. When window glass thickness data were compared by stratigraphic association and with other associated artifacts with known

temporal parameters, a clear trend toward increasing glass thickness through time was documented for site 33-Cu-314.

The problem of the long time depth at 33-Cu-314 was overcome by selecting undisturbed, stratified deposits for detailed study of window glass thickness. Several groups of proveniences provided the focus for the investigation. Basement Room 003 formed one sampling stratum. Since the archeological deposit was sealed under the sandstone slab floor, only glass from the early years of use of the structure was expected to be present. Other areas of focus were select exterior proveniences, including units on the south, north, and east sides of the structure. These included Units 4, 6, 42, 14, 34, and 44. The data collected for each window glass sherd is summarized in the METHODS section of the report. *All* 7,282 fragments were analyzed through these methods, but window glass from only the proveniences enumerated above will be extensively used in the following analysis.

The very large sample of window glass from 33-Cu-314 is distributed so that large subsamples are present within several key proveniences. Sample sizes for stratified exterior units are excellent, and much smaller, but satisfactory, samples are present from units in basement Room 003. In that area, the very shallow depth of the cultural deposit resulted in small window glass counts for individual excavation proveniences. Since the same strata were present in all the units, it was possible to combine several contiguous units in order to bolster sample sizes. There is some disagreement regarding minimum sample sizes for deriving reliable thickness measures. Sample sizes of 30, 75, 100, and 200 have been variously suggested to be sufficient for deriving reliable results (Moir 1982; Schoen 1985; Whelan 1985). In the current study, most of the units subject to detailed analysis contained window glass samples considerably larger than 75 sherds, with some greater than 200.

Exterior Units. A general trend of increasing glass thickness through time is reflected in several of the exterior excavation units (Table 26). This trend is most clearly seen in excavation Unit 14 from the north wall. This unit has the largest window glass count (n=1,241) of any excavated provenience. The unit was positioned under basement, first, and second floor windows. This unit's location under these windows accounts for the large number of window glass fragments. Mean thickness values range from a low of about 1.0 mm to a maximum of about 1.8 mm, with thickness increasing dramatically in the upper three excavation levels. It is also very important to note that variance and standard deviation values are considerably larger for excavation Levels 2 and 3 than for Levels 5-8. The reason for this difference is that older (and thinner) glass continued to be broken and incorporated in the upper levels along with contemporary glass. The absence of the more recent, thicker glass from the lower proveniences results in the smaller standard deviation values for those levels. The most dramatic change in window glass thickness in Unit 14 occurs between Levels 4 and 3. This change correlates with stratigraphic data (Level 3 marks the beginning of a gravel fill layer, Stratum 10), and

with other temporally diagnostic artifacts to indicate a temporal break between Levels 3 and 4.

Window glass thickness means for the lower five excavation levels in Unit 14 range from about 1.0 mm to 1.2 mm. For the lowest levels (7 and 8), the modal thickness is 1.0 mm. For Level 6, the primary mode is 1.0 mm, with a possible secondary mode at 1.5 mm.

Sample sizes from Unit 29 along the north wall are much smaller than for Unit 14, but a similar pattern holds. There is a large change in values between Levels 4 and 5, which correlates with the break between Levels 3 and 4 in Unit 14.

The increasing average window glass thickness through time is also seen in Units 4, 6, and 42 along the south wall. Here the trend is not as clear as at Unit 14, possibly due to smaller sample sizes for the south wall units. Since few windows were present on the south elevation, it is to be expected that fewer window glass sherds would become incorporated in archeological deposits in that area. The mean thickness range for Units 4, 6, and 42 is roughly equivalent to Unit 14 (Table 26). However, the smaller mean thickness values (about 1.1 mm-1.28 mm) are found only in the lowest excavation levels on the south wall. Unlike the lower levels along the north wall, there are few strong modal values of 1.0 mm along the south wall. Modal values of 1.0 mm do occur in Unit 6 Level 7, and Unit 6 Level 6. However, in Level 6, there is a weak secondary mode at 1.6 mm. For the lowest excavation levels in Units 39 and 42 (Levels 7 and 8, the stratified silt and rubble layers, Strata 11 and 12) there are no clear modes, but there are clusters of values at 1.0 mm, 1.2 mm, and 1.6 mm. The difference between the south and north wall modal values is explained by construction staging. Along the south wall, some "old" glass from the original structure is present in the lowest cultural deposits, but it is mixed with "newer" glass from the structural addition.

Abrupt changes in mean thickness values are present in the south wall deposits, just as they are from the north wall. In Unit 4, there is a very abrupt change from Level 5 to Level 4. This shift corresponds to a stratigraphic change which marks a former surface. The deposit in Level 4 is fill above the level of the foundation which was originally exposed to view. Similar shifts in thickness means occur in Units 6 and 42 (Table 26). The mean thickness change in Unit 42 correlates with deposits below and above the level of the adjacent sandstone slab door "stoop." A very large sample of window glass (n=206) occurs in Feature 10, which is a lens of cultural material within Level 5 in Unit 42. This lens occurs immediately above the level of the sandstone slab. Mean thickness for the sherds is 1.63 mm, while the mode is 1.6 mm. Of particular interest is the complete absence of thin (1.0 mm-1.2 mm) window glass within this deposit.

Sample sizes for window glass (and other artifact classes) are quite small for the east wall excavation units. This is especially true within the lowest excavation levels,

which are of considerable interest when attempting to date construction phases. When the lowest excavated levels (burned layer, Stratum 15 and stratified silt, Stratum 11) are examined for Units 63 and 64, 82 fragments yield a mean of 1.1 mm and a mode of 1.0 mm. Samples from Units 34 and 44 are too small to be statistically meaningful, but there are several sherds 1.4 mm or greater in thickness from the burned layer and stratified silt. When those two deposits are examined for all the excavation units along the east wall, a strong mode of 1.0 mm is obtained.

Interior Units. As has been demonstrated for window glass samples from the lower levels of excavation units along the south wall, the mean value occasionally masks variability within a given sample. This includes some samples which have clearly bimodal thickness distributions. For this study, thickness means are extensively utilized. However, thickness distribution curves and modal values are also examined. These measures illustrate variability within the samples which is not apparent from the mean values alone. The utility of examining more than one measure of glass thickness is best demonstrated from samples from basement Room 003.

The window glass thickness distribution from numerous excavation proveniences in Room 003 is presented in Figure 51. The thickness mean for 301 window glass fragments recovered under the sandstone floor is 1.35 mm. When the individual sherd thickness values are graphed for these proveniences, a bimodal distribution is apparent, with modes at 1.0 mm and 1.6 mm (Figure 51). This bimodal distribution is important for understanding structural staging at the site. The lower mode correlates well with thickness means and modes from the deepest excavation levels of the exterior units, and is interpreted as representing fragments from the original windows at the structure. The higher mode matches very closely with the mean and mode from Feature 10, a thin, but dense artifact lens in Unit 42. This lens occurred adjacent to the sandstone basement door stoop at the south wall, and represents an early phase of trash disposal from the newly enlarged structure. The presence of 1850s artifacts (ceramic sherds and bottle glass) in this lens suggests that the 1.6 mm window glass may date from that era, as compared with the 1.0 mm-1.2 mm thick glass from the initial construction phase. The two modes of glass thickness in the basement reflect the presence of glass from the initial construction phase (north structure) and from the enlargement phase (south structure) (cf. Chance and Chance 1976). It has been well documented that window glass thickness increased dramatically after about 1845 (Roenke 1978:116), and the bimodal distribution in samples from Room 003 reflects that thickness shift. When comparing the upper mode with suggested age ranges for primary modes from the Northwest Coast, the 1.6 mm mode fits within the post-1845 (Walker 1971), 1840-1850 (Chance and Chance 1976), or 1845-1855 (Roenke 1978) time periods.

Not all of the samples from basement Room 003 excavation units reflect a bimodal distribution. The sample from Feature 7, excavation Unit 16, is an important exception. In that unit, a unimodal distribution (1.6 mm) was recorded (Figure 52), with a mean thickness of 1.7 mm. The convergence of the mean and the mode in this unit

is similar to that seen in Feature 10, Unit 42. The thickness values from Unit 16 can be readily compared with associated temporally diagnostic artifacts, including several coins. The most recent coin dates 1853, and the remainder of the artifacts from Feature 7 (e.g., fluted tumbler, Type B tobacco pipe, hand finished bottle) are consistent with an early 1850s temporal placement. Since these artifacts were found in the matrix of Feature 7, a privy, or in the rubble which was used to fill it, the last use of the feature can be rather accurately set at about 1853. The upper portion of the feature was filled with construction rubble (sandstone and bricks fragments) and its wooden superstructure was burned prior to installation of the sandstone floor. This strongly suggests that the feature was demolished and filled immediately prior to, or during, the construction of the southern portion of the structure. The paucity of thin (1.0 mm) window glass from the rubble and feature fill matrices suggests that contemporary glass broken immediately prior to or during the construction episode was deposited in the feature. Through association with numerous temporally diagnostic artifacts from Feature 7 and Feature 10, the 1.6 mm thick glass appears to date to the early 1850s. While it is possible that the glass is slightly earlier (post-1845), it does not postdate about 1853.

The very tight association of window glass and temporally diagnostic artifacts from Features 10 and 7 has allowed an estimate of a calendrical age to be developed for window glass about 1.6 mm thick. Similar associations occur for later deposits at the site, but the earlier deposits, and their associated window glass samples, are not easily dated. In Table 27, mean thickness window glass dating schemes and formulae from several projects are summarized by 0.05 mm increments to facilitate comparison with window glass sample means from 33-Cu-314. These data are derived from Moir (1982), Schoen (1985), and Whelan (1985). Moir's formula was derived from samples from the northeast U.S. Whelan's formula was developed from sites in the southeast U.S., while Schoen's formula was developed for the Central Plains. One might expect that the Moir formula would be the one most applicable to site 33-Cu-314, since the other formulas were generated with data from regions further from Ohio.

The considerable divergence between these formulas is rather striking (Table 27). For example, if one applies these formulas to a mean glass thickness value of 1.0 mm, which is the thinnest, and presumably earliest, window glass at the site, a date range from 1792 to 1833 is obtained. Similar results (range from 1807-1843) are obtained when the mean thickness value (1.2 mm) for the large samples from Unit 14 Levels 4, 5, and 6, is applied to the formulas. The apparent lack of comparability of the Moir formula to window glass from HS 125 may relate to the methodology he employed. Most of the sites in his study were occupied over a long time span (a 50-year average), and his formula averages considerable glass thickness variability to arrive at initial construction dates. Little variability is apparent in the samples from which the 1.0 mm and 1.2 mm means were taken, and a relatively short time span is represented by the associated deposits at site 33-Cu-314.

The divergence in Schoen's formula dates from what would be expected at 33-Cu-314 (about 1793 and 1807 vs. expected dates of about 1825 and 1840) may reflect geographic differences. Schoen's study had excellent chronological control, with each site having less than 10-year average occupation spans. Schoen has pointed to shipping patterns and divergent suppliers as probable reasons why formulas will not apply in different geographic areas. It should be noted that several glasshouses were operating in western Pennsylvania and Ohio by the 1820s. For example, the Franklin Glass Works in nearby Kent was in operation from 1825-1832. One of these local glasshouses may have supplied the window glass for HS 125, if the structure were built in the 1820s. Whelan's scheme seems to match expected dates for early construction and repair episodes at 33-Cu-314 better than the other two dating schemes, despite geographic differences. Given all the uncertainties in application of the formulas to other data sets (Schoen 1985; Whelan 1985), none of the formulas can be conclusively used to date the initial construction of HS 125.

When thickness values of about 1.6 mm are dated by the formulas in Table 27, results are obtained which can be compared with dates derived independently for glass of this thickness from Features 7 and 10. An excellent sample of window glass (n=206) from Feature 10 averaged 1.63 mm in thickness, and variation in thickness was rather small, as evidenced by a standard deviation of .19. Similarly, glass from Feature 7 averaged 1.7 mm, again with relatively little variation. Based upon associated artifacts, these features date to the early 1850s. For these samples, the Moir formula appears to be most applicable, and yields dates comparable to the dates independently derived from coins and other artifacts directly associated with the window glass.

It is apparent from consistently increasing thickness values through time in stratified contexts at 33-Cu-314 that window glass is a sensitive temporal indicator. As such it has excellent potential for helping to compare the relative ages of intrasite and intersite assemblages. Thickness value differences reflect initial construction, addition of the south component, and window repair throughout occupation of the structure. No single existing dating scheme can be applied to precisely date construction events at HS 125. However, data from the site demonstrate that window glass thickness studies hold considerable potential for chronological studies at this and other nineteenth-century sites.

Structural Hardware

Hinges. One ferrous metal spring hinge is included in the collection from Unit 30 Level 1. It is of a type commonly used for self-closing screen doors. The elaborately embossed surface suggests a late Victorian manufacture date, since earlier hardware was less elaborately decorated, and later (post-1920) styles were in direct opposition to the Rococo excesses of the "Golden Age" (Figure 53f). The other half of this hinge (or from an identical one) was recovered from the surface of Unit 34 located at the front door of the north half of the structure.

Four identical hinge pins with "ball" finials (Buckles 1981:39) were recovered from proveniences along the northern portion of the east wall of the structure (Figure 53h). A "narrow butt" and half of a "broad butt" hinge were recovered in Unit 37 Level 3. Both are ferrous, and unembellished. Neither is related to the hinge pins discussed above. Five artifacts were identified as components of a minimum of three shutter hinges. All are from the same provenience (Unit 15 Level 1) on the north wall of the structure (Figure 53a-e). Two are pintle type hangers while the third is a gravity lock "cup" hinge. The presence of shutter hinges and closures on the structure is documented in late nineteenth-century photographs (Johnson and Newman 1984). Careful examination of these photographs shows that the shutters are in deteriorated condition, and that some of the shutters and hinges are missing. Apparently, these hardware elements were being incorporated in the soil around the foundation as the house deteriorated around the turn of the century.

Other Building Hardware. Miscellaneous hardware and building materials include a galvanized conduit hanger strap from Unit 12 Level 1, a large spike (railroad or boat spike?) from Unit 50 Level 3, an 8 1/2-inch long square spike from Unit 1 Level 4, two 3-inch staples from Units 1 and 21, and a threaded copper pipe from Unit 11.

Door Lock and Latch Components. A fragmentary rim knob lock shell was recovered in basement Room 001 (Unit 50 Level 2), along with two rim knob lock internal mechanism parts (Figure 53g). Unfortunately, no patent or manufacturing information was present on the recovered lock fragments. An incomplete thumb latch assembly was recovered from the basement (Unit 41 Level 2), and a ferrous door knob shank was recovered from the west wall (Unit 32 Level 2) (Figure 53j). Three door knobs were recovered. These include a white porcelain example from Unit 44S Level 10, a mottled brown ceramic (usually called "mineral") knob from Unit 14 Level 2, and a third ceramic knob from Unit 8 Level 1. Finally, a fragment of a shackle from a heavy duty padlock was recovered from basement Room 001 in Unit 50 Level 3. A large number of metal artifacts, including lock hardware and a wide variety of other materials, was recovered from Unit 50. This unit was located under the basement stairs, and it appears that the small enclosure formed by the stairs served as a storage/discard area for a wide range of cultural material.

With the exception of the door knob from Unit 44, and the thumb latch from Unit 41, the remainder of the door lock and latch hardware is from late nineteenth and/or early twentieth-century contexts. It is possible that many of the items have considerable antiquity, and were discarded only after a long history of use at the structure. The porcelain door knob was probably in use during the early to mid-nineteenth century, since it was recovered from a provenience (Stratum 15) which appears to have been deposited rather early in the site sequence.

Keys. This group of artifacts could be considered as "personal items," but they are described here since they relate directly to the door hardware described above. A

complete cuprous key from Unit 29 (Figure 53k) compares well with the class Numbers 13 and 14 configuration illustrated in the 1865 edition of the Russel and Irwin Catalog (Association of Preservation Technology 1980: 55). These keys were designed to fit upright rim knob locks. With a few exceptions, the locks were inexpensive, with a single tumbler, and were not designed for maximum security (Association of Preservation Technology 1980: 17-20, 26, 55). This key may have fit the lock described above from excavation Unit 50.

A second key from Unit 1 Level 2 is represented by the distal end (Figure 53i). It is made from cuprous metal and is about five times larger and 30 percent thicker than the rim knob lock example described above. A comparable example could not be located in available nineteenth-century catalogs. It may represent a key used with a depository or safe.

Nails and Other Hardware. As described earlier in this report, most of the metal artifacts were heavily corroded and in poor condition. This is especially true of the nails and other fasteners. The condition of the nails precluded extensive analysis. Therefore the nails were only counted. A total of 4,841 nails and other fasteners was recovered from the site in 1983.

Furniture Group

This analytical/functional group includes furniture hardware components, oil lamps, and other lighting devices. Relatively few (n=267) artifacts attributable to this group were recovered from the 1983 excavations, but the distribution of those fragments provides some insight into site function and discard activities.

Furniture Hardware

Fifteen complete and fragmentary artifacts derive from various household furniture components (Table 28). These include casters, escutcheons, pulls, and latch components. The furniture represented by these artifacts includes: bed, trunk, cabinet(s), drawer, candle holder, curtain pole bracket, drapery chain, door stop, and ice box. None of the artifacts exhibit patent or manufacturing marks or lettering, so it is not possible to provide extensive detail regarding these items. Instead, the artifacts are listed in tabular form by provenience, with their probable function indicated where possible (Table 28). With the possible exceptions of two items from Unit 50 Level 5 in basement Room 001, the furniture fragments are from late nineteenth-century and/or early twentieth-century depositional strata.

Stove Fragments

Six iron fragments derive from cast-iron stoves. A complete cast, openwork, stove tool handle was recovered from along the west wall (Unit 35 Level 3) of HS 125 (Figure 54a). By about 1908, this openwork style of handle had been virtually replaced by spirally wound, wire handled tools. The wire handle form was more cheaply produced, and was more efficient in dissipating heat (Sudderth 1985:68). In addition to the stove lid tool, three incomplete stove eyes, or burners were recovered from basement Room 001 (Unit 50 Level 3). One was also recovered from the west wall exterior (Unit 35 Level 1). These four artifacts can be attributed to coal or wood burning stoves. An additional "eye" from a gas/oil burning stove was recovered from the southwest corner of the structure (Unit 1 Level 2). One unembossed cast-iron "cabriole" style leg (Buckles 1981:69) for a smaller stove was recovered from basement Room 001 (Unit 10 Level 1). All of these stove fragments were recovered from late nineteenth- and/or early twentieth-century contexts.

Oil Lamp Fragments

The majority of artifacts which can be attributed to kerosene lamps are from colorless glass chimneys. A total of 256 sherds from lamp chimneys was recorded from the site, including 236 body sherds, and 20 rims. Nine of the rims are decorated with the simple "pie crust" pattern, while the remainder are smooth. It is possible that some of these plain "rims" are actually from the base of the chimney, rather than the top. The distribution of chimney sherds is uneven across the site. Over half (n=144) of all the sherds were recovered from excavation Levels 4 and 5 within Unit 29. This unit was located at the northeast corner of the structure (Figure 4). Most of the sherds are from two "pie crust" chimneys which could be partially reconstructed (Figure 24a). A total of 14 additional chimney fragments was recovered from north wall excavations, and over 60 percent of all chimney glass fragments were from north wall proveniences. Thirty-eight sherds were recovered from two units on the south wall, and 12 were from east wall excavations. An additional 28 sherds were collected from excavation Unit 50, located under the stairs leading to the first floor (Figure 4). This distribution is considerably more limited than that seen for other domestic artifacts at the site. It appears that few chimneys were broken and discarded around the structure, since a very large number of sherds can derive from one chimney, given the very thin nature of chimney glass.

The vertical proveniences of the chimney sherds indicate that these items were not discarded until relatively late in the occupational sequence at the structure. The two reconstructable chimneys from Unit 29 are directly associated with numerous artifacts which can be securely dated to post-1870. Several of the temporally diagnostic artifacts from Level 4 of Unit 29 postdate 1880, and the deposit apparently spans the late nineteenth century. Similar associations are reflected for all the remaining chimney glass sherds, although none can be dated through associated artifacts more accurately than

those from Unit 29. The late nineteenth-century association for the chimneys matches historical information regarding the development of kerosene burning lamps, and stylistic development of chimneys. The transition from whale oil and other combustible fluids to kerosene began in the late 1850s, with kerosene being patented in 1854, and the first successful kerosene burner patented in 1856 (Thuro 1976:12,14). Decorative top rims became popular in the 1870s, and a crimping machine to produce "pie crust" rims was patented in 1877 (Wallace-Homestead 1972:111). This information, combined with the association of the recovered assemblage of lamp chimney fragments, strongly indicates that kerosene lamps were in use at the site after about 1870, during a period when the structure served the single function of a residence for the Gleason family or other occupants.

In addition to the chimney fragments, four clear glass lamp body sherds were also recovered. None of the fragments was sufficiently large to allow determination of vessel shape. Similar to the chimneys, the lamp body fragments certainly date after about 1860, and probably postdate about 1870. The sherds appear to represent three different vessels, and were recovered from Unit 37 Level 3, Unit 14 Level 4, and surface proveniences.

Other Lighting Devices

In addition to fragments from oil lamps, several components from later, electric lighting apparatus were recovered from the site. Five fragments from porcelain electric wire insulators from five different units were identified. All were recovered from Level 1 proveniences in Units 25S, 35, 33, 56, and 6. Electric lights are also represented by four light bulb fragments, which were recovered from various surface proveniences.

A single cuprous candle holder was also recovered from the site (Figure 54f). The artifact is fragmentary, and only the ring by which it was held remains intact.

Arms Group

This group is represented by cartridge cases and sights. No other components of firearms were recovered during the 1983 excavations. Among the 16 cartridge cases from the site are four .22 caliber rimfire cartridges. One of these is a "short," headstamped with the mark "US," which was used by the United States Cartridge Company, Lowell, Massachusetts (White and Munhall 1977:149). There is some disagreement regarding the span of operation for this firm with White and Munhall (1977:149) indicating a span of 1869-1936, while Vinson (1968:92-3) states that the company operated from 1864-late 1920s. The cartridge exhibits two firing pin impressions, suggesting misfire on the first try. Initially introduced in 1857, the .22 short is the oldest American self-contained metallic cartridge. It was originally produced for the Smith and Wesson First Model Revolver (Barnes 1980:289).

The remaining three .22 cartridges are for long rifle chambering and exhibit an "A" headstamp. Logan (1959:189) attributes this trademark to the American Metallic Cartridge Company. The examples from 33-Cu-314 are identical to a specimen pictured in White and Munhall (1977:17), which is attributed to this company. The company was established in South Coventry, Connecticut, in 1891, and closed a short time later in 1894. This early closing may have been hastened by the Panic of 1893, and the subsequent distress and unemployment which resulted (Morris 1953:262).

There are six .32 caliber cartridges in the collection. Two are headstamped, "Peters/.32 S. & W.," while the remainder are marked, "W.R.A. Co./.32 S. & W." Based upon firing pin impressions, the "Peters" examples were expended from a different gun than the W.R.A. (Winchester Repeating Arms Co.) examples. The .32 S. & W. cartridge was designed for use in the Smith and Wesson Model 1 1/2 hinged frame, single action revolver, introduced in 1878 (Barnes 1980:168). This round was popular in both the United States and Europe. The round was originally loaded with black powder, but smokeless has been used exclusively since about 1940.

A single "W.R.A. Co./.38 S. & W." blank cartridge was recovered from Unit 14 Level 3. Blanks of this type were used for celebration (like firecrackers), demonstration, and display purposes.

A single lead ball was recovered from Unit 47 Level 3 under the sandstone basement floor. This ball is about .32 inches in diameter. This may be a bullet of about .32 caliber, or a No. 0 buckshot. It weighs 4 g.

Completing the inventory of ammunition are the brass bases from two paper hull shotgun shells (Figure 55f,g). One from Unit 7 Level 4 is marked "U.S.C. Co./No 12/Climax." The "Climax" brand was advertised in the Montgomery Ward Catalog for 1894-95 (Schroeder, ed. 1970:460). The shell was heralded as the *new* U.S. Lowell Climax, so introduction is assumed to be about 1894. A second shell is headstamped "U.M.C. Co./No 10/Club." The Union Metallic Cartridge Co. was established in 1867. The mark, incorporating "Co.," is early in the company's history. The mark U.M.C. (without "Co.") persisted until the merger of the Union Metallic firm with Remington Arms in 1911 (White and Munhall 1977:148). Both of these incomplete shells exhibit the distinctive off-center firing pin impression left by a side hammer shotgun.

In addition to cartridges and shells, a portion of a powder flask was recovered from Unit 16 (Figure 55i). The powder flask is represented by a cuprous metal spout which is slotted for adjustment. The adjustment served to provide different grain number charges, and allowed the flask to be used with more than one type of arm. Illustrations of similar spouts can be found in select catalogs (Dixie Gun Works Inc. 1972:263). The final artifact of this group consists of a series of front gun sights in a single brass casting (Figure 55h). Three sights are remaining; at least one has been removed.

Clothing Group

The clothing group is represented primarily by buttons and fragments from shoes. Buttons are the most numerous clothing item, and represent more than 90 percent of the clothing group artifacts recovered from 33-Cu-314 in 1983. Buttons were recovered from all areas of the site. Their distribution is distinctly patterned across the site.

Buttons

A total of 133 buttons was recovered from site 33-Cu-314 in 1983 (Table 29). The buttons are manufactured from several different media, including organic and nonorganic materials. White glass buttons are the most numerous, with 55 buttons of 10 different varieties represented. Shell buttons number 18, in seven varieties, while mother-of-pearl buttons number 22, with 11 varieties represented. Bone buttons are also numerous, with 22 buttons recorded in six varieties. Metal buttons number 14, in 11 varieties. Plastic and rubber buttons are each represented by a single specimen. The buttons are mainly small types, with a notable absence of coat buttons or other large forms recorded in the assemblage. Thirteen are classified as "diminutive" (0-15 lignes, or less than .375 inches), 119 are "small" (15-30 lignes, or .375-0.75 inches), and one is "large" (greater than 1.0 inch) (Peacock 1972). No "medium" size buttons were recovered from the site.

The distribution of the buttons across the excavated areas shows strong patterning. A total of 61 (46 percent) of the buttons was recovered from basement Room 001. Since approximately 11 sq m were excavated in Room 001, the density of buttons in these units is about 5.5 per sq m. Fourteen of the Room 001 buttons were recovered from Unit 50 under the stairway to the first floor. At no other area of the site was the density of buttons as great as in Room 001. The five buttons from basement Room 002 represent a density of 1.2 per sq m, while the 21 buttons from Room 003 reflect a density of one button per sq m. The buttons in Room 003 were not evenly distributed. Nine of the buttons were recovered from Feature 7 (a privy) in Unit 16. A total of 88 (66 percent) of the site button assemblage was recovered from interior excavation units.

The distribution of buttons in exterior excavation units was similar to that seen in basement Room 003, which was also an outdoor provenience when its associated buttons were lost or discarded. Six buttons were recovered from the north wall, representing a density of one button per sq m, 12 buttons were from south wall proveniences (1.5 per sq m), six were from the east wall (one per sq m), and 21 were from the west wall (about two per sq m). While the number of buttons per area is similar for the exterior units and basement Room 003, when the volume of matrix is considered, the density of buttons from the exterior units is *much* smaller than from any of the interior basement rooms.

Other Clothing Fasteners

In addition to buttons, four other clothing fasteners were recovered during 1983. A shirt snap was recorded in Unit 2 Level 2. This snap appears to be very recent in age. Three clothing buckles were also recovered. One small buckle from Unit 15 Level 4 appears to derive from a woman's dress, while the remaining buckles (Unit 30 Level 1) are a gripping form from either trousers or a vest.

Shoes

The single identifiable metal shoe fragment from the 1983 excavations is a ferrous toe plate. This plate is from a reinforced, or safety toe shoe or boot. Based on the provenience of this specimen (Unit 6 Level 1), it is most likely of twentieth-century age. Numerous shoes are represented by leather sole and upper fragments. These items were not analyzed. The shoes are in poor condition, probably due to the alternate saturation and drying of the soil, and the negative effects of frost action on the preservation of leather. The shoes in this collection include children's and adult sizes.

Clothing Related Items

In addition to clothing fragments, there are other artifacts which relate to clothing construction or repair. The assemblage from 33-Cu-314 includes five straight pins from Unit 10 Level 1. In addition, a fragment from a pair of scissors was recovered from basement Room 001 (Unit 50 Level 3).

Personal Group

This group is comprised primarily of small items used and/or carried by individuals. There is some overlap with other functional groups (Tobacco and Clothing groups). The variety of personal items from the site is rather limited, and this group is dominated with a surprisingly large assemblage of coins. The age and distribution of these coins are important factors for dating associated archeological assemblages and features, as well as for examining changes in site function through time.

Coins and Tokens

Forty-six coins and tokens of several denominations and styles were recovered from excavations at 33-Cu-314. The proveniences, dates, and degree of wear for the coins are summarized in Table 30. Most of the coins were recovered from units in basement Rooms 001, 002, and 003. The unequal distribution of coins across the excavated proveniences is striking, especially considering that 41 of the 46 coins were recovered from units representing only 15 percent of the total volume of matrix excavated at the site. The basement deposits were very shallow (with the exception of

Feature 7 within Unit 16), yet over 80 percent of the coins were found in basement proveniences. This distribution clearly reflects special activity areas at the site. While a few of the coins may have become deposited in the basement after falling through cracks from the first floor, the location of the coins within soil, gravel, and clay layers under stone and concrete floors indicates that they were lost as the result of activities occurring on the ground surface. In the case of Room 003, it is argued that the coins were being deposited outside the north half of the structure prior to the construction of the south half. With the possible exception of two coins (a 1924 dime from Unit 41 and an 1865 cent from Room 002 surface), all of the basement provenience coins were deposited prior to the installation of either cement (Room 001) or sandstone slab (Rooms 002, 003) floors. This makes the coins extremely important for determining the approximate dates for installation of these basement floor levels in addition to providing significant data for examining site function during the nineteenth century. Both chronological and functional interpretations regarding coin dates and distribution will be discussed in detail in a later section of the report.

From Table 30 it can be seen that the coins are all small denominations with dimes representing the highest face value coin discovered. In addition to typical nineteenth-century U.S. coinage (large cents, Indian Head cents, three-cent pieces, half dimes, and dimes), four less common U.S. tokens were also recovered. Three of these were issued during the Civil War, and are one-cent size copper tokens. None contains indications of value. One bears the lettering "UNION FOREVER" with a ship logo on the reverse and a date of 1863, while another contains the inscription "OUR ARMY" and the date 1864. In addition to these tokens, a small cent-sized token labeled "C.P. Curtis Auction & Commission/Merchant 157 Summ. St. Toledo Ohio" is dated 1863. A fourth token is similar in size to a large cent, and contains the information "New York Stock Exchange Company/ No 6 Tontine Building Wall St.," and "Merchants Exchange." No date is present on this specimen. In early 1862 all metallic currency was gradually withdrawn from circulation. By late 1862 this void was filled with privately struck tokens. Huge numbers were issued until 1864, when an act of Congress made it illegal for private individuals to issue any form of money (Hetrich and Guttag 1924:5). While in circulation, the tokens were accepted by trades-people as a means of exchange. Value was usually one cent.

In addition to U.S. currency and tokens, five Canadian coins were also recovered. These include half cent and cent coins, all in sizes equivalent to U.S. large cents. Included are Bank of Upper Canada one-half and one cent tokens (1854 and undetermined dates), two Province of Canada, Bank of Montreal half penny bank tokens (1844 and undetermined dates), and a single Wellington half-penny token (1814). The presence of these tokens at the site is not unexpected, given the propinquity of Canada to the project area. Canadian coins are commonly found in circulation today in many areas of the U.S. A second reason for the presence of the tokens at the site may stem from the scarcity of currency during the early years of development of the Cuyahoga Valley (Miller and Hurry 1983; Brose et al. 1981; Lee 1983:5). Currency from several

countries was used extensively in the valley during the early nineteenth century, reflecting the shortage of U.S. currency on the Ohio frontier. However, most of the Canadian pieces from 33-Cu-314 date from the 1840s and 1850s, during which the Cuyahoga Valley was not an isolated frontier area. This suggests that the presence of the Canadian tokens reflects travel and commerce rather than a scarcity of available U.S. currency.

The assemblage of coins from the site is much larger than was anticipated, and reflects the reported and assumed commercial uses of the structure during the 1830s through the early 1850s. The late nineteenth-century coins were associated with domestic refuse which can be directly associated to known late nineteenth-century use of the basement. These functional aspects as well as chronological implications of the coin assemblage will be discussed in a later section of the report.

Jewelry

Jewelry is represented only by beads, a broach, and a pendant. Nine "milk" glass beads were recovered from Units 9, 10, 13, 20, and 50 in basement Room 001. All of the beads are of the same size and shape (8.6-8.8 mm x 6.85-7.0 mm). These relatively large beads all appear to have been part of a single necklace. Associated artifacts suggest that the beads were discarded about 1900. A single broach (Figure 56g) was recovered from Unit 5. The most diagnostic piece of jewelry from the site is a small heart-shaped pendant. This cuprous pendant from Unit 3 Level 2 is embossed "Centennial Celebration Cleveland, Ohio/ July 22/ 1896" (Figure 56f). There is a shield in the center of the pendant with a band across the middle with "Cleveland" embossed on the band. Above the band and to the left are a gear, hammer, and anvil. On the right is an anchor with superimposed oars. These devices apparently symbolize the city's industrial and maritime enterprises.

Slate Pencils

Thirteen fragments from slate pencils were recorded in the "Personal Group" assemblage (Figure 56 l and m). Ten of these were recovered from proveniences (Units 16, 60, and 20) in basement Rooms 001 and 003. The remainder are from Unit 29 Level 4 and Unit 1 Level 1. Of interest is the occurrence of five fragments from Feature 7, Unit 16, Room 003. Slate pencils were either cut or turned sticks of soft slate, or were formed by pressing moistened slate powder into sticks. The pencils from 33-Cu-314 appear to be of the cut variety. The pencils were used on slate boards for writing lessons and play. They were replaced circa 1910 by graphite pencils and writing tablets.

Other Personal Items

A cuprous thimble was recovered from Unit 10 Level 1 in basement Room 001 (Figure 56i). An incomplete clasp knife consisting of a single cast handle and bolster, which are decorated with four embossed lines, and a bolster lining were recovered from Unit 9 in basement Room 001 (Figure 56k). Other personal items from the site include a cuprous compass case from Unit 41 Level 3 (Figure 56f), a cane ferrule from Unit 2 Level 2 (Figure 56h), and an umbrella ferrule from Unit 19 Level 4.

Grooming Items

Three combs were recovered from the site. One of these is a nineteenth-century fine tooth variety from Unit 5 Level 4 (Figure 56j). Two other combs recovered from Unit 21 Level 1 and Unit 55 Level 2 are black plastic. They date to the twentieth century.

The only other grooming item from the site is a pewter cap from a Florida water/shaving lotion/hair tonic form of bottle, such as those illustrated in Munsey (1970:172) under the heading of "personalized barber bottles."

Tobacco Pipe Group

This group consists of a large number of clay tobacco pipe fragments, in addition to three aluminum discs which derive from tobacco bags.

Tobacco Pipes

A total of 865 fragments from clay tobacco pipes was recovered from 1983 excavations at site 33-Cu-314 (Table 31). Only two of these fragments are terra cotta, with the remainder white clay. The fragments are represented by 216 bowl, and/or bowl and stem fragments, and 649 stem sherds. Based upon decorative elements on the bowls and stems, seven types which include 14 varieties have been defined from the collection. An additional two distinct decorated stem types were identified, but could not be conclusively associated with any identified bowl types. Surprisingly few (n=3) of the fragments contained maker's marks, although many of the types can tentatively be assigned to region of manufacture. In the paragraphs below, the types and varieties identified in the collection will be described, and compared with other published collections of nineteenth-century pipes.

Type A; Cockled, Small Bowl. Three varieties of cockled, small bowl pipes were recorded. These varieties account for 117 of the 216 pipe bowl fragments. A minimum number of 75 Type A pipes is present in the assemblage, representing 70 percent of the

identified pipes. Type A pipes are clearly the most popular style of pipes in use at the site.

Variety 1. This style of pipe has previously been described as "cockle, oval and dumbbell" (Pfeiffer 1982:157, Figure 25F). Evenly spaced, broad raised lines, or cockles, extend from the base and cover 60 percent of the bowl. There are seven cockles on each side of the pipe. These cockles have also been called ribs or flutes (see Humphrey 1969; Omwake 1965), but the term cockle is used here since it is more accurately descriptive of the decoration. The cockles end at a raised, single horizontal line, above which occurs a band which contains an alternating pattern of raised ovals and dots (Figure 57a). This band terminates at a second raised line, above which occurs a band of hollow ovoid rings alternating with "dumbbells." Ornate oak leaves emanate from both the front and back mold seams of the bowl, effectively masking the mold seams by making them appear to be thin stems to which the leaves are attached. The bowl is oriented at a slightly oblique angle to the stem, which is undecorated. This variety is the most numerous of all those collected from the site, with 58 bowl fragments from a minimum of 34 pipes represented.

This style of pipe has been identified from archeological sites from a wide area of the United States including the Great Lakes, Midwest, and California (Humphrey 1969:20, Figure 16; Omwake 1965:131, Figure 2I; and Pfeiffer 1982:157, Figure 25F). This style was apparently popular during the second quarter of the nineteenth century. Pipes identical to Type A Variety 1 have been found at the Bellevue Trading Post in eastern Nebraska, a site which dates from 1822-1840 (Pfeiffer 1982); at the Mero site in Wisconsin, estimated deposition about 1825-1850 (Omwake 1965:Figure 2I); and at Old Sacramento within a deposit which has been rather precisely dated at 1852 (Humphrey 1969).

Variety 2. This style has been previously named "simple cockled" (Pfeiffer 1982:251-253, Figure 43A). The bowl is very similar to Type A Variety 1, and differs only in that the cockles extend to near the rim, and that the decorative bands seen on Variety 1 are absent (Figure 57b). In all other respects, including the placement of ornate oak leaves along both bowl mold seams, Variety 2 is identical to Variety 1. In addition to being identified from the Great Plains (Pfeiffer 1982:251-253), identical pipes have also been recorded at Rome, New York (Hanson 1971:94, Figure 2B), where they were described as Ribbed Variety C. Hanson attributes these pipes to English manufacture. The great similarity to Type A Variety 1, including details like the oak leaf seam motif, suggests that Varieties 1 and 2 were made at the same location in England. Variety 2 pipes are represented by 19 fragments from 17 different pipes.

Variety 3. This variety of small bowl cockled pipes is similar to Varieties 1 and 2, and can be described as cockled with Xs and dots. The cockles extend up the bowl to a raised horizontal line, above which there is a band of adjoined Xs which are encircled on three sides by single, small, raised dots (Figure 57c). The cockles terminate at the

base of the bowl, and do not extend onto the stem, which is undecorated. The mold seams on the front and back of the bowl form stems, to which are attached an alternating series of open leaves. These leaves are different from the oak leaves on Varieties 1 and 2, and are less ornate. A total 17 sherds from a minimum of 12 different bowls was recorded at the site.

Miscellaneous Cockled, Small Bowl. A total of 23 fragments from at least 12 individual pipes was too fragmentary to attribute to a specific variety, but all fragments clearly represent Type A bowls. A total of 17 of the fragments are bowl bases and associated stem fragments, while the remaining six are small bowl fragments. The presence of oak leaves along the mold seams of several sherds suggests that Variety 1 and 2 pipes are represented by many of these fragments.

Type B, Cockled, Large Bowl. Four varieties of cockled, large bowl pipes were recorded, which account for 28 of the 216 bowl fragments (13 percent) recovered from the site, and 17 of the 109 pipes (16 percent).

Variety 1. This variety has a bowl one-half cockled and one-half plain, with a line and dot stem. This variety is the most numerous of the Type B pipes, with 22 fragments from at least 12 pipes represented. The bowl of this variety of Type B pipe is decorated with an alternating series of raised cockles and thin lines which extend about halfway up the bowl (Figure 58f). The remainder of the bowl is plain. The cockles and lines extend from the base of the bowl onto the stem, where they take the form of narrow raised lines. The lines terminate at four raised vertical lines which encircle the stem. A single band of raised dots occurs between the second and third line. The mold seams on the front and back of the bowl are partially obliterated by a series of short, oblique to horizontal lines which are narrowly spaced over the length of the seams.

Type B Variety 1 pipes have previously been recorded from numerous sites (Hanson 1971:94, Figure 1G; Humphrey 1969:23, Figure 20A,B; Omwake 1965:132, Figure 2L), and have been referred to by several different names. Their presence at Old Sacramento indicates that this style was being manufactured about 1852 (Humphrey 1969). Omwake suggests a date range of about 1850-1875 for this style, and further indicates that large bowl cockled pipes are later in date than the small bowl cockled varieties. The Type B Variety 1 pipes occur in at least two proveniences at 33-Cu-314 (Features 7 and 10) which postdate about 1850, and are not found in any proveniences which can be dated to the first or second quarters of the nineteenth century.

Variety 2. Like Variety 1, this bowl is one-half cockled and one-half plain. It differs from Variety 1 in the number of pairs of cockles and lines, and the treatment of the mold seams. This variety is represented at site 33-Cu-314 by only one pipe sherd, which is a complete bowl (Figure 57d). The bowl has seven sets of lines and cockles, rather than the five sets seen on Variety 1, and the mold seams on the bowl have been

eliminated above the cockles through scraping of the still moist clay. Other than these differences, Variety 2 is similar to Variety 1.

Variety 3. This variety of Type B pipe shares decorative elements with both Variety 1 and 2. Five pairs of alternating cockles and lines decorate each half of the bowl, as in Variety 1, but this decoration extends only about one-fourth of the way up the bowl (Figure 57f,g). The remainder of the bowl is plain. The mold seams above the area decorated with cockles and lines has been scraped flat, similar to Variety 2. This variety is represented by only four fragments from three bowls.

Variety 4. Like Variety 3, the cockles on this variety extend up one-fourth of the bowl. Unlike Variety 3, the Variety 4 bowls exhibit even-sized cockles which do not alternate with raised lines. The single specimen from 33-Cu-314 is poorly molded, but appears to contain eight cockles on each side of the bowl (Figure 57h). The mold seams are scraped flat like the other Type B bowls.

Miscellaneous Decorated Stems. Two different styles of decorated stems apparently derive from Type B pipes, although none of these stems could be successfully mended to the 28 Type B bowl fragments. The first variety exhibits bands of raised dots separated by single lines (Figure 57j). Five stem fragments from five separate pipes exhibit this decoration. Similar decorated stems have been recorded by Humphrey (1969:30, Figure 46).

The second style is represented by only one fragment, and exhibits four raised bands near the bowl, and the letters "C.P.," which apparently represent the initials of the maker. Assuming that the pipe is of English origin, there are several possible makers (Oswald 1975). C. and G. Pardoe of Bristol used a "C.P." mark about 1863. C. Philley of Kent used the "C.P." mark in 1840. Charles Peers is listed at Leichestershire in 1835, and at York in 1818 and 1878. Finally, Charles Phillip of Shropshire used the mark from 1891 - 1900. Given the dates available for these firms, Philley and Phillip can be removed as likely makers for the "C.P." pipe at 33-Cu-314. If Peers' operation at York *spanned* the dates given, then he might be the maker. However, extensive information on his firm is not available. It appears likely that either the Pardoe or Peers firms made the pipe.

The execution of the design on the "C.P." stem is similar to the stems of Variety 1, but the "C.P." stem differs in that the dots are lacking, and the diameter of the stem is considerably larger than the stems of the Variety 1 pipes. These six miscellaneous stem fragments are tentatively attributed to Type B pipes. This is because the stems of all the Type A bowls are undecorated, and since there is some evidence for the presence of the terminal ends of lines and/or cockles on the "C.P." stem and the dot stems.

Type C, TD pipes. Unfortunately, no complete bowls of this type were recovered from the site in 1983. However, the seven fragments attributed to this type all appear to derive from one variety.

Variety 1, TD in Circle of Stars. Based upon examination of seven fragments from four different bowls, the bowls of these pipes were plain except for a single row of six pointed stars around the rim (Figure 57e), and a circle of 13 stars on the back of the bowl within which the raised letters "TD" occur. A wide variety of "TD" pipes has been recorded in the archeological literature, but several publications illustrate "TD" style pipes identical to those from site 33-Cu-314 (Hanson 1971:92, Figure 1A, B; Humphrey 1969:26, Figure 34; Omwake 1965:137). Although Hanson identifies this variety as being manufactured in England, other authors ascribe the pipe to the American Manufacturing Products Co. (Walker 1966:89). The date range for this style is unclear, with dates of 1812-1850 and 1812-1870 reported (Omwake 1965:137; Walker 1966:89). The presence of "TD" pipes of the same style as Type C from Old Sacramento indicates that this style was in production in 1852 (Humphrey 1969). The "TD" pipes from 33-Cu-314 are fragmentary, but appear to be similar in size and volume to the Type B cockled pipes.

Type D, Plain Bowl. Three varieties have been identified for this type, which consists of rather large, plain bowls. A total of 32 bowl fragments from a minimum of six pipes is present.

Variety 1, Peter Dorni. This variety is defined from decorated, marked stems and plain bowls from four individual pipes. The decorated stem, and example of the bowl are shown in Figure 58e. The stem is decorated with a detailed set of plain areas and bands of hatching which are set apart by raised lines. The words "PETER" and "DORNI" are inset on opposite sides of the stem within the band designs. A single band of club-like devices decorates the stem at either end of the series of fourteen raised lines which define thirteen bands, seven of which are hachured. Mold seams on the stem have been marked out by a series of short oblique incised lines. The bowl of the pipe is plain except for a very narrow "rouletted," or dentate, line around the rim. The bowls have been carefully smoothed through burnishing with vertical strokes.

Peter Dorni pipes have been ascribed to a maker of the same name who worked in northern France about 1850 (Omwake 1965:30). The popularity of this style led to imitation by Dutch pipe makers, who usually added the words "Gouda, Holland" to the pipe stems to distinguish their work from the French specimens (Humphrey 1969:18). Similar, but not identical, Peter Dorni pipes are illustrated in Hanson (1971: Figures 1E, F, 94); and Humphrey (1969:16-17). Omwake (1965:137) suggests a date range of about 1850-1875 for this style.

Variety 2. This is a "catch-all" category which includes plain, unmarked pipe bowl fragments. Most of the 26 specimens are highly fragmentary, and little can be said

about the shape and size of the pipes they represent. It appears that the pipes had large bowls, similar in capacity to the Peter Dorni pipes. One partially complete example of a Type D, Variety 2 pipe is shown in Figure 58a. Several of the Variety 2 pipe sherds show evidence of vertical burnishing as a finish treatment to provide a smooth surface. It has been reported that vertical stroke burnishing is a common finish practice on pipes manufactured at Gouda, Holland, an important center for pipe manufacture and world-wide export (Humphrey 1969:18). It should be added that the Type D, Variety 2 category may contain fragmentary examples of other varieties, especially Peter Dorni and TD, since large plain areas occur on the bowls of those pipes.

Variety 3, Noel Alyon. This variety is defined from a single, marked stem and bowl base sherd. This pipe has a thick, diamond-shaped stem, with the words "NOEL ALYON" impressed on the stem base. Although the bowl is missing, it is presumed that it was undecorated. Six undecorated diamond-shaped stems may also derive from Noel Alyon pipes. Pipes bearing this mark were manufactured over a long time span (1808-1920) in France by the Noel brothers (Pfeiffer 1982:182, Figure 28d).

Type E, Ribbed. Only one variety of this type was identified from the tobacco pipe assemblage. Three sherds representing a single pipe are present.

Variety 1. This type and variety is defined on the basis of only three sherds. Despite this very small sample, this pipe style is quite distinct from the others in the collection. The pipe bowl exhibits vertical and horizontal ribbing, above which occurs a band of small "sunburst" designs (Figure 57i). Hanson (1971:96, Figure 3A) illustrates a complete example of this pipe style, and attributes it to English manufacture.

Type F, Floral. Two varieties of this distinct type were recorded in the collection. Only 14 sherds were found, representing a minimum of four pipes.

Variety 1. This variety is represented by 12 fragments from a minimum of two pipes. Fortunately, one of the bowls is complete (Figure 58c). The pipe exhibits a different design on each half of the bowl. On one side, a thick plant (thistle ?) is present, while on the other, a more gracile stem and flower device is represented. The area of the mold seams on the stem is treated by the addition of three vertical lines on each side of the seam, causing the seam to become part of a linear decorative element. In the single complete bowl, the two halves of the bowl are joined very sloppily, although this poor execution is largely masked by the addition of the vertical lines. Aside from the presence of a single raised dot on the spur at the base of the bowl, no other decoration is present on this variety of pipe. The bowl has a small diameter, but is deeper than the Type A small bowl pipes. No comparable pipes were located in available literature.

Variety 2. Variety 2 is represented by only two specimens, one of which is a complete bowl (Figure 58b). A flowering plant with a very gracile stem decorates both halves of the bowl of this variety. The mold seams have been removed through scraping, rather

than the addition of raised lines seen in Variety 1. The upper portion of the bowl immediately below the rim is decorated with a series of indistinct hatched lines. It is not clear whether these lines were intended to be faint, or whether the single complete specimen was rather poorly molded. Bowl shape matches Variety 1.

Since nothing could be found in archeological literature regarding Type F pipes, their age and location of manufacture can not be determined. However, all the examples of these pipes at 33-Cu-314 were found at the lowest excavation levels along the east side of the house, or within units under the sandstone floor inside the basement, indicating that they were deposited early (pre-1850) in the sequence at the site.

Type G, Terra Cotta. This type is comprised of two complete bowls of two varieties (Figure 58d). Both varieties are ribbed over the entire bowl area. Terra-cotta pipes were popular in the mid- to late nineteenth century, and it is likely that the two examples from 33-Cu-314 postdate the white clay types. Nearby Akron, Ohio, was a center for manufacture of these pipes, and it is likely that the two examples are locally made. Enormous numbers of pipes were made in Akron after about 1850. It is rather surprising that so few terra-cotta pipes were recovered at 33-Cu-314.

Pipe Stems. In addition to the decorated stems described under Type B pipes, a large number of stems could not be equated to particular pipe types or varieties. A total of 495 stem fragments are oval in cross section, and an additional 138 are round. Bits include simple rings (n=9) and ground/beveled (n=33). A final stem type is the "crocodile" stem. This type is represented by four fragments from a minimum of three separate pipes, and depicts a crocodile or alligator "swallowing" the stem (Figure 57k). Since these stems could not be mended to any bowls, their association with the various bowl types remains undetermined. These stems appear to be similar to the "Raleigh and the Crocodile" pipes, but do not precisely match that design (Walker 1977:19, 31).

Other Tobacco-related Artifacts

Aluminum Discs. Two aluminum discs measuring .75 inch in diameter were recovered from Unit 6 Level 1. They are embossed "Cavalier Queen," with four low relief dots above "Cavalier." It is likely that these discs are from a tobacco product, with the dots reflecting relative strength of the product (cf. Munsey 1970:77). The shallow provenience of the specimens strongly indicates that they are twentieth century in age, and they may be quite recent. A third disc from Unit 39 Level 1 which is one inch in diameter is embossed with a subtriangular geometric figure. Within this figure is a full representation of a seventeenth-century cavalier complete with plumed hat. Arched above the triangle is the word "Consol," and in a ribbon above the triangle is the embossed word "Cavalier." Since "consol" implies an English bond with perpetual interest and no maturity date, it may be that its use for the product packaged with the disc implied that the product was reliable. The designation "Consol Cavalier" may indicate a quantitative or qualitative difference when compared with "Cavalier Queen."

While the entire clay tobacco pipe assemblage can be associated with the nineteenth-century occupation of the site, it is very likely that the aluminum discs described above postdate use of the clay pipes, and are very recent in age.

Activities Group

This functional group includes several different classes of artifacts including toys, construction tools, and sporting goods. A small assemblage of these materials was recovered during excavations at site 33-Cu-314 in 1983.

Construction Tools

Relatively few complete or fragmentary tools were recovered from the site in 1983. All of the tools are made from iron. An incomplete hacksaw blade was recovered from basement Room 001 (Unit 11 Level 1), along with a .75 lb. Kentucky Pattern hatchet (Unit 50 Level 3) (Figure 59b). A fragment from a draw knife (Figure 59c) was found immediately below a sandstone floor slab in Room 003 (Unit 16 surface). A fluting gouge was also recovered in 1983. Although this artifact is highly deteriorated, it appears to be similar to fluting gouges illustrated in sets in an 1865 hardware catalog (Association for Preservation Technology 1980:201). Another tool recovered from the site is fragmentary, but has been tentatively identified as a tracing wheel (Figure 59d). It is a ferrous metal rod of 1/8-inch square stock, split on one end. The extremity of the split end has holes through it, and the remains of a pin are fused in one hole. The yoke could have accepted a wheel about 5/8 inch in diameter. A 14 1/2-inch length of chain was also recovered from 1983 excavations beneath the basement stairs (Unit 50 Level 3). This heavy chain may have served numerous functions, but was most likely associated with a connective function on a vehicle. Finally, a check valve (Figure 59a) from a water pump was recovered.

Toys

Relatively few children's toys (n=17) were recovered from excavations at 33-Cu-314. The reason(s) for this minor representation is not immediately apparent, although it may partially reflect the location of sampling areas. No information has been collected regarding the family make-up of the nineteenth-century occupants of the structure, so the number of children living at the structure through this time period is not known. Marbles, a ball, and fragments from ceramic dolls are the only toys recorded at the site from over 60 sq m of excavations.

Marbles. Seven marbles were recovered, including three distinctly different types. One of the most diagnostic marbles is a glass "German Swirl" (Figure 56d), which is a handmade marble consisting of clear glass around a core of opaque, colored ribbons of glass. Although some "swirl" marbles were made in the United States, most were

manufactured in Germany during the second half of the nineteenth century. The single specimen from 33-Cu-314 was recovered from Unit 8 in basement Room 001, within a late nineteenth-century cultural deposit containing a wide range of materials. Two additional transparent glass marbles, often referred to as "puries," were also recovered from Room 001 in Unit 11. These marbles appear to date to about 1900 or later, and unlike the swirl, are not handmade.

The remaining four marbles from the site are made from clay, rather than glass. Two are unglazed, plain clay marbles, known as "commons," which were produced in very large quantities through the later portion of the nineteenth century into the first decades of the twentieth century. These were recovered from Unit 34 Level 3 and Unit 41 Level 2. The remaining two clay marbles are of refined earthenware, and are much harder than the common clay variety. Both of these marbles are glazed, and are decorated with painted sprigs and concentric lines (Figure 56d). These marbles are usually called "china" marbles, and date to the mid- through late nineteenth century.

Ceramic Doll Fragments. Ceramic dolls are represented by nine small fragments (Figure 56e). Seven of these fragments were recovered from excavation units along the west exterior wall, with the remainder from basement Room 001. The fragments are undiagnostic, and their age was not determined.

Sporting Goods

In addition to the Arms Group described earlier, other artifacts are associated with "sporting" activities. The first is a brass ferrule which appears to derive from a fishing pole (Figure 55k). The ferrule contains the end of a wooden rod held in place by a small pin driven through the sleeve. A second, and somewhat smaller, ferrule formerly joined two sections of the rod together. A reprint of the 1886 Peck and Snider Catalog lists lancewood and ash as well as bamboo sectional rods with brass ferrules, indicating that the rod from 33-Cu-314 may have considerable antiquity (Pyne Press 1971: 99-100).

The other artifacts which can be associated with sporting goods are associated with tents and hammocks. A cuprous metal tent slip was recovered during repointing efforts along the north wall of the structure (Figure 55l). This object was used to tighten ropes which were staked to the ground to hold tents in place. A nearly identical specimen is illustrated from Fort Bowie (Herskovits 1978:63). A clasp for adjusting hammocks was recovered from beneath the basement stairs (Unit 50 Level 3) (Figure 55j). This ferrous object contains embossed patent information. Patent No. 240,866 was issued May 3, 1881, to Vincent C. Travers, New York, New York, for a clasp for adjusting the ropes on hammocks. While the artifact itself is of little significance, it helps to date its associated deposit at no earlier than 1881. Thus, the cultural material in Unit 50 Level 3 and above must postdate about 1881.

Games

Two artifacts represent games. These were not listed with toys, since they are probably from games played by adults. The first is a bone domino (Figure 56b). The second is a flat disc which probably represents a "poker chip" or marker piece (Figure 56a).

Horse Tack

Seven fragmentary and complete horseshoes were recovered from 33-Cu-314. Five fragmentary examples include three right halves (Unit 16 Level 1, Unit 29 Level 1, and Unit 46 Level 3), and two left halves (Unit 29 Level 4). In addition, there are two complete shoes, one with toe and heel caulks for a front hoof (Unit 16 Level 1), and one without caulks for a rear hoof (Unit 50 Level 2). In addition to horseshoes, an iron fragment from a pommel end framework from a saddle (Figure 59e) was recovered from Unit 39 Level 5. A similar specimen is illustrated from the archeological assemblage at Fort Atkinson (Carlson 1979:241). A second iron fragment (Unit 11 Level 1) may also derive from a saddle, but this identification is tenuous.

Summary

The large artifact assemblage described above is summarized in Tables 32 and 33. These tables do not constitute summaries of every item from the excavations, but a very large percentage of the collection is included. In Table 32, artifacts are tabulated both by type and functional group within provenience blocks relative to exterior foundation wall and interior basement room excavation areas. In Table 33, these artifact counts are presented relative to square and cubic meters of excavated soil matrix. This approach facilitates examination of actual artifact densities across the site rather than a reliance on simple artifact counts. Artifact numbers can be somewhat misleading unless one considers the divergent amounts of matrix excavated in the various sampling units across the site. While some artifact distributions are relatively even across the site, others are highly patterned. Values were calculated only for areas with fairly large sample sizes, since average densities developed from very low sample sizes would not be meaningful.

An example of differential distribution is seen in bottle glass sherds. Densities of bottle glass are higher along the south wall than in any other area. This apparently reflects both the age of the deposit, and the configuration of the building. Much of the south wall deposit postdates about 1860 when bottles became relatively inexpensive and easy to obtain. One would expect bottle glass density to be greater there than in pre-1860s deposits such as Room 003. Further, the south facade of HS 125 had two doors. One was on the first floor and the other on the basement level. One might expect more discard activities along the south wall due to the presence of these doors, in contrast to the north wall where there were no entrances.

Coin distribution is very highly patterned. Coins are far more dense in Room 003 than in any other area of the site. This appears to be a direct result of the commercial activities which took place at the site prior to about 1853. The coins in Room 003 were lost on the ground surface and within the Feature 7 privy outside the south foundation wall of the original portion of the structure. It is not clear why commercial activity focused in this area.

In contrast to coins, tobacco pipe sherds are distributed almost evenly across the site when density per cubic meter of excavated matrix is considered. As with other artifact classes, the south wall area contains the highest density, likely due to the former presence of two exits on that facade. However, the difference in density from the south wall to other areas is not nearly as great for tobacco pipes as it is for many other artifact classes.

The distribution of window glass sherds reflects architectural conditions and archeological sampling more than culturally related discard patterns. Density of window glass per cubic meter is much greater along the north wall than in other areas. This is largely due to the positioning of Unit 14 directly under three windows. Sherds broken from glass panes in these original structural component windows probably entered the archeological record from the 1820s through the early 1900s. No other excavation unit was placed in a location so likely to collect broken window panes.

The artifact density values have also been developed to provide a basis of comparison for other researchers. It is hoped that measures such as sherds or vessels per cubic meter may provide one measure of discard activity which can be contrasted with other sites from the region. It is assumed that certain classes of artifacts (e.g., whiteware ceramic sherds) may have been incorporated in the HS 125 archeological deposits in relatively large numbers due to the building's documented tavern function. One might expect lower artifact densities from other types of nineteenth-century sites.

SITE CHRONOLOGY

Date of Initial Construction

The first definitive reference to HS 125 is an 1835 documentation of its sale. Potential 1818 and 1830-1835 references to structures which *could* be HS 125 are secondary or tertiary in nature, and their accuracy and applicability have been questioned (Johnson and Newman 1984). Unfortunately, even the 1835 reference is ambiguous, referring only to "a certain frame structure." No maps prior to 1842 plot HS 125's location, so even the 1835 reference *could* refer to a structure other than HS 125. However, since the lot consists of only one acre, it is probable that HS 125 is the "certain frame structure." Johnson and Newman (1984:38) have suggested that the structure postdates the completion of the canal (post-1827), although they acknowledge the possibility that it could be somewhat older. They are firmly convinced that the second half of the structure was added in 1840.

A weakness in the chronological scheme developed from the historical records is the secondary nature of the data. On one hand, Johnson is critical of using the confusing 1939 court record syntheses for the 1818 reference to Kennen's tavern, but accepts uncritically the secondary documentation of Moses Gleason's purchase of the property and construction of a store in 1840. Despite the reasonable and plausible construction chronology suggested by Johnson and Newman, there are relatively few data to support it.

One of the goals of this project was to use archeological data to address the question of the dates for initial construction and for the addition of the southern structural component. Data for dating the initial construction episode are presented below. Unfortunately, these data are difficult to interpret. Archeological data can seldom be used to derive precise dates for individual events, and it has been suggested that such specificity or "historical particularism" is an invalid goal for historic archeological research. Despite these concerns, the available data were examined for evidence of the approximate initial construction date. If the structure were occupied as early as 1818, one would expect the artifact assemblage to differ considerably from an assemblage from an 1830 initial occupation. Prior to about 1827, the area was economically isolated, and household goods like ceramics were in short supply (Miller and Hurry 1983). However scarce, ceramics and other artifact classes from an 1818 occupation would be expected to be stylistically and technologically different from artifacts from an 1830 occupation. This would be particularly true for certain kinds of ceramic wares which have rather precisely known temporal parameters.

One difference would be that clear glazed, colored (other than dark blues) transfer print ceramics would be present in the post-1830s era, while pearl glazed, blue (and possibly black) wares would be the sole transfer print(s) present prior to about 1830. Thus, if construction occurred shortly prior to the first reference to the structure (1835), transfer print patterns in several colors, with clear or cream color glazed surfaces,

should occur at the base of any cultural deposits. Of course, earlier wares would also be present and would be broken and lost along with the "current" wares. Each archeological provenience from the structure was examined to determine if any deposits containing *only* pre-1830s materials were present. The north half, or original portion, of the structure was the initial focus for this investigation.

Along the north wall of the structure, a dense artifact layer in Level 6 of Unit 14 can be dated to post-1839. This layer is approximately 20 cm above the base of the cultural deposit along the north wall. The depth of deposit suggests that the basal cultural zone might date considerably earlier than 1839, but temporally diagnostic materials are very sparse in the lowest levels. One sherd from the basal cultural level in Unit 29 (transfer print pattern 75) can be rather securely dated between 1821-1830. The gadrooned edge on this sherd was not in use prior to about 1821 (Coysh and Henrywood 1982:150), and its very dark blue color and pearlware glaze strongly suggest that it predates 1830.

A burned cultural layer (Stratum 15) from near the base of the east wall of the structure contains sherds from several different transfer printed vessels predating about 1830. Although sample size is small, 14 temporally diagnostic sherds from this provenience have a mean ceramic date of 1823, and even the most recent pattern predates about 1834. This layer is above original grade by several cm. Since several of these vessels were manufactured only in the early and mid-1820s, they provide some evidence for occupation of the structure during the 1820s.

While the cultural deposit along the east and north walls of the structure contained some material for addressing the question of initial construction date, the cultural deposit along the west wall of the north half of the structure is highly disturbed by wall repair, door and window modification, and chimney removal, and can not be used for this study. Archeological deposits within the basement of the structure provide some useful data for this investigation.

Most of the features discovered in basement Rooms 001 and 002 (north 1/2 of the house) relate to late nineteenth- and early twentieth-century activities. Two earlier features are builder's trenches along the foundation walls exposed in Units 10 and 13. Temporally diagnostic materials were scarce in these proveniences. In Unit 10 Level 3, an unworn 1837 half dime was recovered near the base of the foundation in a builder's trench. Unfortunately, this coin can not be used to date the initial construction of the wall, since there is ample evidence for wall repair in that area, as illustrated through differing masonry techniques and different grades of sandstone present in the wall (Earl Pippen, personal communication 1984). The coin was recovered from the more skillfully constructed central portion of the wall, which appears to reflect an early repair or modification episode. This may have occurred about 1840 when Moses Gleason purchased the property, and is thought to have made rather major modifications to the structure. The northeastern corner of the wall is much more crudely constructed, and

may currently represent the only foundation fabric remaining from the original construction phase. A poor grade of stone, not quarried Berea Sandstone, is present in that small wall segment.

In Room 003 (the former backyard area of the original structure), two distinct features were recorded in addition to a rubble horizon (Stratum 12) which covered most of the remaining undisturbed area under the sandstone slab floor. The two features are both rubble-filled pits. As will be discussed in more detail later, the terminal date for Feature 7 can be conclusively placed post-1850. The other feature (6) may be somewhat earlier. The numerous artifacts immediately above the rubble layer reflect considerable time depth. Temporally diagnostic specimens from about 1820-1853 are present. Artifacts were still being deposited on the rubble layer as late as 1853, and the deposit is shallow, with the earlier materials occurring at the same level as the 1850s artifacts. The rubble appears to represent a rock pavement, or roadway, which extended south from the original structure.

Excavations outside the original basement back door area (Unit 12) yielded a disappointingly small assemblage. A single pearlware sherd in Feature 6, a rubble-filled pit at the door stoop, and a Lyon's hair care bottle fragment from Levels 3 and 4 were the only temporally diagnostic artifacts. The bottle can be dated to about 1840, at the earliest, while the sherd predates 1830. The lack of artifacts in this location appears to result from the area being covered by a porch, which was removed when the south half of the structure was added. Feature 6 may represent a pit for a porch pier, which was filled in with sandstone rubble left over from wall construction. While the sherd may have been deposited during the initial digging of the pit, indicating that the porch might predate about 1830, it could also have been redeposited from elsewhere in the pit when the porch was removed.

The presence of several temporally diagnostic artifacts (primarily ceramic sherds) which can be securely dated to pre-1830 in the thin silt lens amidst and over the rubble layer provides some additional suggestion of an early construction date for HS 125. However, it is *possible*, although unlikely, that these materials could all have been deposited after 1830, since they do not occur in a feature or other cultural deposit containing *only* pre-1830 materials. Still, the numerous sherds predating 1830 in this deposit suggest that trash discard was occurring prior to 1830 on this surface. Within the area now covered by the south half of the structure, deposition of cultural material continued on the rubble surface until 1853.

Evidence from temporally diagnostic features and select depositional horizons associated with the original component of the structure suggests that initial construction may have occurred in the 1820s. However, sample sizes are small, and a precise temporal assignation can not be made with confidence. No occupational features can be dated with absolute certainty to the 1820s. Since examination of cultural remains

within distinct features did not conclusively demonstrate the initial construction date for the structure, additional stratigraphic and artifactual data were also examined.

It was thought prior to fieldwork that the stratigraphic relationship between the house and the canal towpath would clarify the age of the structure relative to the canal. However, the actual situation was more complex than expected. It appeared from surface indications that the towpath directly abutted the east wall of the structure. It was anticipated that stratigraphic evidence would be collected to demonstrate whether the structure's foundation was cut into the towpath, or whether the towpath fill was piled against the structure, thereby dating the structure relative to the canal. Neither expectation was met, since the towpath does not extend to the east wall of the structure. The fill in that area was apparently deposited in a separate event from the towpath construction. The towpath surface averages about 10 feet wide, which would place the base of its slope several feet east of the east wall of the structure.

The profile shown in Figure 20 shows the relationship of the soil strata recorded across the site. The area shown within and immediately outside the east wall of the structure is an approximation as determined from excavation of Units 34, 44, 62, 64, and 65. The presence and orientation of the paleosol horizon shows the flat local topography prior to construction of the canal and structure. The silt layer and burned lens (Strata 11 and 15) above the paleosol indicate that the current grade along the east wall was not built up until after the structure was built, and after refuse disposal and siltation along its east wall had resulted in 20 cm of soil deposition.

The silt layer and burned deposit both extend the entire length of the exterior of the east wall, along both the "original" (north) and "addition" (south) structural components. In addition, the silt layer partially or completely covers all of the sandstone rubble layer exposed in Room 003, and in exterior Units 39, 42, 45, and 46. Pockets of burned ceramic sherds and ashes were also recorded in basement Room 003 units along the east wall of the "addition," immediately above the silt layer. Finally, ceramic sherds from the exterior burned lens mended to a sherd from the Room 003 excavation. All these factors indicate that the rubble, silt, and burned layers were all deposited on the original soil surface prior to construction of the south half of the structure.

Construction of the east and south walls of the addition required only a shallow excavation through these layers, and the results of this can be seen in a narrow band of displaced rubble (Figure 15), and a shallow builder's trench along the interior of the east wall. The tan silty loam (Stratum 14) which constitutes the majority of the fill along the east wall exterior lies directly over the silt and burned layers. It is packed against the foundation wall. It seems clear that this layer was deposited *after* completion of the structure in its current, "double" configuration. However, since this fill is apparently *not* equivalent to the towpath fill, the temporal relationship of the original portion of the structure to the canal remains uncertain.

The stratified silt layer was not located in Room 002 or any other portion of the original (north half) basement, nor in any areas of the site west of the rubble layer. Its absence from the original basement can be explained by the presence of foundation walls blocking its distribution into the structure, and its lensing out toward the west may be explained by its potential source. It appears likely that the silt washed downslope from the east, since it is much thicker toward the east. A likely source for the silt is the canal towpath, or possibly, material derived from canal construction. If either association is accurate, it would suggest that the structure was built prior to the canal, or during the earliest years of canal operation. This stratigraphic information does not resolve the age of the house. However, it clearly demonstrates that the house was initially built with all of its foundation walls exposed and freestanding. The fill on the east side was added at a later date, after the house was expanded to its double configuration. It has previously been assumed that original grade along the east wall was equivalent to present grade (Johnson and Newman 1984:40).

The question of the initial construction date was not conclusively answered through examination of site stratigraphy, features, and associated artifact assemblages. The investigation was expanded to include the cultural deposits and their associated artifacts both inside the basement and around the structure in a more general manner. In most areas, particularly the earliest and deepest deposits, artifacts did not accrue in separate definable layers, but instead were deposited in a sheet midden on the original ground surface, and in the sediments which accumulated above that horizon. It is to be expected that artifacts from many years of discard have become mixed in and above the paleosol surface, as fill began to accumulate. For example, if artifacts *were* being discarded at the site in about 1820, they may occur at approximately the same levels and within the same matrices as materials from the early 1830s. Further, 1820s vessels might last for several years, only to be broken and discarded along with a more recent vessel. Also, if the structure were occupied prior to the opening of the canal in 1827, one might expect a relatively slow discard rate for ceramics and other temporally diagnostic materials until after about 1827. This would be due to the well-documented scarcity of manufactured goods during that era (Miller and Hurry 1983).

Given all these uncertainties, it is difficult to date the construction of the house through artifacts associated with the middens which accumulated in and around the structure. However, there are a very large number of artifacts which predate about 1830. Ceramics are the most numerous, and most readily datable group of artifacts from the site which can be used for this study. A significant percentage of temporally diagnostic sherds can be dated to the 1820s with considerable confidence. As discussed in detail in an earlier chapter, there are several transfer print patterns from the site which can be conclusively dated to the early and mid-1820s. In addition, many other sherds can be dated to pre-1830 on the basis of technological and stylistic variables. In considering the ratios of whiteware to pearlware sherds in the annular, edge, and transfer decorated categories, interesting results are obtained. For the annular decorated category, 38 percent of the sherds and 42 percent of the vessels are pearlware. For the

edge decorated group, 22 percent of the sherds and 40 percent of the vessels are pearlware. Finally, for the transfer printed group, 16 percent of the sherds and 18 percent of the vessels are pearlware. Among the pre-1860 ceramic materials are a minimum of 27 transfer print vessels which have been firmly dated to the 1820s. When all of the sherds and vessels in these three groups are combined, 20 percent of the sherds and 24 percent of the vessels are pearlware. Since 1,059 sherds and 197 vessels constitute these groups, an excellent sample size is present.

Since all three decorative groups faded rapidly in popularity after 1860, and since 1830 provides a convenient terminal date for pearlware, it is possible to examine the pearlware/whiteware ratios to suggest an initial occupation date. If the structure were built by about 1818, as suggested by the tenuous "Kennen Tavern" reference, approximately 28 percent of the occupation from 1818-1860 would have been within the pearlware production era. If the structure were built about 1825, only 14 percent of the pre-1860 period would have been in the pearlware era. If the structure were built about 1830 or later, zero percent of the occupation would have occurred in the pearlware era. Since about 20 percent of the ceramics under consideration are pearlware, these ratios strongly suggest that the structure was occupied by the mid-1820s.

As discussed above, several factors complicate the use of the whiteware/pearlware ratios for suggesting an initial occupation date. First, 1830 is only an approximate date for the pearlware/whiteware transition. Also, ceramic vessels were in short supply until after 1827, and the breakage and deposition of sherds prior to that date could be expected to be very low compared to later years at the site. Further, earlier wares could be used for many years, only to be broken and discarded considerably later than they were made. While the latter factor might provide a bias toward too early a date for the initial occupation, this would appear to be balanced by the low supplies prior to 1827. Certainly, there is very strong evidence that sherds were accumulating in far greater number and density around the structure after about 1840 when the canal trade and the tavern business peaked. Despite these factors which can not be effectively controlled, the presence of 20 percent pearlware for all edge, annular, and transfer printed sherds strongly suggests an 1820s construction date for HS 125. It seems very unlikely that such a large percentage of the assemblage would be pearlware if the structure were built after about 1830.

While the question of the initial date for construction of HS 125 has not been resolved with certainty, available archeological data indicate that the structure was occupied during the 1820s. While it seems most plausible that the structure would have been built after about July, 1825, when canal construction began, an even earlier construction date is certainly possible. Other early nineteenth-century occupations in the area are known to predate the canal era. For example, the Frazee family was living a short distance to the south of HS 125 by the 1810s. As Johnson and Newman (1984) have suggested, it is possible that the lock location was selected due to the presence of an existing structure, rather than the structure being built at the location of the existing

lock. The presence of poor-grade, nonquarried sandstone in the single remaining original foundation wall segment suggests a pre-canal age for the structure. Quarried Berea Sandstone would have been widely available after 1825 when it was used for numerous locks and other structural components along the canal, including Lock 38 immediately adjacent to HS 125. The presence of "river rock" in the single remaining original portion of the foundation suggests that the finer-grade quarried stone was not available when the house was built.

While archeological data have been interpreted as reflecting an 1820s or earlier initial construction date, that assignation must still be regarded as tentative. Two areas of information might be used to further address this issue in the future. The most promising approach would be to use dendrochronology from original logs (floor joists, beams, or sills) in the northern part of the house to date the construction. This approach has been used with great accuracy in dating an early nineteenth-century structure in Missouri. However, a comparative chronology is not available for northern Ohio at this time. It is also possible that window glass analyses will advance in the future to provide a means for dating the structure. As described in an earlier chapter, samples of window glass are very large from the excavations, but available dating schemes provide ambiguous results. Clearly, the very thin size of the sherds from the lowest levels of the site (mean and mode = 1 mm) indicate a rather early age for the structure. Until these studies can be refined and further pursued, the available archeological data can be used to suggest a mid-1820s (or earlier) construction date for HS 125.

Date for Construction of South Addition

It is possible to utilize archeological data to address the question of the construction date for the southern addition to the structure. This can be done with considerably more accuracy than for the initial construction of HS 125. There are several features, and distinct artifact bearing strata, which can be used for this study. The most important deposits are the rubble layer (Stratum 12), the silt (Stratum 11) and pea gravel (Stratum 16) layers which overlie it, sandstone door sills and stoops, and Features 7 and 10. These deposits occur in basement Room 003, and adjacent to the south and west walls of the south addition.

As described in the preceding section, the rubble layer extends through much of Room 003, and to the south of the structure. A silt layer partially or completely covers all of the rubble pavement exposed in 1983. Pea gravel occurred over the rubble and silt in Room 003, but not in the exterior units. This gravel served to level the irregular rubble surface prior to the installation of the sandstone slab floor in the basement. Numerous temporally diagnostic artifacts occur in these layers, and within Feature 7, which is located within Room 003. These features and associated artifacts, in addition

to the stratigraphic position and age of Feature 10 adjacent to the south basement doorway, provide an excellent basis for dating the south addition to the structure.

The rubble layer, and the silt which surrounds and overlies it, occurs not only within Room 003, but also extends south of the structure, and was recorded in Units 39, 42, 45, and 46. The bases of the south and east foundation walls of the south half of the structure cut through these layers. The distribution of the layers inside and outside the structure, and their disruption by the walls indicate that the rubble and silt deposition predates the foundation wall construction. Further, the rubble has been interpreted as a pavement which led to the south side of the original structure, and ended at a porch which was removed when the structure was enlarged. Temporally diagnostic artifacts recovered from the silt around the rubble include several specimens predating 1840, the date hypothesized by Johnson and Newman for construction of the addition. However, numerous artifacts from the silt and the pea gravel above it postdate 1840, and extend to 1853. These include several coins, a variety of ceramic sherds, including many patterns and styles which were not produced until the late 1840s and early 1850s, ceramic tobacco pipe fragments, bottle fragments, and other artifacts.

By themselves, the artifacts do not completely preclude the possibility that the addition was built about 1840. It is possible that those artifacts postdating 1840 were deposited in the basement of the new structure, rather than outside the old one. It is conceivable, although extremely unlikely, that the coins and other artifacts may have been discarded or lost in the basement and became incorporated in the silt around the rubble prior to the installation of the sandstone slab floor. However, the nature and age of Feature 7 leads to a different conclusion. A profile of the feature is shown in Figure 22. The feature was dug through the paleosol well into the B horizon to a depth of 50 cm below the original surface.

The shape and stratigraphy of Feature 7 has been fully described in an earlier section of the report. The base of the feature contained a dark fill which yielded numerous artifacts, considering the limited amount of matrix. Above this primary cultural deposit, the feature was filled with angular sandstone rubble and broken brick fragments. The bricks precisely match those used in the construction of basement partition walls and piers in the addition. The rather specialized nature of the artifacts from the lower cultural fill is apparent. Underwear buttons, a tobacco pipe (large bowl variety), a fluted tumbler, a bottle with blow pipe pontil, slate pencils, and numerous coins constitute the assemblage. The pipe and tumbler were broken, but reconstructable.

These artifacts, combined with the configuration of the feature, indicate that the feature served as a privy. The outline of the boards used to line the walls of this privy was still visible during excavation (Figure 21), and the "soil" fill from the feature was highly organic. All of the artifacts are ones that might be expected to be accidentally lost from clothing or pockets (coins, slate pencils, buttons), or disposed of in the privy during or after use (pipe, tumbler). As shown in the stratigraphic profile of the feature

(Figure 22), there is evidence that the superstructure of the feature was burned prior to the pit being filled with rubble. The feature was capped with a layer of pea gravel which occurs across Room 003. Then two sandstone slabs were placed over the feature—the only area where a two-slab-thick floor was recorded.

The dates of the artifacts from the feature suggest a rather tight time frame for its use. The coins span 1814-1853. All but the more recent ones were heavily worn, suggesting that they may have been deposited nearer the 1853 date. Fine-condition 1851 and 1852 large cents were recovered from the base of the feature, and an 1853 large cent was among the rubble which was used to fill the feature. Further, the pipe is a style popular after about 1845, and the fluted tumbler dates after 1850. All of these factors indicate that the privy was used during the late 1840s or early 1850s at the earliest, and was sealed during, or soon after 1853. It was filled with construction debris from the foundation and basement piers of the addition. Since the feature's superstructure was burned, and due to its function, it is difficult to develop a scenario suggesting use and closing of the privy *after* the construction of the addition. It is likely that the privy was filled in during construction of the south addition, placing that construction during or immediately after 1853.

Additional information is also available to provide confirming evidence for the circa 1853 construction date. A massive sandstone slab was positioned outside the south basement doorway during, or immediately after, construction. The slab surface is precisely even with the sandstone door sill, and rests upon the rubble and silt layer. It is likely that the sandstone slab basement floor was also installed at the same time. Temporally diagnostic cultural material from Feature 10, a distinct midden layer directly associated with the exterior slab, helps confirm the mid-nineteenth century date for the addition to the structure. Ceramic and bottle fragments, fauna, window glass, and other materials from that deposit, which occurs immediately adjacent to the slab and at the same level, reflect the initial trash discard from the now-expanded structure. This material all dates to the early 1850s. "Siam" transfer print ceramic sherds are one of the diagnostic ceramic patterns. This pattern is known to have been first registered in 1850.

In addition, as has been described in detail in an earlier section of the report, window glass fragments from the Feature 10 midden and Feature 7 (privy) are completely comparable in thickness. Neither feature contains the thin glass associated with the original windows of the north half of the structure. In Feature 7, the mean thickness is 1.7 mm, with a single mode of 1.6 mm, while Feature 10 has 206 pieces averaging 1.63 mm, with a single mode of 1.6 mm. The direct association of sherds in Feature 7 with 1850s coins, and other temporally diagnostic artifacts, matches the data from Feature 10, outside the structure. Since it is known that glass thickness increased dramatically after 1845, the window glass data further confirms the dates derived from coins and other artifacts.

Since the most recent datable artifacts recovered under the sandstone floor in Room 003 date to 1853, that date can be used to estimate the date for the installation of the sandstone floor. Given the nature and age of Feature 7, 1853 also appears to be the earliest possible date for construction of the south addition of the house. Based upon archeological data, it appears that the addition was added to the house in 1853, or very soon after that date.

This chronology for the construction of the addition conflicts with the 1840 date derived by Johnson and Newman (1984), but is completely consistent with the independent data sets of stratigraphic relationships and temporally diagnostic artifacts. In addition, it coincides with an ownership change for the structure in 1852, and with increased tax evaluation for the property in 1854. It now appears likely that the original portion of the structure was occupied for at least 25 years before being modified into its current "double" configuration. Johnson and Newman (1984) have provided data which indicate that Moses Gleason spent $1,000 dollars on repairs and a new store in 1840-1841. At present, this information can not be completely reconciled with available archeological data. The presence of an unworn 1837 half dime in a builder's trench along the western portion of the north foundation wall (Unit 10 Level 3) could be evidence for this 1840 construction/repair episode. Perhaps the early 1840 improvement phase involved extensive foundation rebuilding and other structural improvements, rather than construction of the south addition. The nature of the single remaining segment of original foundation at the northeast corner of the structure certainly indicates that the original foundation was constructed of poor materials, and with minimal masonry skills. If there were a need for extensive structural repairs as early as 1840, as suggested by Johnson and Newman's dating of an interior basement support wall, and archeological and documentary evidence, this may indicate considerable antiquity for the original structure. One would not think that such major work would be needed so soon if the structure were built *after* canal construction (1827).

Summary

Although questions remain about the initial construction and occupation of HS 125, archeological data have provided considerable new information for evaluating the early years of the structure. Further, they have provided surprisingly detailed information for refining the date for the enlargement of the structure into its double configuration. The available evidence suggests that the structure was built no later than the mid-1820s, or possibly somewhat earlier. When Moses Gleason bought the property in 1840, considerable modifications were made, perhaps including foundation repairs/rebuilding, installing an interior basement support wall, and improving other structures on the property. Later, when he sold the property to his son Isaac, the structure was greatly enlarged, and modified into its current "double" configuration. All archeological evidence points to 1853 as the probable date for this construction episode.

SITE FUNCTION AND ECONOMY

The archeological deposits around the exterior and within the basement of HS 125 provide an independent source of data for evaluating the accuracy of the limited historic record with regard to the function(s) of the structure through about the first century of its history. The economic conditions encountered by some of the various site occupants and owners will also be examined with these archeological data. Although the archeological data set does not yield the temporal specificity necessary to examine these issues relative to each owner, or within very small, refined temporal units, it does lend itself to examination of broad economic and functional trends at the site.

Analytical Blocks

The prerequisite to addressing the functional and economic issues was to develop appropriate analytical study units from the variety of excavated proveniences. Since 346 separate proveniences were maintained across 18 soil strata of varying thickness and extent, and the yield of diagnostic cultural materials varied dramatically across these collection units, the task was difficult. Several factors were considered in developing meaningful analytical groupings within this large set of proveniences, including: (1) historically documented occupational events, (2) clustering of horizontal and vertical proveniences, (3) soil matrix characteristics and stratigraphic profiles, (4) relative elevations of the excavated levels and the 18 different soil strata, (5) cross matches (mending) of ceramic and glass artifacts across separate provenience units, and (6) temporally diagnostic cultural materials. Stratigraphic differences in the cultural deposits from the four sides of the house, disturbance to primary cultural deposits through later ground-disturbing activities, and uneven distribution of temporally diagnostic cultural material complicated efforts to devise meaningful analytical units. Despite these problems, the well-stratified condition of the site, the presence of several thousand temporally diagnostic artifacts, and the large number of artifact mends (over 200) between provenience units provided the basis for defining three analytical blocks. Artifact totals within these blocks are used for examining the functional and economic concerns defined in the GOALS section of this report.

By combining individual provenience units into larger analytical blocks, artifact sample sizes were greatly increased over the occasionally sparse yields from individual excavation levels. This allowed more detailed analysis of changing site function and lifestyle than would have been possible otherwise. This approach is also useful for examining the artifact assemblage relative to temporal subdivisions, rather than relying only on site-wide totals over the entire length of archeologically represented occupation.

Since a generalized chronology for changes in site function was available from historical research, it was used as a framework for shaping the analytical blocks. There is some evidence of use of the structure as a store or tavern from at least as early as 1835 to the mid-1850s, and as a noncommercial residence after 1874 (and probably ear-

lier). It was hoped that the analytical blocks could be defined to approximately match this apparent functional shift. Unfortunately, information regarding use of the building during the 1860s is particularly sketchy, and the approximate date for closing of the store and tavern is not known. There is documentary evidence regarding the financial problems of HS 125 owner Isaac Gleason after 1860 which suggests that his commercial efforts may have been failing. In addition, the sharply declining economic role of the canal after 1861 suggests a probable decrease in the viability of a commercial enterprise at the site after that date.

Archeological data can also be considered in defining a reasonable temporal break. Many of the temporally diagnostic artifacts from excavation such as whiteware ceramic vessels and bottles could be dated relative to 1860. Further, archeological data indicate that the structure was enlarged after about 1853. This resulted in the creation of sealed deposits known to predate about 1853 in three major areas of the site. Given the historic background, site stratigraphy, and the available temporally diagnostic technological and stylistic artifact attributes, the date of 1860 was chosen as an approximate dividing line for creating analytical blocks from the 346 provenience units. The artifactual content of these blocks could then be contrasted relative to functional and economic indicators.

All proveniences containing similar soil matrices, comparable horizontal grades, and *only* temporally diagnostic artifacts which dated pre-1860 were grouped into Analytical Block 1. This block was relatively easy to define from the excavated proveniences on the south, north, and east exterior walls and within basement Room 003. It was more difficult to define this block on the west side of the structure and within Room 001 even though large quantities of pre-1860s materials were found in those areas. Unfortunately, the stratigraphic relationships in those areas were less clear-cut than along the other foundation walls and in Room 003. Although there are several factors which could not be completely controlled in developing Block 1 (e.g., time lag in artifact discard, presence of generalized middens rather than discrete lenses of materials in some areas), information on chronology and mending of artifacts was combined with stratigraphic data to assign 161 proveniences to Block 1. The original ground surface (Stratum 8) and the deposits which accrued immediately over it (Strata 7, 11, 12, 13, 15, and 17) constitute the basis for the pre-1860s block. Across the site, the original ground surface ranged only from about 610.7 to 610.9 feet amsl. The cultural deposits which capped this horizon to a depth of slighly less than one foot constitute the matrix for Block 1.

All undisturbed proveniences stratigraphically above proveniences in Block 1 and which contained a preponderance of post-1860 artifacts were subsumed in Analytical Block 2. The depth of Block 2 varied considerably across the site, extending from a consistent lower elevation of about 611.6 to 611.8 feet amsl across the entire site to as high as 617.5 feet amsl along the east wall. Except where the original deposits were interrupted by recent activities, Block 2 consists of all units above Block 1 up to the

present ground surface. Undisturbed areas of Strata 1-6, 9, 10, 14, 18, and a portion of Stratum 17 form the basis for Block 2. Block 2 consists of 103 individual excavated proveniences.

Analytical Block 3 consists of all mixed and disturbed proveniences. Several of the site strata (e.g., Strata 7 and 17) were thick, and reflect many years of trash discard. These deposits were excavated in multiple, arbitrary 10 cm levels. Some of these excavations cut the deposits in a manner which resulted in pre- and post-1860s materials occuring within a single level. Although these levels are not disturbed, they could not be used for the pre- and post-1860 dichotomy. These proveniences were placed within Block 3. In addition, several excavation units were extensively disturbed through various late nineteenth-century and early twentieth-century activities such as utility installation and trenching for improvement of site drainage. In other areas such as Room 001, deposits were very shallow (10 cm) yet contained material spanning the 1830s-1900. These deposits could not consistently be separated into finer temporal units. Most of these proveniences were also subsumed in Block 3. Block 3 consists of 82 individual proveniences, which include numerous isolated finds from surface and backdirt locations collected while restoration was underway.

South Wall

In this area, it was relatively easy to define the analytical blocks, since the excavation units shared distinct and consistent stratigraphic profiles, and the temporally diagnostic artifacts were systematically distributed vertically through the excavation units. The only disturbance factor which caused mixing of the original deposits is a drainage ditch (Features 1 and 9) which intersected Units 1, 2, 39, and 46. The pre-1860 deposits in the south wall units consist of the original soil surface (Stratum 8), the sandstone rubble (Stratum 12) and associated silt (Stratum 11) layers in Units 39, 42, 45, and 46, and most of very dark grayish brown loam (Stratum 7) in all of the south wall units. Analytical Block 1 is about 30 cm thick along most of the wall. Artifact counts are low in the basal level of these units, but increase dramatically above the rubble horizon. The upper boundary for Block 1 is slightly above the the level of the sandstone door stoop at an elevation of about 611.6 feet amsl. Strata 1-6 along the south wall constitute Block 2, except for disturbed and/or mixed areas which were subsumed in Block 3. Units 1 and 2 were extensively disturbed, and several of the levels in those units were placed in Block 3.

Artifacts were mended from units along the south wall to specimens on the east and west walls, as well as with materials in basement Room 003. These matches, along with a large number of matches within and between units and levels along the south wall, were of considerable help in refining the associations of the strata across the site.

East Wall

The only portions of the east wall deposit which can be confidently included in the pre-1860 block are the burned layer (Stratum 15), stratified silt zone (Stratum 11), and paleosol surface (Stratum 8) at the base of the 2 m thick profile. These strata correspond directly to the deposits along the south wall at and below the level of the sandstone stoop. The surface of the silt (about 611.5 feet amsl) matches closely with the same deposit along the south wall. The thick tan loam fill (Stratum 14), which constitutes the bulk of matrix along the east wall, could not be confidently subdivided. Based upon a well-documented 1853 terminal date for the silt zone (Stratum 11), and the presence of post-1860 materials in the overlying fill, Stratum 14 was placed in Block 2.

North Wall

Only one break in the stratigraphy is apparent in the units excavated along this wall, between Stratum 17 and Stratum 10. While Stratum 10 is clearly a post-1860 deposit, Stratum 17 spans pre- and post-1860. Fortunately, it was possible to subdivide the thick "mottled" zone on the basis of artifact associations. The deposit, while lacking clear soil differences, contained distinct and dense lenses of artifacts. The elevation of the subdivision of Stratum 17 matches closely with the grade along the south wall. All proveniences from undisturbed contexts on the north wall below about 611.8 feet amsl were placed in Block 1. The uppermost portion of Stratum 17 and all of Stratum 10 were placed in Block 2. Unit 19 was extensively disturbed and was placed in Block 3.

West Wall

The cultural deposit on the west wall is shallower than along any of the other exterior walls, leading to more compressed stratigraphy. The upper gravel/cinder layer (Stratum 10) postdates 1860 and was included in Block 2, as it was along the north wall. There is considerable mixing of the dark loam (Stratum 7) below this upper layer, making it difficult to separate pre- and post-1860 horizons. In order to confidently exclude post-1860s materials, only the lower excavation levels within Stratum 7, along with the ash lenses (Stratum 13), and all of Stratum 8 are included in analytical Block 1 from the west wall. Unit 3 is excluded due to disturbance factors. Due to the considerable mixing of the upper portion of Stratum 7, much of it was placed within Block 3.

Basement Room 003

With the exception of a very small disturbed area in Unit 52, *all* of the cultural deposits from Room 003 can be confidently assigned to a pre-1860 context. In fact, the extensive assemblage of coins from that room, including those in Feature 7, strongly

indicates that all the associated cultural deposits date no later than 1853. A wide range of temporally diagnostic bottle and ceramic vessel fragments further support this temporal placement. Of all the deposits at the site, those in Room 003 are the least mixed with later materials, since they were effectively sealed in place by the installation of a heavy sandstone floor over them. The strata in Room 3 include the original surface (Stratum 8), the sandstone rubble (Stratum 12) and associated silt deposit (Stratum 11), and the pea gravel and sand (Stratum 16) which cap them. Except for the pea gravel, these strata were also recorded along the east and south exterior walls. The grade of the rubble stratum matches rather precisely with the south wall, as its surface in Room 003 ranges from about 610.8 to 611.2 feet amsl.

Basement Room 002

The limited excavation under the sandstone floor in Room 002 exposed a sand lens (Stratum 16) over original grade (Stratum 8). The floor in Room 002 was thicker than in Room 003, suggesting that the floors were laid at different times, but the lack of post-1860 material under the floor in Room 002 allows most of the proveniences to be placed within Block 1. Limited disturbance was noted in Units 25 North, 41 and 43, and portions of those units were placed within Block 3.

Basement Room 001

The majority of cultural material in Room 001 postdates 1860, although there is considerable evidence for pre-1860 deposition in that area as well. Unfortunately, the deposit is not well stratified, and is only 10 cm thick. This silt layer (Stratum 18) was sealed under an early twentieth-century concrete floor until it was exposed in 1983. Utility installation and rodent activity combined to disturb the majority of the excavated area in Room 001. For purposes of this analysis, only those materials in the builder's trench in Units 10 and 13 are included in Analytical Block 1. Material from the other proveniences was placed primarily within Block 3, although a few areas of unmixed post-1860 deposits could be grouped within Block 2.

Site Function

The fleeting references in the historic literature to tavern and possibly mercantile functions for HS 125 in the 1830s through early 1850s remain the most temporally precise data regarding site function. These references, although extremely limited in scope, indicate that these commercial functions spanned multiple owners of the structure including John Rowan from at least as early as 1835 to about 1838, Moses Gleason from 1840-1843, Edmond Gleason from 1843-1848 or later, and Isaac Gleason after 1852. One assumes that these isolated references reflect a consistent commercial use from 1835-1852 at a minimum. All of these owners apparently ran taverns, or some combination of store and tavern. Potential earlier uses of the structure as a commercial

facility dating back to 1818 can not be resolved through the historic literature or through archeological data. The archeological data suggest that the structure was occupied by about the mid-1820s, several years before the earliest well-documented historical reference.

Several related aspects of the archeological data support the references to commercial use of the structure into the 1850s. However, the limitations of archeological data do not allow development of extensive detail regarding these functions. The best evidence for commercial use of the structure is the nature of the large coin assemblage. As can be seen in Tables 32 and 33, the distribution of coins is highly patterned across the site. The great majority of coins was recovered from Stratum 11 in Room 003. The coins were scattered about the rubble layer within a laminated silt matrix. The number and tight horizontal clustering of coins strongly suggest that commercial activity was taking place in this area near the original south wall entrance to the old portion of the structure up to about 1853. At that time the structure was enlarged and a sandstone floor placed over this former back yard deposit. A few mid- and late nineteenth-century coins were also recovered from other portions of the site, but these were largely associated with domestic trash from the late nineteenth-century Gorris/Hill occupation.

Additional evidence for the tavern function is seen in the presence of a shot glass wedged between the south basement door threshold sandstone components, and in the density of sherds from glass tumblers in Room 003, and the south and north exterior walls (Table 32). Since beer and liquor would have been obtained in barrels, numerous tumblers could be expected to be used and broken in the course of tavern activities. In addition to the numerous tumbler sherds around the old portion of the structure, a total of 10 individual tumblers was recorded in Analytical Block 1, while only six were recorded in Block 2.

Further evidence of commercial use of the structure until about 1860 is seen in the differential numbers of ceramic vessels in Blocks 1 and 2. A minimum of 132 whiteware ceramic vessels is associated with Block 1, while only 22 vessels occur in Block 2. This constitutes a six to one ratio. This is despite the fact that Block 2 contains about the same amount of excavated matrix as Block 1. Further, Block 1 reflects a shorter time frame than Block 2, assuming that Block 1 spans 1825-1860 and Block 2 spans 1860-1910. Given that situation, one would not expect such a great divergence of whiteware vessel frequencies from the two blocks if the site function had remained constant. One might expect considerably more breakage of whiteware table service from a tavern than from a typical home. This strongly suggests a commercial use of the structure through about 1860. When all of the whiteware vessels from the site are considered, including those from Block 3, temporal aspects of the vessels indicate that at least 241 predate 1860 while only 58 postdate 1860. This four to one ratio again indicates a different use for the structure in the pre- and post-1860 eras.

The nature of the artifact scatters containing the whiteware vessels further reinforces the differences in Blocks 1 and 2. Several distinct lenses consisting of dense accumulations of whiteware sherds and other artifacts occur within the Block 1 proveniences. Numerous partially reconstructable vessels occur in these deposits. In several instances three or four vessels occurred in small clusters, suggesting they were discarded in a single episode. This would again suggest more extensive breakage than one might expect from a typical house. It should also be noted that all of the plates show evidence of use through the presence of scratches and cut marks. This indicates that the extensive whiteware contribution to trash in and around the structure reflects disposal of vessels broken through use rather than discard of damaged store stock.

In a later section of this chapter, the relative values of the various whiteware decorative types and forms are examined. From that analysis, it will be shown that the whiteware assemblage best correlates with an assemblage from a documented mid-nineteenth-century tavern, rather than with assemblages from various other commercial and domestic sites. Therefore, the quantity, value, and distribution of whiteware combine to indicate use of the structure as a tavern up to about 1860.

The distribution of bottles is nearly the reverse recorded for whiteware vessels. Only 17 bottles were identified in Block 1, while 76 occur in Block 2. An additional 31 are associated with Block 3. About half of the vessels from Block 3 exhibit technological attributes suggesting that they were manufactured prior to about 1860. Even when those are added to the bottles in original pre-1860 context, the total is still far less than for Block 2. This difference is probably accounted for by the relative scarcity/expense of bottles in the hand-production era, compared with the later, more automated period. The bottles in Block 1 are dominated by medicine forms. Liquor and beer bottles are poorly represented. However, this does not constitute evidence against the proposed tavern function. In the early years, liquor and beer would have been contained in barrels, rather than bottles at a country tavern, leaving little direct evidence to be detected archeologically. The numerous beer and liquor bottles in Block 2 are typically of late nineteenth-century age, and probably reflect personal, rather than commercial consumption patterns. The numerous soda and mineral water bottles in Block 2 reflect both changing tastes and apparent domestic consumption.

Economy

The historic literature provides more detail regarding local and national economic conditions which would have been encountered by the owners and residents of HS 125 than it does for site function. In addition, archeological investigation provides considerable data for examining economic patterns at the site. The combination of these sources of information yields a relatively detailed view of the economic conditions at the site through much of the nineteenth century.

Prior to arrival of workmen for the start of canal construction in 1825, the area was isolated, with scattered settlements and poor transportation systems. Manufactured products were very scarce, and subsistence farming characterized the local economy. After the first section of the canal was completed in 1827, this situation began to change rapidly, as markets for local products began to develop. By the time the canal was completed to the Ohio River in 1832, the local economy was booming, and manufactured goods which had been so scarce only a few years before were readily available. However, the boom years of the canal as a vital transportation link and economic resource were relatively short lived. Although the canal was not officially "dead" until after the disastrous 1913 flood, its demise was signaled as early as the 1850s when its monopoly of the transportation system ended. Tonnage shipped on the canal declined after the peak year of 1851, and was very low by 1861. The canal lingered on as a quasi-viable route for an additional 50 years.

Even during its brief period of florescence, the canal was fraught with problems relative to repair and upkeep. Despite initial renovations in 1841 and 1842, the condition of the canal slipped through the 1840s. By 1856 it was in poor condition, and after 1861 the decline was very serious. Even a bewildering series of repair and modification attempts was insufficient to resolve the problems. Not the least of these was that the canal was rapidly surpassed by the faster and more efficient railroad system which was developed in the 1850s. Floods began the year the first segment of the canal opened (1827) and occurred frequently throughout its history. The floods of 1827, 1828, 1843, 1856-1857, 1860, 1882-1883, 1883-1884, 1913 and other years, weed growth, and a myriad of maintenance problems caused extensive deterioration of the infrastructure. The failing condition and massive upkeep requirements limited the usefulness of the canal. When these problems are coupled with competition with rail service and other factors after 1851, the downward spiral of importance and use of the canal is easily understood.

The owners and occupants of the frame structure adjacent to Lock 38 were witness to these dramatic changes. They were also contibutors to, and victims of, the economic conditions which prevailed. Even during the boom years of the canal from 1827-1851, national economic forces occasionally moderated the prosperity brought by the canal. Rowan's loss of the structure and its contents through a sheriff's sale in 1837 may reflect a local result of the national economic panic of that year. Moses Gleason's son Edmond took over the tavern in 1843 during another national economic panic. However, the early success of the canal, and apparently of the Gleason's business at HS 125, helped them overcome these setbacks. In the early 1850s the structure was enlarged, and the owner, Isaac Gleason, had invested in two canal boats. However, the demise of the canal after the early 1850s was to have a rather devastating impact on the family and its business. By the later 1860s Isaac Gleason was bankrupt, and his brother Sardis, a farmer, helped Isaac's family by purchasing the property and allowing them to continue occupying it. The Gleason family eventually was forced to rent the property to the Gorris and Hill families. The deteriorated condition of the aging

structure is sadly apparent in late nineteenth-century photographs during the Gorris occupation.

Despite the rather dreary economic summary presented above, there is ample evidence from the archeological assemblage that the site's occupants prospered over at least the early years of site occupation. Given the position of the site at Lock 38 on the canal, they were able to easily obtain goods from the Midwest region and from various European countries. Such goods were being transported via the canal to and from major ports on the Great Lakes and the Atlantic and Gulf coasts. Local products such as flour, coal, wheat, cheese, and beef passed the site moving north, while an array of manufactured goods, salt, and other products moved south. During most of the period from 1827-1860, the occupants would have benefited greatly from the major economic contributions of the canal trade. These benefits are reflected in the diversity, quantity, and relative value of the artifacts recovered during the 1983 excavations.

Expectations for the presence of goods from far-away areas are met by the archeological data. The very large assemblage of whiteware ceramic sherds is overwhelmingly derived from the Staffordshire region of England. Only a very few late nineteenth- or early twentieth-century vessels found at the site can be attributed to U.S. manufacture. The wide array of printed, painted, and molded patterns on the Staffordshire whiteware reflects the shifting styles of the 1820s through 1860s. The occupants were able to acquire the most up-to-date styles for their tea and table wares from the canal trade. At least as early as 1839, a local importer (Gardner) was obtaining transfer printed patterns from the Clementson firm, with Gardner's mark placed underglaze. This source continued into the 1850s, as seen from the "Antique Vases," "Lucerne," and "Siam" patterns. Since at least 246 pre-1860 Staffordshire whiteware vessels were identified from the 1983 excavations, it is apparent that very large numbers of vessels were used at the structure during its early history. Far fewer whiteware vessels (58) occur in the post-1860s deposits at the site. While this difference apparently reflects changes in site function, it may also reflect the relatively "hard times" faced by the occupants after 1860.

Supply from England is also apparently reflected in the large tobacco pipe assemblage. Only two of the 216 individual pipes could be firmly associated with the local Akron pipe-making industry, and those pipes are from a late context at the site. It appears that most of the remainder are from England. There is also evidence for a few pipes being obtained from France and Holland.

Other artifact classes reflect local production. While none of the yellowware vessels is marked, it seems likely that they were produced either locally or within the greater Ohio area. The same pattern likely holds for the stoneware and redware vessels from the site. There would be no advantage to long-distance transport of the large and heavy stoneware vessels when local sources were widely available. Bottle glass also

apparently reflects mostly local and regional production, although relatively few manufacturers were identified.

The large whiteware ceramic vessel assemblage was also used to more specifically address the question of the site's economic standing compared with other nineteenth-century sites ranging from subsistence farmers' houses and a factory worker's home to a country tavern. This was accomplished by tabulating vessel forms by decorative treatment and applying the economic scaling values developed by Miller (1980). His scaling method contrasts the values of various forms within decorative groups relative to the least expensive wares. The standard was plain, cream colored ware, which is within economic Level 1. Slightly more expensive were annular (dipped), sponge, and edge decorated wares which are within Level 2. Handpainted wares constitute the next most expensive vessels in Level 3. Transfer printed vessels form Level 4, the most expensive whiteware vessels available until the late 1850s. Vessel form (plates, cups, saucers, and bowls) is also considered with regard to relative cost for different shapes.

When the identifiable vessel forms and decorative types from Analytical Block 1 are applied to Miller's scaling system, very interesting results are obtained (Table 34). A large sample of vessels (114) was available for this study. Using the lowest and most conservative values for each form and decorative type from Miller's tables with 1846 price ratios, the assemblage ranks very high in value for each vessel form. Plates (n=54) have a relative value of 2.23, with cups and saucers (n=22) valued at 2.34, and bowls (n=38) rated at 1.7. When these values are contrasted with a variety of nineteenth-century sites in the northern Ohio and southern Michigan area, the data from 33-Cu-314 match very well with the Walker Tavern site (Miller 1980:Figure 6). That site yielded the most expensive whiteware assemblage of any of the sites examined by Miller. The 114 ceramic vessels from 33-Cu-314 are considerably more expensive than similar asssemblages from subsistence and tenant farms, factories, and factory worker sites of comparable age. These data depict not only the relatively high economic status of the residents of 33-Cu-314 up to 1860, but also strongly support the tavern function discussed earlier.

When the ceramic whiteware sample is enlarged by including all vessels (n=246) which predate 1860, including a few from Block 2 and many from Block 3, the results rather precisely match those obtained when utilizing only the materials from Block 1 (Table 34). Using either the Block 1 or the larger data set, the plates from 33-Cu-314 are about equivalent in expense to those from Walker Tavern, but much more expensive than those from any of the other 5 sites used for comparison. Cups and saucers are more expensive from 33-Cu-314 than any of the other sites. Bowls are more expensive than those from all sites except Walker Tavern.

When the whiteware assemblage is viewed from another perspective, it adds some information regarding the diet of the occupants (and/or customers) prior to and after 1860. The Block 1 assemblage is dominated by flat rather than hollow vessel forms.

This is emphasized further when the nature of the hollowware is examined. All but two of the bowls are large forms which probably served as mixing and serving bowls. When the vessels used for place settings are considered, plates greatly outnumber bowls. This indicates that steaks, hams, and other quality cuts of meat were consumed in far greater numbers than stews, soups, or other less expensive food sources. Within the small sample from Block 2, bowls and plates are more nearly equivalent in number, suggesting a possible decline in consumption of quality meat cuts and an increase in stews and soups compared with Block 1.

The faunal remains from the site are very numerous and add to an examination of the economic status of the residents. The cuts of beef represented in the collection provide some suggestion that better portions of meat were served at the structure. All economic ranks of beef cuts are present, as are primary butchering elements. This indicates that some animals were butchered on-site. Further, when the cuts are charted relative to economic value, all ranks (from 1-9) are present. The best cuts of beef (ranks 1-3 including short loin, sirloin, prime rib, and round) constitute 50 percent of the total cuts. However, this is not divergent from what one would expect, since a typical 1,000 pound steer yields about 47 percent of its butchered weight in these meat ranks.

Summary

HS 125 has stood for about 170 years on its one-acre lot in Independence Township. It has been a mute witness to economic boom and bust cycles, and has housed numerous families, and served numerous customers and visitors. Its condition has ranged from new and fresh to dilapidated. It has undergone a myriad of modifications and structural renovations. Today it stands adaptively restored to its external appearance from about 1855-1900. Its highly modified interior serves as offices and visitor facilities for the Cuyahoga Valley National Recreation Area. If the original component of the structure were standing as early as 1818 as suggested in poorly documented historic references, its occupants would have participated in the early Euro-American settlement of the valley. They would have faced economic isolation, lack of manufactured goods, and rudimentary transportation systems in a frontier setting. By 1825 they would have seen a huge influx of workers as canal construction began. They would have known the horrors of the malaria and smallpox contracted by many canal workers in 1826 and would have begun to participate in an economic awakening of the valley.

Since archeological evidence suggests that the structure stood by the mid-1820s, it seems very likely that the occupants reaped the benefits of the opening of trade on the northern segment of the canal in 1827. They would have struggled against the flooding that year and in many later years, since the house stands within the river's floodplain. Floods of 100-year scope reach about 614 feet amsl, and would have covered the basement floor with over two feet of water. In spite of the floods, the occupants

would have contributed to the shift from a barter and subsistence economy to the development of a market economy. They would have seen the surrounding farms shift from corn and pig production to wheat and cattle raising. Evidence suggests that they participated directly in, and profited from, the burgeoning trade of goods and services spawned by the canal. In 1828 they would have seen the placement of pilings along the lock which would have negated any need for a locktender.

The late 1820s occupants of the house ate their meals from dark blue transfer printed Staffordshire whiteware vessels which depicted actual scenes of the Eastern United States, France, and England. Many of the designs on these vessels were copies of carefully crafted works of art. Some commemorated heroes such as Lafayette, while still others marked with pride the bicentennial of the landing at Plymouth. After 1830, the vessels maintained the detailed and often realistic scenes, but now contained a wide range of colors, including mulberry and other hues. The residents probably attempted to ameliorate their health problems with patent medicines such as "Turlington's Balsom of Life." These and later residents saw the valley develop rapidly, with the addition and expansion of local saw mills, stone quarries, grist mills, and farms.

By 1835 John Rowan lived in the structure and operated a store and tavern there. Despite the local success of the canal, he lost the structure at a sheriff's sale, probably due to the national economic panic of 1837. It may have been Rowan who used, broke, and discarded ceramic vessels with patterns such as "Moral Maxims," "Picturesque Views," "Clyde Scenery," and others. After a short period of ownership by William Knapp, who lived just east of Lock 38 in a nearby frame house, the Gleason family began a 68-year period of ownership in 1840. They thrived during the short-term success of the canal, and suffered through its decline.

It is probably Moses Gleason who purchased and used several of the early 1840s blue, red, brown, and mulberry transfer print vessels with patterns which were by now shifting to more romantic and less realistic forms. He almost certainly used such patterns as "Columbian Star" which was made only in 1840 as a commemorative for President Harrison. Gleason continued the use of the structure as a tavern and residence after making rather costly repairs and additions. His repairs were conducted in concert with the first major renovation of the canal. After a brief occupation, he sold the property to his son Edmond during the financially troubled year of 1843.

Edmond successfully continued the family tavern business through the remainder of the 1840s and into the early 1850s. He coped with a huge flood in his first year of ownership. Edmond's ownership occurred during a period of prosperity for the canal and region. His tavern must have served many travelers who were anxious to find a respite from the cramped quarters of the packet boats, or the bumpy carriage ride down the adjacent Canal Road. Good meals of steaks and hams would have been served along with the requisite drinks of the day. Evidence from the waste bones scattered throughout the site indicates that some cows and other animals were butchered on-site

for use as food for the tavern. It was during Edmond's ownership that the first matched sets of ceramic transfer patterns were used at the site. Customers took their meals from similar-appearing blue printed wares featuring romantic scenes with names such as "Siam," "Lucerne," and "Ontario Lake Scenery." Tavern-goers would have been able to enjoy tobacco from clay tobacco pipes including old standbys such as the small-bowl cockled varieties in vogue since the start of site occupation, or the newer, large-bowl varieties which were now available.

Edmond's ambitious brother Isaac apparently oversaw the expansion of the structure after his ownership began in 1852. He was able to enlist expert stone masons to craft a long-lasting foundation for the newly-enlarged structure. The carpenters used new balloon framing techniques rather than the old system of timber beams, sills, and rough-sawn vertical planks which had been used in the old structure. He hoped to further capitalize on the promise of the canal through expansion of the family business and ownership of two canal boats. Things went well for a while, but as the canal slipped in importance, his economic stability was undermined. In debt by the middle of the decade, he sold the house to his brother Sardis in 1867, but continued to occupy the house with his wife Harriett. It was during his early ownership that the gaily printed transfer wares began to be replaced with plain and mold-decorated white-surfaced wares. About 50 of these vessels were broken and discarded by Isaac's family and the tenants who were to follow. Although the economic condition and infrastructure of the canal was rapidly deteriorating, the technological advances brought by the Civil War were to impact the lives of the occupants in several ways. Perhaps most obvious from the archeological perspective is the increase in availability and decrease in price of materials such as glass bottles and stoneware pottery vessels. Rather large quantities of these vessels were used, broken, and discarded around the structure after 1860.

After Edmond's death, his wife, Harriett, struggled to maintain the family property. By 1874, and perhaps earlier, Sardis Gleason, the owner of the property, became the occupant. Since Sardis was a farmer, his occupation certainly marked the end of the tavern business. By 1875, Sardis had died, and Harriett once again occupied the old structure. The realities of the times had overtaken the optimism of the 1840s and 1850s, and the structure went into a long period of decline. Discarded artifacts continued to accumulate around the structure, but at a lower rate than in previous years. Technological advances continued to appear, such as oil-burning lamps with fancy scalloped glass chimneys. These and other materials were broken and discarded to accrue over the residue of earlier years. By about the 1880s, Harriett rented the house to the Gorris family. Photographs of them outside the structure are the only nineteenth-century photographs of the building which are known to exist. Missing shutters, broken windows, warped siding, and deteriorating porches and roofs are testimony to the decline of the structure. Matt Hill and his family apparently occupied the basement in the late years of the nineteenth century, and trash from his family was found in Room 001. Various toys, pennies, ceramic and bottle sherds are among the items which appear to

relate to this occupation. Since he made and repaired cabinetry, many of the casters and furniture components in this deposit may result from his work in the structure.

In 1908, the long period of Gleason ownership ended, and the first of several twentieth-century owners took over the property. Over the next few years, many changes were made to the structure. These include foundation modifications, addition of porches, improvements in the heating and other utility systems, and many other modifications. These actions greatly changed the appearance of the structure. The modifications also resulted in yet additional archeological deposition around and within the structure. This era also marks the end of the focus for the 1983 archeological project.

The excavations in 1983 at HS 125 have yielded a large collection of cultural material and architectural data for use in examining site construction history, function, economy, and stylistic and technological changes. The structure stands today as one of a very few buildings which span the history of the Cuyahoga Valley from initial Euroamerican settlement to the twentieth century.

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APPENDIX A

A DESCRIPTION OF GLASS BOTTLES FROM 33-Cu-314

By
W. E. Sudderth and Jeffrey J. Richner

Vessel 1, Unit 1, Level 3. This bottle is represented by a finish and neck fragment of aqua color glass. The finish was formed with a lipping tool. The absence of mold seams on the neck suggests that it may have been fire polished. The finish is an "Oil" variant, and the bottle may have been a "Champagne Beer" shape (Putnam 1965:252-258). Contents - beer.

Vessel 2, Unit 1, Level 3. This bottle is represented by a neck and finish fragment of aqua color glass. The finish was formed in an "Oil" shape by lipping tool. Contents - beer.

Vessel 3, Unit 1, Level 3. This aqua color bottle is represented by a finish fragment in an "Oil" shape. It was formed by lipping tool, and was designed to accept a cork closure. Contents - culinary oil.

Vessel 4, Unit 2, Level 2. This bottle is represented by a finish fragment, which was shaped through handtooling. The bore was formed to accept a cork closure. The extract shaped finish suggests that the bottle may have held medicine, cosmetics, or extracts.

Vessel 5, Unit 2, Level 3. This aqua color bottle is represented by a finish fragment which was handtooled into an everted shape. The finish is similar in form to early medicine containers (Noël Hume 1976:73), and it is probable that Vessel 5 contained medicine.

Vessel 6, Unit 4, Level 1. This aqua color bottle is represented by a "soda" shape finish fragment which was formed by a lipping tool. The bore was designed to receive a Hutchinson closure, which indicates that the bottle was not manufactured before 1879, and likely between 1885-1915 (Deiss 1981:94). Contents - soda water.

Vessel 7, Unit 4, Level 3. This dark blue bottle is represented by a finish fragment which was formed into a "soda" shape with a lipping tool. The bore was designed to accept a Hutchinson stopper, placing a temporal range for Vessel 7 identical to that for Vessel 6. The dark blue color of the bottle is somewhat unusual, and is seen on only 15 of the over 2,000 bottle glass sherds from the site. In the late 1870s, blue glass was believed to have had therapeutic and/or medicinal qualities (Innes 1976:389; Munsey 1970:101). It is likely that Vessel 7 contained mineral water. The potential curative power of the mineral water might have been thought to be enhanced through packaging in a bottle with its own supposed theraputic qualities. Original contents - mineral or soda water.

Vessel 8, Unit 4, Level 4. This vessel is represented by a finish/shoulder fragment of clear color glass. The finish appears to be of "continuous thread" form, but the fragmentary nature of the vessel makes identification difficult. It is equally likely that the finish contained parallel bands for a "snap on" rather than screw top closure. The sherd contains no mold marks, and the lip is missing, but the vessel has the appearance of being machine-made. The configuration of the vessel is similar to the "Common Sense" pomade illustrated by Putnam (1965:45). Contents - cosmetic.

Vessel 9, Unit 4, Level 6. This aqua color bottle is represented by the base and a portion of the body. The bottle was blown in a hinged bottom mold, and empontilled on a blowpipe, suggesting a manufacturing date of no later than 1860, and possibly considerably earlier. Configuration of the champfered corners is similar to the "Blake" bottle shape (Putnam 1965:31). Contents - medicine.

Vessel 10, Unit 6, Level 2. This vessel is represented by a bright purple color sherd. Unfortunately, the sherd proved to be undiagnostic. Despite this, a vessel was defined on its presence since no other sherds of this color were recovered from the site.

Vessel 11, Unit 6, Level 3. This light green color vessel is represented by a finish fragment which was formed by lipping tool. It is highly fragmentary, but appears to be either a "Brandy" or an "Oil" shape. Original contents may have been an alcoholic beverage.

Vessel 12, Unit 6, Level 6 and Unit 42, Level 4. This amber color vessel is represented by two sherds which mended to form a portion of the base and heel. The vessel was blown in a post bottom mold, and there is no evidence of a pontil mark, suggesting that the vessel was finished while being held in a snap case. This technology was in use post-1860 (Deiss 1981:92-93; Munsey 1970). There is moderate wear on the foot ring suggesting reuse of the bottle. Contents - ale or beer?

Vessel 13, Unit 6, Level 5. This aqua color vessel is represented by the finish, neck and part of the shoulder. The single ring style finish was formed with a lipping tool, indicating a post-1850, and possibly somewhat later, "not earlier than" date for the bottle. Contents - culinary oil?

Vessel 14, Unit 6, Level 5. This olive green finish/neck fragment was formed with a lipping tool. The configuration has not been specifically named, but commonly appears on wine bottles dating to about 1860. Similar examples have been previously illustrated (Wilson and Wilson 1968:14-15). Traces of a foil cap or hood adhere to the finish of Vessel 14. Although the vessel is reminiscent of earlier forms, this vessel must postdate 1850, the approximate year of introduction of the lipping tool. Contents - wine.

Vessel 15, Unit 6, Level 7 and Unit 42, Level 6. This aqua color bottle is represented by two sherds which mend to form the base and a portion of the heel and body. The vessel was empontilled on a solid iron rod (not the "improved pontil"), suggesting that

it was manufactured prior to about 1860. The bottle is an "Historical Flask" shape, but not enough remains to provide a more complete identification. Contents - ardent spirits.

Vessel 16, Unit 39, Level 1. This fragmentary vessel is represented only by a colorless "double ring" style finish fragment, formed with a lipping tool. Contents are uncertain, but may have been ardent spirits (picnic flask).

Vessel 17, Unit 39, Level 1. This cobalt blue color bottle fragment is represented by a finish/neck fragment which is machine-made, indicating a post-1904 manufacturing date. The fragment appears to be a portion of a Bromo Seltzer bottle (Wilson and Wilson 1971:24). Contents - medicine.

Vessel 18, Unit 39, Level 1. This colorless glass rim fragment was initially defined as a vessel, but was subsequently found to be too fragmentary for identification. It may have been machine-made. Contents - unknown.

Vessel 19, Unit 39, Level 1. This dark amber or brown glass vessel is represented by an "oil" finish which was formed with a lipping tool. Contents - ale or beer.

Vessel 20, Unit 42, Level 2. This colorless glass bottle is represented by the finish, neck, shoulder and part of the body. The "Brandy" shape finish is formed with a lipping tool, and the vessel is a "Shoo-Fly" flask shape (Putnam 1965:179). Contents - ardent spirits.

Vessel 21, Unit 42, Level 3. This aqua color bottle is represented by part of the base, heel and body. The body bears the embossed letters "GE../CLEVELAN./O.," which may have read "Gehring" or "GEIB", "CLEVELAND O." The Gehring association appears most likely (Downard 1980:49). Since the Gehring Co. became part of Cleveland and Sandusky Brewing Co. in 1898, it is likely that this vessel predates 1898. The nature of the glass suggests that the bottle does not date much earlier than the turn of the century. The foot ring exhibits considerable wear suggesting reuse. Contents - ale or beer.

Vessel 22, Unit 42, Level 3. This emerald green vessel is represented by a body/shoulder fragment embossed with the fragmentary letters "...E SP...," which may have read "CONGRESS & EMPIRE SPRING CO/SARATOGA, N.Y." A complete bottle is illustrated in Fountain and Colcleaser (1968:50). The size and relationship of the letters on the Vessel 22 fragment correlate well with the illustrated example. The vessel was carelessly blown in a proprietary mold. Munsey (1970:102) states that the glassworks which produced most of the Saratoga-type bottles manufactured crude bottles known for an excess of glass which made them heavy for their size. Most of the embossed mineral water bottles produced by the Congressville Glass House (owned by the Congress and Empire Spring Co. after 1865) were a deep rich emerald green, providing another source of confirmation for the identification of Vessel 22. Contents - mineral water.

Vessel 23, Unit 42, Level 3. This aqua color bottle is represented by a portion of the base, heel, and body. This vessel was formed in a post bottom mold, and the base bears the letters "C & I." This mark was used by the glass house of Cunningham and Ihmsen of Pittsburgh from 1865-1879 (Toulouse 1971:132-133). These dates provide a temporal span of 14 years within which the bottle was manufactured. Contents - ale or beer.

Vessel 24, Unit 42, Levels 3 and 4. This aqua color bottle is represented by a portion of the base and heel, and 16 body sherds. The sherd is embossed "E R DURKEE/& CO/N....K" on the base . A complete example is illustrated by Zumwalt (1980:129), and reads "E R DURKEE/& CO/NEW YORK." The bottle is round and tapers toward the top. The body is formed by a series of horizontal rings (Toulouse 1971:182-184). This design was patented on April 17, 1877 and included a screw type finish. The example shown by Zumwalt exhibits a double ring finish for cork or glass stopper closure, perhaps indicating that this vessel shape was in use for some time before it was patented in 1877. Contents - salad dressing.

Vessel 25, Unit 42, Level 3. This aqua color bottle is represented by a portion of the body, heel, and base. No datable technological features are present on the fragment, which is a paneled bottle form. Contents - extracts or medicine.

Vessel 26, Unit 42, Level 4. This aqua color bottle is represented by a "double ring" finish formed by a lipping tool. The bottle may have been a flask. Contents - ardent spirits.

Vessel 27, Unit 45, Level 1. This green glass bottle is represented by a base fragment, which is of "push up" form. The bottle was fabricated in a turn mold which was commonly used for manufacturing wine bottles about 1880-1905 (Deiss 1981:93). Contents - wine.

Vessel 28, Unit 45, Level 2. This brown glass bottle is represented by part of the base, heel, and body. The fragment is embossed at the heel with "...BBGCO." This mark was originally proceeded by an "N," and stood for the North Baltimore Bottle Glass Company, North Baltimore, Ohio (Toulouse 1971:379-380). The company operated under that name from 1885-1930, and listed itself as the largest beer and beverage bottle manufacturer in the country. The footring shows considerable wear, suggesting that the bottle was refilled a number of times before being broken. Contents - ale or beer.

Vessel 29, Unit 46, Level 3. This aqua color bottle is represented by a finish/neck fragment. The neck was folded inward against the bore to produce the finish. Although hand finished techniques such as this are generally thought to predate about 1860 (Jones 1983:71), folded finishes may have been produced as late as the 1870s. Contents - undetermined.

Vessel 30, South wall drip line, surface. This colorless glass bottle is represented by a fragment of the finish and shoulder. The finish was made to accept a screw cap closure.

Technologically, the vessel appears to date to the twentieth century, and may be very recent in date. Contents - commercially processed food.

Vessel 31, South wall drip line, surface. This green glass bottle is represented by a portion of the shoulder and neck, and is a "champagne" shape. The bottle is machine-made, and is apparently of recent manufacture. The embossed letters "DI.../...ATA" are present on the fragment, but the bottle could not be further identified. Contents - soda water.

Vessel 32, Unit 3, Level 3. This aqua color bottle is represented by a portion of the finish which was shaped into an extract form by a lipping tool. Contents - medicine or extracts?

Vessel 33, Unit 3 North Level 2. This colorless glass vessel is represented by a base fragment. The base is a "push up" form, and the foot ring exhibits considerable wear, probably due to refilling and reuse over a period of time. The glass has developed a purple tint, indicating the presence of magnesium in the glass as a clearing agent. This suggests a date range of about 1880-1915 for manufacture of this vessel. Contents - soda water.

Vessel 34, Unit 3 North, Level 2. This colorless glass vessel exhibits the same purple tint seen in Vessel 33. The vessel is represented by a portion of the finish, neck, and shoulder. The bead finish was formed with lipping tool. Contents - condiments or pickles.

Vessel 35, Unit 5, Level 3. This colorless glass fragment appears to derive from the lid of a small glass toy. The lid is fragmentary, and bears no seams or other technological landmarks, but may be hand-blown. Pressed glass toy vessels such as decanters, dishes and cruets are reported in literature regarding nineteenth-century glass manufacturers (Innes 1976:53; McKearin and McKearin 1948:316), and it is possible that Vessel 35 is a lid from such a vessel.

Vessel 36, Unit 5 East, Level 4. This light green bottle is represented by a finish, neck, and shoulder fragment. The soda style finish was formed with a lipping tool, and was designed to accept a wired-on cork closure. It is probable that the bottle was manufactured prior to the widespread use of improved stoppers, such as the Hutchinson and others, about 1880. Contents - soda water.

Vessel 37, Unit 5 East, Level 4. This aqua color bottle is represented by the finish and a portion of the neck. The finish was tooled, with the lip folded inward against the bore. The orifice is slightly flared. Contents - medicine.

Vessel 39, Unit 32, Level 1. This aqua color bottle is represented by a part of the finish, neck, and shoulder. The lip is folded into the bore, which is 2.54 cm in diameter. The finish is similar in configuration to the "Chicago Cylinder Olive" and the "Round Caper" (Putnam 1965:203,213). Contents - pickles or preserves.

Vessel 40, Unit 32, Level 2. This aqua glass bottle is represented by the finish, shoulder, and part of the body. The vessel is a home canning jar with continuous thread, and a shoulder seal, ground lip finish. Contents - home processed food.

Vessel 41, Unit 33, Level 2. This olive green color bottle is represented by the finish, neck, and part of the shoulder. The "Brandy" finish was formed with a lipping tool. Bottle shape is similar to Putnam's (1965:142) "Malt Whiskey." Contents - ardent spirits.

Vessel 42, Unit 33, Level 2. This is a complete, aqua color miniature vessel. It was blown in a mold, and has a tooled finish made to accept a cork closure. The base was empontilled on a blowpipe. The vessel is similar in configuration to one illustrated in the Whiteall, Tatum & Co. catalog for 1880 (Pyne Press 1971:21), although technologically, it appears to predate the Whiteall example by at least two decades. The Whiteall and Tatum bottle shape is named "Atkinson." Contents - perfume.

Vessel 43, Unit 36, Level 2. This aqua color bottle is represented by a body fragment. This sherd is from an historical flask, which through comparison with complete examples was determined to be one with a representation of U.S. Grant on the obverse side (McKearin and McKearin 1948:528-529). The CUVA sherd is from the reverse side of the bottle, and depicts an American eagle with raised wings holding a ribbon in its beak. At the heel of the bottle is an oval cartouche with the word union embossed within it. This "Eagle" type flask was assigned the number 79 by the McKearins. U.S. Grant (1822-1885) was president of the United States from 1869-1877, and it may have been during one of his terms that the bottle was produced. McKearin and McKearin attribute the flask to an unknown glass house in the Pittsburgh district.

Vessel 44, Unit 37, Level 3. This colorless glass bottle is represented by the finish and a portion of the neck. The finish was formed by lipping tool in a double ring configuration. Contents - unknown.

Vessel 45, Unit 37, Level 2. This amber bottle is represented by part of the shoulder and body. The complete bottle may have been similar in shape to the "Favorite Oval" illustrated by Putnam (1965:28). It is embossed ".../C..../PHIL...." Contents - unknown.

Vessel 46, Unit 37, Level 5. This is a complete, aqua color "Turlington" bottle, which contains the following embossed lettering: "BY THE KINGS ROYAL PATENT GRANTED TO/ ROBT TURLINGTON FOR HIS INVENTED BALSOM OF LIFE/JAN 26 1754/LONDON." It should be noted that "balsam" is incorrectly spelled (balsom) on the bottle. Comparable bottles with the balsam misspelling have been found at Fort Atkinson/Fort Berthold II in North Dakota, a trading post dating from 1858 to circa 1878 (Wedel and Griffenhagen 1954; Smith 1972), and at a historic Native American burial site in Kent County, Michigan, dated to 1790-1820 (Quimby 1966:147). Since the "counterfeit" Turlington bottles are thought to have been produced in New Jersey by 1835, the CUVA example is almost certainly a nineteenth-century, American-made copy of the eighteenth-century English bottle. Vessel 46 exhibits a blowpipe pontil

mark, and a tooled finish, indicating considerable age (pre-1860, and probably considerably earlier). Contents - medicine.

Vessel 47, Unit 38, Level 2. This aqua color bottle is represented by the finish, neck, and portion of the shoulder. The finish is tooled in a configuration similar to the "Wide Mouth Prescription" shape (Pyne Press 1971:7). Such finishes were in common use during the early nineteenth century. Contents - medicine?

Vessel 48, Backdirt, surface. This aqua color bottle is represented by the finish and part of the neck. The soda finish was formed with a lipping tool. The form of the neck suggests that the bottle was designed to accept a wired-on cork closure rather than a Hutchinson stopper. This indicates a pre-1880 manufacturing date for the bottle. Contents - soda water.

Vessel 49, Unit 14, Level 1. This colorless bottle is represented by the finish, shoulder, and a portion of the body. The continuous thread finish was machine-made. Increment marks are spaced at 1/2-inch intervals along the edge of the body. The vessel may have been designed for home reuse. Contents - unknown.

Vessel 50, Unit 14, Level 2. This aqua color bottle is represented by the finish, neck, and a portion of the shoulder. The soda finish was formed with a lipping tool, and the vessel was designed to accept a Hutchinson stopper. This suggests a post-1879 date for vessel manufacture. Contents - soda water.

Vessel 51, Unit 15, Level 3. This aqua color finish, neck and shoulder fragment appears to be identical to Vessel 46, and is probably a "Turlington" bottle. The hand tooled finish suggests a manufacture date prior to 1860, and probably considerably earlier. Contents - medicine.

Vessel 52, North wall, 30-60 cm. This colorless class vessel is complete, and is a "Squat Band Ink" form (Putnam 1965:60). The bottom is embossed: "CARTER'S/MADE IN/U.S.A." This is a machine-made bottle. Contents - ink.

Vessel 53, North wall, 30-60 cm. This complete bottle is made from colorless glass. The bottle was formed in a cup bottom mold and was finished with a lipping tool to accept a cork closure. The base exhibits marks from being held in a snap case during application of the finish. The obverse side of the body is embossed: "HOYT'S GERMAN/COLOGNE/E.W. HOYT & CO./LOWELL/MASS." The bottle is similar to one illustrated in the Whiteall, Tatum & Co. 1880 catalog (Pyne Press 1971:22). Contents - perfume.

Vessel 54, North wall, 30-60 cm. This light green bottle is represented by the finish, neck, shoulder, and part of the body. It is similar in configuration to the "Ginger Oval" illustrated by Putnam (1965:39). The extract shape finish was formed with a lipping tool. Contents - extract or medicine.

Vessel 55, Unit 29, Level 3. This aqua color bottle is represented by the finish, neck, and part of the shoulder. The tooled finish was folded inward to the bore. Contents - condiment.

Vessel 56, Unit 29, Level 4. This aqua color bottle is represented by an embossed body sherd which reads:"...OLD MEDAL/...ATED WATERS/...OMAC SPRINGS/BELFAST/ ...TABLISHED 1850/REGISTERED/...ADE MARK." The serifed lettering style suggests a manufacturing date about 1870-1900 (Jones 1981:26). No specific information on the maker was located. Contents - mineral water.

Vessel 57, Unit 29, Level 4. This bottle is a complete, colorless "Shoo-Fly" flask (Putnam 1965:179). The brandy style finish was formed with a lipping tool. The bottle appears to have been held in a snap case during finishing. Contents - ardent spirits.

Vessel 58, Unit 29, Level 4. This essentially complete 3/4-round bottom, light green vessel has a lipping tool finish in a packer variant. The badly oxidized remains of a Lightning closure adhere to the bottle. This closure indicates a post-1875 date of manufacture (Toulouse 1969:126). The bottle was formed in a turn mold, which was in popular use from about 1880-1905 (Munsey 1970:40). Contents - mineral or soda water.

Vessel 59, Unit 29, Level 6. This light green glass vessel is represented by the finish, neck, shoulder, and part of the body. The finish is tooled, and is similar to the "Wide Prescription Lip" (Pyne Press 1971:7). The style compares favorably with early nineteenth-century examples (Noël Hume 1976:73). Contents - medicine.

Vessel 60, Unit 34, surface. This aqua color bottle is represented by the finish, neck, and part of the shoulder. The soda finish was formed with a lipping tool and was designed to accept a Hutchinson stopper (post-1879). Contents - soda water.

Vessel 61, Unit 34 East, Level 1. This colorless glass vessel is represented by the finish, neck, and part of the shoulder. The prescription finish was formed with a lipping tool. The complete bottle may have been similar in configuration to the "Round Prescription" shape (Putnam 1965:29). Contents - chemical?

Vessel 62, Unit 34, Level 3 and Unit 63 South, Level 4. This aqua color bottle is represented by the finish, neck, and base. The machine-made bottle has a crown finish and is in the "Export Beer" configuration (Putnam 1965:250). The base is embossed "THE GUND/BREWING CO./CLEVELAND, O." The Gund Co. became the Sunrise Brewing Co. after prohibition. The bottle was probably manufactured between 1904-1918. Contents - ale or beer.

Vessel 63, Unit 35, Level 2. This colorless glass bottle is represented by a lipping tool formed "Packer" finish, a ball neck, and a portion of a paneled body. Contents - extract or medicine.

Vessel 64, Unit 64 South, Level 4. This colorless glass vessel exhibits the same technological aspects and shape as Vessel 63. Contents - extract or medicine.

Vessel 65, East wall, surface. This colorless glass vessel is represented by the base and a portion of the body. The vessel is a panel bottle, which is embossed "...EXTRACTS/ARE/THE/BEST" on the obverse and "...RD & CO." on a side panel. The maker/proprietor could not be determined. Contents - extract.

Vessel 66, Unit 8, Level 1. This is a complete colorless glass vessel with a bead finish formed with a lipping tool. The bottle shape is similar to the "Oval Cologne" illustrated by Putnam (1965:78). The bore was ground to accept a tapered glass stopper. The obverse is embossed "LAZELLS/PERFUMES/NEW YORK," while the base reads "BOTTLE PATD/AUG 2nd 87." The patent request was filed April 12, 1887, serial number 234,555. The patent was granted under number 17,504 to William G. Black of New York for a term of seven years. This information indicates that the bottle was manufactured between August 2, 1887- 1894. Contents - perfume.

Vessel 67, Unit 8, Level 1. This complete colorless glass vessel is a machine-made homeopathic medicine vial. The original contents are crystallized in the small bottle. Contents - medicine.

Vessel 68, Unit 8, Level 1. This aqua color bottle is represented by the finish and a portion of the neck. The tooled finish was formed into a prescription form with excess glass being folded into the bore. Contents - medicine?

Vessel 69, Unit 8, Level 1. This aqua color vessel is represented by a portion of the finish and neck. The "Beer" style finish was formed with a lipping tool. Contents - ale or beer.

Vessel 70, Unit 21, Level 1. This colorless glass vessel is represented by the finish, neck, and shoulder. The finish is a well tooled prescription variant. Contents - medicine.

Vessel 71, Unit 50, Level 3. This is a complete aqua color vessel which contains embossed information. The obverse is embossed "DONAT & MOTIS/576 W 19th ST./CHICAGO, ILL.," while the heel bears the words "THIS BOTTLE IS NEVER SOLD," and "DOC." The base bears a large "D." The bottle was made by the D.O. Cunningham Glass Co., Pittsburgh, Pa. The company was in business from 1882-1937 under that name (Toulouse 1971:163-4). The soda finish was formed with a lipping tool to accept a Hutchinson stopper, which is still lodged in the neck. In 1885, the company advertised mineral water, ginger ale, and beer bottles as part of their production, and it is probable that the bottle dates to the late nineteenth century. Contents - soda water.

Vessel 72, Unit 50, Levels 2 and 3, and Unit 55, Level 2. This essentially complete bottle is aqua color and is finished with a lipping tool. The soda finish was designed to accept a Hutchinson stopper, indicating that the vessel postdates 1879. The bottle bears the embossed lettering "GEO. EBLE/CLEVELAND, O." and "THIS BOTTLE IS NEVER

SOLD." George Eble is listed in the Cleveland directories from 1868-1887, but is not listed after 1901. In several years he is listed as a soda water manufacturer (C. Weitzel, personal communication, 1984). Listings for 1885, 1886, and 1887 list Eble and his son as running a soda bottling works at 1046 Lorain, Cleveland. It is likely that the bottle was made and used between 1879-1887. Contents - soda water.

Vessel 73, Unit 41, Level 2. This aqua color bottle is represented by a fragment of the finish and neck. The soda finish was formed with a lipping tool. Contents - soda water.

Vessel 74, Feature 7. This aqua color bottle is represented by the finish, neck, and a portion of a paneled body. The modified "Oil" finish is tooled. Contents - medicine?

Vessel 75, Unit 5, Levels 3 and 4. This aqua color bottle is represented by the finish and part of the neck. The neck was folded inward into the bore to form the finish. Contents - medicine.

Vessel 76, Unit 5, Level 1. This colorless glass bottle is represented by a portion of the finish, shoulder, and neck. The continuous thread finish is machine-made, and the bottle appears to date to the recent part of the twentieth century. Contents - pickles.

Vessel 77, Unit 5, Level 1. This aqua color bottle is represented by the soda style finish, which was formed by lipping tool. Contents - soda water.

Vessel 78, 1981 Unit 1, Level 3. This colorless glass, complete vessel is a jar with continuous thread finish, and is machine-made. It seems to be of very recent manufacture. Contents - salve or cream.

Vessel 79, 1981 Unit 2, Level 6. This nearly complete colorless glass jar is machine made with a continuous thread finish. Contents - pickles.

Vessel 80, 1981 Unit 2, Level 7. This brown bottle is represented by parts of the neck, shoulder and body. The obverse is embossed "LYNCH & CLARK/NEW YORK." Lynch and Clark were bottlers of Saratoga waters. Unfortunately, there are no technological landmarks on the sherd from which to estimate the date of manufacture.

Vessel 81, 1981 Units 1 and 2, multiple levels. This cobalt blue vessel is represented by a portion of the finish, and shoulder and body. It is machine-made with a bead finish. Incomplete embossing was determined to read "BROMO SELTZER/EMERSON/ DRUG CO./BALTIMORE/ MD." (Wilson and Wilson 1971:24). The bottle was manufactured between about 1904-1945. Contents - medicine.

Vessel 82, 1981 Unit 3, Level 1. This clear glass, machine-made bottle is represented by the base, heel and body. The base is embossed with an "F", which is the logo for the Fairmount Glass Works, Inc., Indianapolis, Indiana, 1954-1960 (Toulouse 1971:200-201). Contents - unknown.

Vessel 83, 1981 Unit 1, Level 9. This aqua color bottle base could not be identified. Contents - unknown.

Vessel 84, 1981 Units 1 and 2, multiple levels. This aqua color vessel is represented by the shoulder, body, heel, and base. The body is embossed "...MA.../PATENT/1858." Although this is clearly a "Mason Jar" form, the specific manufacturer could not be determined. Contents - home preserved food.

Vessel 85, 1981, surface. This aqua color vessel is represented by the finish, neck, and part of the shoulder. The end of the neck is folded into the bore. Contents - medicine?

Vessel 86, 1981 Unit 1, Level 7. This aqua color bottle is represented by the finish, shoulder, and part of the body. The finish is tooled, and the neck is folded into the bore. The body may have been paneled. Contents - medicine?

Vessel 87, 1981 Unit 3, Level 10. This colorless glass bottle is represented by the finish, neck, and part of the shoulder. The carefully tooled finish is a bead shape. Contents - medicine?

Vessel 88, 1981 Unit 3, Level 1. This aqua color bottle is represented by the finish, neck, shoulder, and part of the body. The finish is an "Oil" variant shape, and is formed with a lipping tool. Vessel shape is uncertain, but appears similar to the "Union Oval" (Putnam 1965:178). Contents - ardent spirits.

Vessel 89, 1981 Unit 100, Level 8. This colorless glass bottle is represented by the finish and part of the neck. The bottle was made by an automatic machine process. Contents - commercially processed food.

Vessel 90, 1981 Unit 1, Level 5. This aqua color bottle is represented by a portion of the threaded finish which was formed in a "blowover" mold and has a ground lip. The vessel is a pre-1900 Mason Jar. Contents - home preserved food.

Vessel 91, 1981 Unit 1, Level 7. This dark blue color bottle is represented only by a portion of the finish. The fragment is in the "Beer" configuration, and was formed with a lipping tool to accept either a cork or "lightning" stopper. Contents - beer.

Vessel 92, Unit 11, Level 1. This colorless glass bottle is represented by the finish and part of the neck. The "Wide Mouth Extract" finish is machine-made. Vessel shape is the "Common Sense" milk bottle (Ketchum 1975:156). Contents - milk.

Vessel 93, Unit 41, Level 2. This light green bottle is represented by the finish and part of the neck. The bead finish is tooled, indicating a pre-1860 (or earlier) date of manufacture. Contents - commercially processed food (pickles?).

Vessel 94, Unit 37, Level 3. This aqua color bottle is represented by the finish and a portion of the neck. The "laid on" (tooled) finish is well executed. Contents - pickles.

Vessel 96, Unit 7, surface. This bottle is represented by the base, heel, and a portion of the body. The bottle is conical or "steeple" shaped similar to the form used in Dalby's Carminative - but in the CUVA example, the vessel is unembossed. The bottle was blown in a two-piece mold and empontilled on a blowpipe, indicating a pre-1860, and probably somewhat earlier, date. If the bottle actually contained Dalby's Carminative, as suggested by vessel shape, it may predate 1844, when embossed lettering was thought to have been first used in the U.S. (Wilson and Wilson 1971:111). Other authors use different dates for the introduction of embossing, and the counterfeit Turlington's bottles described earlier suggest that embossed lettering was actually in use in the early ninteenth century. It is possible that embossing on Dalby's bottles was in use as early as the later decades of the eighteenth century (Noël Hume 1976:73-4). Unembossed conical bottles were also used to package Godfrey's Cordial, a patent medicine in use from as early as 1721 until the early years of the twentieth century (Noël Hume 1976:75). Contents - medicine.

Vessel 97, Unit 42, Level 5, and Feature 10. This aqua color bottle is represented by the base and most of the body. The bottle is embossed "GENUINE ESSENCE" on the reverse side. The obverse is plain, and may have served as a space for attachment of a paper label. The bottle was empontilled on a glass blowpipe indicating an early manufacturing date. Contents - medicine?

Vessel 99, 1981 Unit 2, Level 6. This vessel is represented by a colorless glass body sherd embossed "...B(?)ROUGH,.. ./CLEVELA... /O.H..." This proprietor could not be identified. Contents - soda or mineral water?

Vessel 100, 1981 Unit 3, Level 10. This light green color bottle is represented by the base, heel, and a fragment of the body. The bottle was empontilled on a blowpipe. Contents - medicine?

Vessel 101, 1981 Unit 3, Level 10. This aqua color bottle is represented by the base, heel, and a portion of the body. Embossed lettering on one side reads "...CH/...WAY,N.Y." The bottle was empontilled on a blowpipe. Contents - stomach bitters?

Vessel 102, Unit 1, Level 3. This bottle finish and neck fragment is made from colorless glass which has a purple tint. The prescription shape finish was formed with a lipping tool. Contents - medicine?

Vessel 103, Unit 3 North, Level 2. This aqua color bottle is represented by part of the base and body. A fragment of embossed lettering "BA..." occurs on the lower part of the body, and reads from the bottom toward the top, rather than the more typical top-down configuration. This bottle could not be further identified. Contents - medicine?

Vessel 104, Unit 4, Level 1. This aqua color bottle is represented by the base, heel, and a fragment of the body. A blowpipe pontil mark is present on the base, indicating manufacture during the hand-blown era. Contents - medicine?

Vessel 105, Unit 4, Level 5 and Unit 6, Level 7. This aqua color bottle is represented by the base, heel, and part of the body. The bottle is rectangular with chamfered corners and concave sides. The base exhibits a blowpipe pontil scar. The bottle is similar in shape to the Class V, Type 15 bottles from the steamboat Bertrand excavations (Switzer 1974:63). Contents - mustard or spice?

Vessel 106, Unit 5, Level 1. This aqua color bottle is represented by a body sherd with fragmentary embossed lettering. It is possible that this bottle was originally labeled "Dr. Hoofland's German Bitters" (Wilson and Wilson 1971:44). Contents - medicine.

Vessel 107, Unit 5, Level 1. This aqua color vessel is represented by the base and part of the body. The base exhibits a blowpipe pontil scar. Contents - medicine?

Vessel 108, Unit 5 East, Level 4. This aqua bottle is embossed with the remains of the words "Genuine Essence." Wilson (1981:72) includes this vessel within his toiletry bottles, but a more appropriate placement is made by Putnam, who includes this bottle shape with medicines (Putnam 1965:62-3). Contents - medicine?

Vessel 109, Unit 6, Level 2. This aqua color vessel is represented by a portion of the base and heel, and was apparently blown in a cup bottom mold. Contents - ale or beer.

Vessel 110, Unit 6, Level 5. This green bottle is represented by a portion of the body, heel, and push-up. No mold marks are present, so the method of manufacture can not be determined. Contents - Champagne or wine.

Vessel 111, Unit 9, Level 1 and Unit 21, Level 1. This clear glass vessel is represented by the base, body, and part of the shoulder. The obverse is embossed "J.C. NEAL & CO/CHEMISTS/CLEVELAND,O." The bottle is square with chamfered corners. The bottle was finished while being held in a snap case. Contents - medicine.

Vessel 112, Unit 12, Levels 3 and 4. This aqua color bottle is represented by a portion of a side panel and a fragment of the shoulder. Embossed lettering reads "LYO..." The complete lettering probably read "LYON'S/KATHAIRON/FOR THE HAIR/NEW YORK." Emanuel Thomas Lyon began to sell his preparations as early as 1841 (Wilson and Wilson 1971:56). Kathairon bottles are illustrated in Wilson and Wilson (1971:56), and Wilson (1981:78). Contents - hair care preparation.

Vessel 113, Unit 15, Level 3. This aqua color bottle is represented by the base, heel, and portion of the body. The bottle is rectangular with chamfered corners and exhibits a blowpipe pontil scar. The vessel is identical to Vessel 105. Contents - mustard or spice.

Vessel 114, Unit 25 North, Level 2. This aqua color bottle is represented by a body sherd. The sherd appears to derive from a "Gothic Pepper Sauce" bottle (Putnam 1965:211). The design of the bottle is shown in Switzer's Class V, Type 2 (1974:60, Figure 81). "Gothic" and "Cathedral" form bottles were being patented as late as the 1870s (Zumwalt 1980:127), and the earliest dates for these bottles are unclear. Although one author has suggested that the bottles were not made until 1880 (Munsey 1970:152), their presence in the Bertrand collection indicates a potential age of at least as early as 1865, and the illustration of blowpipe empontilled specimens (Kendrick 1971:28) suggests that they may date even earlier. Contents - pepper sauce.

Vessel 115, Unit 29, Level 4. This aqua color bottle is represented by portions of the body and shoulder. The complete bottle was of "Champagne Beer" shape (Putnam 1965: 251-4, 256,258). A fragment of the bottle contained the embossed letters "...PILS....ING CO./....LAND,O." The complete bottle may have read "THE PILSENER BREWING CO./CLEVELAND,O." This brewery existed under several names from 1894-1962 (Friedrich and Bull 1976). Contents - beer.

Vessel 116, Unit 33, Level 2. This vessel is represented by the base and a portion of the heel and body. The base was empontilled with a blowpipe. Contents - medicine?

Vessel 117, Unit 34 East, Level 1. This aqua color bottle is represented by the base and a portion of the heel and body. The hexagonal base indicates that the bottle is a "Gothic Pepper Sauce" shape. The base exhibits no pontil marks. Contents - pepper sauce.

Vessel 118, Unit 35, Level 1. This bottle is represented by part of the finish and shoulder. The vessel was machine-made and was designed to accept the "Vacuum Slide Seal" closure patented in 1925 (Lief 1965:32). Contents - commercially processed food.

Vessel 119, Unit 37, Levels 2 and 3. This aqua color bottle is represented by two body sherds. Although the sherds contain embossed letters, it was not possible to identify the vessel further than determining that it is a home canning jar (Toulouse 1969). Contents - home preserved food.

Vessel 120, Unit 41, Level 2. This aqua color bottle is represented by the base and a part of the heel. The base exhibits the distinct mark from an improved pontil, which was first used about 1845, and was replaced by the snap by the early 1860s. Contents - ale or beer.

Vessel 121, Unit 42, Level 4. This green glass vessel is represented by the push-up and a portion of the body. The vessel was blown in a turn mold. There is moderate wear on the foot ring indicating possible reuse. Contents - wine.

Vessel 122, Unit 42, Level 4. This aqua color bottle is represented by parts of the heel, body, and shoulder. The body contains the embossed letters "G. EB..." Information

regarding Eble, the proprietor represented by this lettering, is presented for Vessel 72. Contents - soda water.

Vessel 124, Unit 45, Level 6. This colorless glass sherd is a portion of a vessel base. The base exhibits a solid iron bar pontil mark. The fragment has been distorted by heat, and identification is not possible. Contents - ale or beer.

Vessel 125, Unit 50, Level 3 and Unit 55, Level 2. This aqua color vessel is represented by the base, heel, and part of the body. No pontil marks are present on the base, suggesting that the vessel may have been held in a snap case during finishing. Contents - ale or beer.

Vessel 126, Unit 64 North, Level 1. This aqua color vessel is represented by part of the base and heel. The base is marked with the embossed letters "G & C," which appear to be the mark of the vessel manufacturer. Unfortunately, the maker is not known. No pontil marks are present on the base. Contents - soda or mineral water?

Vessel 127, Unit 1, below Feature 1. This aqua color bottle is represented by the base and heel fragment. A blowpipe pontil mark is present on the base. Contents - medicine?

Vessel 128, Feature 7. This aqua color vessel is represented by the base, heel, and part of the body. The bottle exhibits a blowpipe pontil mark. A similar vessel is illustrated in Switzer (1974:63), under his Class V, Type 15. Contents - mustard or spice.

Vessel 129, 1981 Unit 3, Level 10. This aqua color vessel is represented by the base, heel, and part of the body. Embossed lettering reads "D. (?) MITCHELL/ ROCHESTE...NY." This paneled bottle contained one of the products of D. Mitchell's Flavoring Extracts, Rochester, N.Y. In 1885, this firm was located at 128 State Street, and manufacturered extracts, perfumes, and medications. Contents - extracts.

Vessel 130, Unit 5 East, Level 4. This aqua color vessel is represented by the base, heel, and a portion of the body. The bottle exhibits a blowpipe pontil mark on the base. Contents - medicine?

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Table 1. Bottle glass analysis variables.

Variable	Values
Color	
	Colorless
	Aqua
	Light green
	Green
	Olive green
	Amber
	Brown
	Purple tint
	Cobalt blue
	Other
Body Portion	
	Indeterminant
	Whole
	Finish
	Finish and neck
	Neck only
	Neck and shoulder
	Shoulder only
	Shoulder and body
	Body only
	Body and base
	Base only
	Finish, neck, and shoulder
	Neck, shoulder, and body
Finish Technique	
	Indeterminant
	Sheared lip
	"Bust off" and grind
	Laid-on-bead
	Smooth and regular lipping tool
	Rough and irregular lipping tool
Finish Type	
	Indeterminant
	Prescription
	Patent
	Brandy
	Beer
	Soda
	Packing/packer

Table 1. Continued.

Variable	Values
Finish Type continued	
	Crown
	Single bead/ring
	Double bead/ring
	Continuous thread
	Vail
	Widemouth extract
	Oil
	Milk bottle
	Band and bead
	Other
	Does not apply
Mold Type	
	Indeterminant
	Dip mold
	Cup-bottom mold
	Automatic
	Post-bottom mold
	Two-piece mold
Base Marks	
	Indeterminant
	Rough pontil
	Improved pontil
	Machine valve case
	Post-bottom mold
	Suction cut off automatic
	Nipple present
	No marks present
	Stippling
	Does not apply
Function	
	Indeterminant
	Beverages
	Medicinal contents/chemicals
	Food-preserving containers
	Miscellaneous
Bottle Shape	
	Indeterminant
	Round prescription
	Shoofly flask

Table 1. Concluded.

Variable	Values
Bottle Shape continued	
	Beer
	Soda water
	Panel
	Ball neck panel
	Vial
	Round jar
	Mason jar
	Eagle flask
	Other
	Indented panel
Base Shape	
	Indeterminant
	"Round" border
	Western oval
	Oval indented
	"Oval" border
	Blake border
	"Trimmed" oval
	Panel
	Hopkins square
	Rectangle border
	Kick up
	Rounded bottom
	Round indented
	Does not apply
Burned	
	Absent
	Present
Patenated	
	Absent
	Present
Bubble	
	Absent
	Present

Table 2. Features.

Feature No.	Function/Description	Provenience(s)
1	Rock and gravel-filled drainage trench	Units 1 & 2
2	Modern utility line	Unit 7
3	Modern utility line	Unit 7
4	Trough filled with artifacts	Units 9 & 21
5	Modern sewer pipe	Unit 11
6	Rubble filled depression (post pit?)	Unit 12
7	Privy	Unit 16
8	Cinder-filled drainage trench	Units 5 & 38
9	Cinder-filled drainage trench	Units 39 & 46
10	Midden lens adjacent to south basement door	Unit 42,L5
11	Burned soil layer and midden	Unit 44,L10 Unit 34,L8 Unit 63,L5 Unit 64,L5
No feat. No.	South Basement door sill	Unit 42
No feat. No.	West basement door sill	Unit 30
No feat. No.	Retaining wall	Southeast corner of the structure exposed during wall repointing
No feat. No.	Rubble layer	Units 39, 42, 46, & multiple units in Room 003
No feat. No.	Chimney Base	West wall-exposed during wall repointing

Table 3. Color of bottle glass sherds.

Color	Number	Percent
Colorless	966	42.4
Purple tint	52	2.3
Aqua	898	39.4
Olive green	112	4.9
Green	109	4.8
Light green	37	1.6
Amber	34	1.5
Brown	26	1.1
Dark blue	15	.7
Cobalt blue	8	.4
Purple	1	.1
Other	19	.8
Total	2,277*	100.0

* Color was tabulated prior to final cross mending

Table 4. Portions of vessels represented by glass sherds.

Element	Number Before Mending	Number After Mending	Percent
Complete Bottle	11	11	.4
Finish/Rim	11	11	.4
Finish/ Neck	39	38	1.7
Finish/Neck/ Shoulder	9	9	.4
Finish/Neck/Sh./ Body	6	6	.3
Neck	21	21	.9
Neck/Shoulder	12	12	.5
Neck/Sh./Body	2	2	.1
Shoulder	7	7	.3
Shoulder/Body	9	9	.4
Body	1972	1963	86.7
Body/Base	59	57	2.5
Base	50	45	2.0
Indeterminate	69	69	3.1
Totals	2277	2260	100.0

Explanation
Sh. = Shoulder

Table 5. Technology and function of bottle glass vessels.

Vessel No.-Fig.	Provenience Unit-Level	Finish Tech.	Base Tech.	Function
1	1-03	Lip. Tool	NA	Beer
2	1-03	Lip. Tool	NA	Beer
3	1-03	Lip. Tool	NA	Oil
4	2-02	Tooled	NA	Und.
5	2-03	Tooled	NA	Medicine
6	4-01	Lip. Tool	NA	Soda Water
7	4-03	Lip. Tool	NA	Min. Water
8	4-04	Machine (?)	NA	Cosmetic
9	4-06	NA	Blowpipe	Medicine
10	6-02	NA	NA	Und.
11	6-03	Lip. Tool	NA	Alc. Bev.
12	6-06/42-04	NA	Snap Case	Beer/ale
13	6-05	Lip. Tool	NA	Oil (?)
14	6-05	Lip. Tool	NA	Wine
15	6-07/42-06	NA	Iron Rod	Liquor
16	39-01	Lip. Tool	NA	Liquor
17	39-01	Machine	NA	Medicine
18	39-01	Machine	NA	Und.
19	39-03	Lip. Tool	NA	Beer/ale
20 -24b	42-02	Lip. Tool	NA	Liquor
21 -26a	42-03	NA	Post Bottom	Beer
22	42-03	NA	NA	Min. Water
23 -24e	42-03	NA	Post Bottom	Beer
24	42-03/4	NA	Post Bottom	Salad Dre.
25	42-03	NA	NA	Medicine
26	42-04	Lip. Tool	NA	Liquor
27	45-01	NA	Kick Up	Wine
28	45-02	NA	Undet.	Beer/Ale
29	46-03	Tooled	NA	Und.
30	S. Wall surf.	Machine	NA	Food
31	S. Wall surf.	Machine	NA	Soda Water
32	3-03	Lip. Tool	NA	Und.
33	3N-02	NA	Und.	Soda Water
34	3N-02	Lip. Tool	NA	Pickle
35	5-03	Und.	NA	Toy
36	5-04	Lip. Tool	NA	Soda Water
37	5-04	Tooled	NA	Medicine
38		Deleted		
39	32-01	Tooled	NA	Pickle
40	32-02	B & Grind	NA	Can. Jar
41	33-02	Lip. Tool	NA	Liquor

Table 5. Continued.

Vessel No.-Fig.	Provenience Unit-Level	Finish Tech.	Base Tech.	Function
42 -23c	33-02	Tooled	Blowpipe	Perfume
43	36-02	NA	NA	Liquor
44	37-03	Lip. Tool	NA	Undet.
45	37-02	NA	NA	Undet.
46 -23d	37-05	Tooled	Blowpipe	Medicine
47	38-02	Tooled	NA	Medicine
48	W. Wall surf.	Tooled	NA	Soda Water
49	14-01	Machine	NA	Undet.
50	14-02	Lip. Tool	NA	Soda Water
51	15-03	Tooled	NA	Medicine
52 -24g	N. Wall surf.	Automatic	Automatic	Ink
53 -24d	N. Wall surf.	Lip. Tool	Snap Case	Perfume
54	N. Wall surf.	Lip. Tool	NA	Undet.
55	29-03	Tooled	NA	Condiment
56 -26c	29-04	NA	NA	Min. Water
57 -26b	29-04	Lip. Tool	NA	Liquor
58	29-04	Lip. Tool	Turn Mold	Min./Soda
59 -23b	29-06	Tooled	NA	Medicine
60	34-00	Lip. Tool	NA	Soda Water
61	34-01	Lip. Tool	NA	Undet.
62 -24f	34-03	Automatic	Automatic	Beer
63	35-02	Lip. Tool	NA	Undet.
64	64S-04	Lip. Tool	NA	Undet.
65 -23h	E. Wall surf.	NA	Undet.	Extracts
66 -24c	8-01	Lip. Tool	Snap Case	Perfume
67	8-01	Automatic	Automatic	Medicine
68	8-01	Tooled	NA	Medicine
69	8-01	Lip. Tool	NA	Beer
70	21-01	Tooled	NA	Medicine
71 -25b	50-03	Lip. Tool	Post Bottom	Soda Water
72 -25a	50-02,3/55-02	Lip. Tool	Undet.	Soda Water
73	41-02	Lip. Tool	NA	Soda Water
74	Feat. 7	Tooled	NA	Medicine
75	5-03,4	Tooled	NA	Medicine
76	5-01	Machine	NA	Pickles
77	5-01	Lip. Tool	NA	Soda Water
78	XU1-03	Automatic	Automatic	Salve
79	XU2-06	Automatic	Automatic	Pickles
80	XU2-07	NA	NA	Min. Water
81	XU1-03/	Automatic	Automatic	Medicine
82	XU3-01	NA	Automatic	Undet.

Table 5. Continued.

Vessel No.-Fig.	Provenience Unit-Level	Finish Tech.	Base Tech.	Function
83	XU1-09	NA	NA	Undet.
84	XU1-06/XU2-07,9	NA	Undet.	Can. Jar
85	W. Wall surf.	Tooled	NA	Medicine
86	XU1-07	Tooled	NA	Medicine
87	XU3-10	Tooled	NA	Medicine
88	XU3-09	Lip. Tool	NA	Liquor
89	XU?-08	Machine	NA	Food
90	XU1-05	Ground	NA	Can. Jar
91	XU1-07	Lip. Tool	NA	Beer
92	11-01	Machine	NA	Milk
93	41-02	Tooled	NA	Food
94	37-03	Tooled	NA	Pickles
95		Deleted		
96	7-00	NA	Blowpipe	Medicine
97 -23f	42-05/Feat. 10	NA	Blowpipe	Medicine
98		Deleted		
99	XU2-06	NA	NA	Min./Soda?
100	XU3-10	NA	Blowpipe	Medicine
101 -23a	XU3-10	NA	Blowpipe	Medicine
102	1-03	Lip. Tool	Na	Medicine
103	3-02	NA	Undet.	Medicine
104	4-01	NA	Blowpipe	Medicine
105	4-05/6-07	NA	Blowpipe	Spice
106	5-01	NA	NA	Medicine
107	5-01	NA	Blowpipe	Medicine
108	5-04			Medicine
109	6-02	NA	Cup Mold	Beer
110	6-05	NA	Kick Up	Wine
111 -23e	9-01/21-01	NA	Snap Case	Medicine
112	12-03,4	NA	NA	Hair Care
113	15-03	NA	Blowpipe	Spice
114	25N-02	NA	NA	Pep. Sauce
115	29-04	NA	NA	Beer
116	33-02	NA	Blowpipe	Medicine
117	34-01	NA	Undet.	Pep. Sauce
118	35-01	Machine	NA	Food
119	37-02,3	NA	NA	Can. Jar
120	41-02	NA	Impr.Pontil	Beer
121	42-04	NA	Turn Mold	Wine
122	42-04	NA	NA	Soda Water
123		Deleted		
124	45-06	NA	Iron Bar	Beer

Table 5. Concluded.

Vessel No.-Fig.	Provenience Unit-Level	Finish Tech.	Base Tech.	Function
125	50-03/55-02	NA	Snap Case	Beer
126	64-01	NA	Post Bottom	Min./Soda
127	1-06	NA	Blowpipe	Medicine
128	Feat. 7	NA	Blowpipe	Spice
129 -23g	XU3-10	NA	Snap Case	Perfume
130	5-04	NA	Blowpipe	Medicine

Explanation

No. = Vessel identification number
XU = 1980 test excavation unit
Lip. Tool = Lipping tool
Und. = Undetermined
Alc. Bev. = Alcohol beverage
NA = Not applicable
Min. = Mineral
Dre. = Dressing
B and Grind = "Bust" and grind finish
Can. = Canning
Impr. = Improved

Table 6. Distribution of tumbler fragments.

Proven	Element							Fluting		
Un-Le	Rim	Body	Base	B/B	B/R	B/B/R	No.	Yes	No	N/A
1-02	-	1	-	-	-	-	1	1	-	-
1-03	1	-	1	-	1	-	3	2	-	1
1-04	2	2	-	-	1	-	5	3	-	2
1-05	1	1	-	-	-	-	2	-	2	-
2-02	-	-	-	-	1	-	1	1	-	-
2-03	6	-	-	-	-	-	6	-	-	6
3-01	-	-	-	-	1	-	1	1	-	-
3N-02	2	-	-	-	1	-	3	1	-	2
3-03	1	1	-	-	-	-	2	1	-	1
3-04	-	1	-	1	-	-	2	2	-	-
4-02	-	-	1	-	-	-	1	1	-	-
4-03	2	-	-	-	-	-	2	-	-	2
4-04	2	-	-	-	1	-	3	-	1	2
4-05	-	1	-	-	1	-	2	2	-	-
5-01	1	-	-	-	-	-	1	-	-	1
5-03	1	2	-	1	-	-	4	3	-	1
5E-04	4	-	-	-	-	-	4	-	-	4
6-06	-	1	-	-	1	-	2	2	-	-
7-02	-	-	-	-	1	-	1	-	1	-
10-01	1	-	-	-	3	-	4	-	4	-
11-01	-	1	-	-	-	-	1	1	-	-
13-01	-	-	-	-	1	-	1	-	1	-
14-02	2	-	-	-	1	-	3	-	1	2
14-03	2	-	-	-	1	-	3	2	-	1
15-01	1	-	-	-	-	-	1	-	-	1
15-02	-	-	-	-	1	-	1	-	1	-
15-03	1	2	-	4	2	-	9	9	-	-
15-05	1	-	-	-	1	-	2	1	-	1
16-02	2	1	-	-	1	1	5	1	2	2
Feat 7	12	7	-	1	3	3	26	13	1	12
17-01	1	-	-	-	-	-	1	-	-	1
18-02	-	1	-	-	1	-	2	2	-	-
19-02	-	-	-	-	1	-	1	-	1	-
19-03	1	-	-	-	1	-	2	1	-	1
26-02	3	-	-	-	-	-	3	-	-	3
27-01	1	-	-	-	-	-	1	-	-	1
28-02	1	-	-	-	-	-	1	-	-	1
29-02	1	-	-	-	-	-	1	-	-	1
29-03	1	-	-	-	-	-	1	-	-	1
29-04	1	-	-	-	-	-	1	-	-	1

Table 6. Continued.

Proven	Element							Fluting		
Un-Le	Rim	Body	Base	B/B	B/R	B/B/R	No.	Yes	No	N/A
29-08	-	-	-	-	1	-	1	-	1	-
30-01	1	-	-	-	-	-	1	-	-	1
32-02	1	-	-	-	1	-	2	1	-	1
33-02	-	-	-	-	1	-	1	1	-	-
33-03	-	1	-	-	-	-	1	1	-	-
34E-02	1	-	-	-	-	-	1	-	-	1
35-04	-	-	-	-	-	1	1	-	1	-
36-02	1	1	-	-	-	1	3	1	1	1
36-03	-	-	-	-	1	1	2	1	-	1
37-03	2	-	-	-	1	-	3	1	-	2
39-01	-	1	1	-	-	-	2	2	-	-
39-03	2	-	-	-	-	-	2	-	-	2
39-04	-	-	-	-	1	-	1	1	-	-
39-05	-	-	-	-	1	-	1	1	-	-
39-0?	-	1	-	-	-	-	1	1	-	-
40-01	2	-	-	-	-	-	2	-	-	2
42-05	-	5	-	-	3	-	8	8	-	-
Feat 10	-	6	-	-	1	-	7	7	-	-
42-06	1	7	-	-	3	-	11	10	-	1
42-07	1	1	-	-	-	-	2	1	-	1
44-03	-	1	-	-	-	-	1	1	-	-
44-04	-	-	-	1	-	-	1	1	-	-
44S-10	1	-	-	-	-	-	1	-	-	1
45-04	1	21	-	-	2	-	24	23	-	1
45-05	-	1	-	1	1	-	3	3	-	-
46-03	2	3	1	-	1	-	7	4	-	3
46-04	-	4	-	-	1	-	5	5	-	-
46-05	2	-	-	-	-	-	2	-	-	2
47-02	1	-	-	-	-	-	1	-	-	1
48-01	1	-	-	-	-	-	1	-	-	1
50-01	-	-	-	-	1	-	1	1	-	-
50-03	-	-	-	-	1	-	1	1	-	-
50-04	-	-	-	-	1	-	1	1	-	-
54-01	1	-	-	-	-	-	1	-	-	1
55-02	1	-	-	-	-	-	1	-	-	1
56-01	1	-	-	-	-	-	1	-	-	1
56-02	-	-	1	-	3	-	4	-	3	1
N. Wall	-	-	-	-	1	-	1	1	-	-
Feat 8	-	-	-	-	1	-	1	1	-	-
Feat 6	1	-	1	-	-	-	2	-	-	2

Table 6. Concluded.

Proven			Element						Fluting	
Un-Le	Rim	Body	Base	B/B	B/R	B/B/R	No.	Yes	No	N/A
XU2-03	1	-	-	1	-	-	2	1	-	1
XU2-04	-	-	-	1	-	-	1	1	-	-
XU2-07	1	-	-	-	-	-	1	-	-	1
XU2-08	-	-	-	-	1	-	1	-	-	1
XU3-04	-	-	-	1	-	-	1	1	-	-
XU3-08	1	-	-	-	-	-	1	-	-	1
XU3-10	1	-	-	-	-	-	1	-	-	1
N. Wall	-	-	-	-	1	-	1	1	-	-
Total	83	75	6	12	55	7	238	133	21	84

Explanation: B/B = Body/Base
R = Rim

Table 7. Description of tumblers.

Vessel 1, Unit 32 Level 2. This tumbler was apparently blown in a post bottom mold. The base is 2 5/8 inch in diameter, and shows no evidence of being empontilled. Ten flutes are present on the body of the tumbler.

Vessel 2, Unit 42 Level 1 & Feature 10. This tumbler has a body with 8 flutes. The base is missing, and the body exhibits no mold seams, so construction technology can not be determined.

Vessel 3, Unit 29 Level 7. This unfluted, cylindrical tumbler is represented by the heel and part of the body. No mold marks are present.

Vessel 4, Unit 45 Level 5. This unfluted, cylindrical tumbler is represented by a portion of the body, heel and base. Base diameter is about 2 1/2 in.

Vessel 5, Unit 45 Level 2. This fluted tumbler is represented by the base, footring, heel, and part of the body. It is an 8 flute style, with a mold seam around the heel area. Design elements are quite similar to the Duncan and Miller Glass Co. #71 tankard (about 1900) illustrated by McCain (1979:350). There is considerable wear on the foot ring. This was a large vessel, with base diameter equal to about 3 13/16 in.

Vessel 6, Unit 39 Level 1. This tumbler is represented by the base, heel, and part of the body. Base diameter is about 2 3/8 in. This is a 7 flute tumbler which exhibits no mold marks or pontil scars.

Vessel 7, Unit 5 Level 3. This vessel is represented by part of the base, heel, and body. The body exhibits 7 flutes. Base diameter is about 2 1/4 in. No discernible seams or pontil marks are present.

Vessel 8, Unit 44 Level 4 (builder's trench). This vessel is represented by a portion of the base, heel, and body. No evidence of mold seams or pontil marks are present on this tumbler, which has 6 flutes on the body. The base is about 2 3/8 inch in diameter.

Vessel 9, Unit 3 Level 4. This fragmentary vessel is represented by a portion of the base and body. No technological landmarks are present on the fragment.

Vessel 10, Unit 4 Level 2. This fluted tumbler is represented by a small portion of the base and heel. Its small size makes further identification impossible.

Vessel 11, Unit 45 Level 4. This fluted tumbler is represented by the base, heel, and part of the body. Five flutes are present on the body. No technological landmarks are present on this specimen.

Vessel 12, Unit 5 Level 3. This fluted tumbler consists of a portion of the base, heel, and body. Base diameter is 2 5/16 in. No technological landmarks are present.

Vessel 13, Unit 15 Level 3. A portion of the base, heel, and body remain from this 8 flute tumbler. The vessel has a base diameter of 2 3/4 in.

Table 7. Continued.

Vessel 14, Feature 7, organic fill. This nearly complete tumbler (Figure 27a) was reconstructed from numerous fragments recovered from near the base of Feature 7 within Unit 16 in basement Room 003. The body has 7 flutes. The base exhibits a distinct pontil mark from an "improved" pontil, which was initially introduced in 1845 and gradually replaced by the snap case after about 1860 (Munsey 1970). The "not earlier than" date for the improved pontil is very important for determining the age of Feature 7, and associated deposits formerly sealed under the sandstone slab floor of Room 003. Similarly, the function, location and age of Feature 7 are extremely important for evaluating the construction sequence previously proposed for the structure (Johnson and Newman 1984).

Vessel 15, North wall surface. This tumbler is represented by the base, heel, and a portion of the body (Figure 27d). There is an indication that a handle was formerly attached near the base. Base diameter is about 2 5/8 in.

Vessel 16, Unit 1 Level 4. This cylindrical, unfluted tumbler is represented by the base and a portion of the body (Figure 27e). The 2 5/8-in diameter base shows evidence of a blowpipe pontil which has been largely removed through subsequent grinding.

Vessel 17, Feature 6, Unit 12. This fragmentary tumbler is represented only by a portion of the base. The thick, heavy base is badly damaged (chipped), and no further identification is possible.

Vessel 18, Found wedged in south foundation wall door sill. This vessel is represented by the base, footring, and part of the body (Figure 27b). The body contains six flutes. The footring shows evidence of having been empontilled on an iron bar, suggesting an early date of manufacture for Vessel 18. The tumbler is similar in design to the "1/2 pint sham bar" illustrated in the 1871 M'Kee Glass Catalog (M'Kee and Brothers 1981:170).

Vessel 19, Units 45 Levels 4 & 5. This vessel is represented by part of the base, heel, and body. The base has a diameter of about 2 3/8 in, and the body exhibits 6 flutes. A possible mold seam is present at the heel. The base is too fragmentary to determine if pontil marks are present.

Vessel 20, Unit 15 Level 3. This fragmentary vessel is represented by a portion of the body and rim. The vessel is fluted, but the number of flutes could not be determined with certainty.

Vessel 21, XU 3 Level 10. This vessel is represented by a portion of the base, heel, and body. The base has a diameter of 2 1/4 in. The unfluted tumbler shows evidence of a blowpipe pontil which has been largely obliterated through grinding.

Vessel 22, Unit 25N Level 2 and Unit 50 Levels 1, 3, & 4. This tumbler is represented by the rim and a portion of the body (Figure 27c). The design is quite similar in concept to the "paneled fine toothed goblet" (McCain 1979:357).

Vessel 23, Unit 15 Level 3. This tumbler is represented by the base, heel, and part of the body. The body has 6 flutes, and a mold seam on the base indicates that the vessel was produced in a post bottom mold.

Vessel 24, Unit 36 Levels 2 & 3. This unfluted tumbler has a heavy, weighted base, which exhibits a scar from a blowpipe pontil. The pontil scar has been partially removed through grinding.

Table 7. Concluded.

Vessel 25, Unit 35 Level 4. This plain tumbler shares shape and construction technology with Vessel 24. The footring exhibits prominent use wear.

Vessel 26, West wall surface. This tumbler is represented by the base, heel, and a portion of the body. It is plain (unfluted), and the weighted base shows heavy use prior to breakage.

Vessel 27, West wall surface. This unfluted tumbler is represented by the base, heel, and a portion of the body. The base exhibits a blowpipe pontil mark.

Vessel 28, Unit 7 Level 2. This unfluted tumbler is represented by the base, heel, and part of the body. The weighted base has been well ground to obliterate any pontil marks.

Vessel 29, Unit 34E Level 2. This unfluted tumbler is represented by the base, heel, and part of the body. No mold marks or evidence of empontiling are present.

Table 8. Pressed glass patterns.

Provenience	# sherds	Pattern
South Wall		
Unit 1 Level 3	1	Diamonds
Unit 4 Level 1	1	Diamonds
Unit 4 Level 2	1	Diamonds
Unit 4 Level 2	1	Fans
Unit 4 Level 4	1	Diamonds
Unit 6 Level 6	1	Diamonds
Unit 6 Level 7	1	Fans
Unit 42 Level 2	4	Diamonds
Unit 45 Level 6	1	Fans
subtotal	12	
West Wall		
Unit 3 Level 5	1	Diamonds
Unit 5 Level 4	2	Diamonds
Unit 36 Level 1	2	Fans
Unit 37 Level 2	2	Diamonds
Unit 37 Level 3	4	Diamonds
Unit 38 Level 2	1	Diamonds
subtotal	12	
North Wall		
Unit 15 Level 2	1	Flower
Unit 15 Level 2	1	Fans
Unit 15 Level 2	1	Diamonds
Unit 19 Level 2	4	Diamonds
West Wall surface	2	Thumbprint
subtotal	9	
East Wall		
Unit 34 Level 1	1	Diamonds
subtotal	1	
Room 001		
Unit 8 Level 1	2	Diamonds
Unit 11 Level 1	1	Diamonds
Unit 50 Level 1	1	?
subtotal	4	
Room 003		
Unit 16, Feature 7	1	Thumbprint
subtotal	1	
Site Total	39	

Table 9. Transfer print patterns and makers.

Pattern No.	Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
1	Antique Vases+ 30a,b	Williams 1978:59	J. Clementson/ A. S. Gardner	1839-64*	Br
2	undetermined 31d	- -	-	post 1830	Br
3	undetermined 31f	- -	-	post 1830	Br
5	unascribed 31e	Williams 1978:701	unknown	post 1830	Br
6	undetermined	- -	-	post 1830	Br
8	Moral Maxims+ 31c	Williams 1978:646	J.& J. Jackson	1831-35*	Br
10	Ceylonese? 31b	Williams 1978:614	G. Phillips	1834-48	Br
11	Blenheim 31g	Williams 1978:200	S. Alcock	1830-59	Br
12	undetermined 31a	- -	-	post 1830	Br
13	Picturesque+ Views 33f	Williams 1978:375 Larson 1975:61	J.& R. Clews	1829-34**	M,Bl
14	Caledonia 33g	Williams 1978:210	W. Adams	1830-64**	M
15	Clyde Scenery+ 32b	Williams 1978:231	J.& J. Jackson	1831-35*	M,R
16	The Pet 33d	Williams 1978:517	W. Adams	1845-64**	M
17	undetermined 32a	- -	-	post 1830	M,R

Table 9. Continued.

Pattern No. Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
19 undetermined	- -	-	post 1830	B
20 Bologna 35f	Williams 1978:201 Laidacker 1951:10	W. Adams & Sons	1830-40**	R
21 Indian Temples 34a	Williams 1978:297	unknown	post 1830	R
22 Tyrolean+ 34c	Williams 1978:437	W. Ridgway & Co.	1834-54*	R
23 undetermined	- -	-	post 1830	R
24 Cyrene 35c	Williams 1978:248	W. Adams & Sons	1840-64**	R
25 undetermined 35b	(similar to pattern 34)			R
26 undetermined	- -	-	post 1830	B
27 undetermined 35d	- -	-	post 1830	R
28 undetermined	- -	-	post 1830	R
29 undetermined	- -	-	post 1830	R
30 undetermined	- -	-	post 1830	R
31 Canova 38h and 35e	Williams 1978:214	T. Mayer or G. Phillips	1830-48*	R,B
32 Fountain Scenery 35g	Williams 1978:265 Laidacker 1951:10	W. Adams & Sons	1830-40**	R
33 Arabian + 34b	Williams 1978:188	F. Dillon	1834-43*	R

Table 9. Continued.

Pattern No. Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
34 Oriental + 35h	Williams 1978:150	W. Ridgway	1830-34*	R
35 Undetermined	- -	-	post 1830	R
37 The Sower 35a	Williams 1978;526 Laidacker 1951:10	W. Adams & Sons	1830-40*	R
38 undetermined	- -	-	post 1830	R
39 Fruit Basket 33c	Williams 1978:632 Coysh & Henrywood 1982:148	W. Smith (?)	1830-55?	Bl
40 undetermined	- -	-	post 1830	Bl
42 Venetian Scenery + 33b	Williams 1978:445	E. Wood & Sons	1830-46**	Bl
43 Tuscan Rose 33a	Williams 1978:52	J. & W. Ridgway		Bl,B
44 Siam + 36b	Williams 1978:160 Coysh & Henrywood 1982:338 Laidacker 1951:133	J. Clementson/ A.S. Gardner	1850-?**	B
45 Lucerne + 36a	Williams 1978:320	J. Clementson/ A. S. Gardner	1839-64*	B
46 Ontario Lake Scenery + 37h	Williams 1978:353	J. Heath	1845-53*	B

Table 9. Continued.

Pattern No. Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
49 Log Cabin or Columbian Star 37e	Williams 1978:239 Larson 1975:94-95	J. Ridgway	Oct.1840**	B
50 undetermined	- -	-	post 1830	B
51 undetermined 38e	- -	-	post 1830	B
52 undetermined	- -	-	post 1830	B
53 undetermined 38f	- -	-	post 1830	B
55 Napier 37d		J. Ridgway		B
56 Sirius 37f	Williams 1978:165	J.& T. Edwards	1839-41*	B
57 Paroq... + 37a	Godden 1964:596	R. Stevenson	1810-32*	B
58 undetermined 37c	- -	-	post 1830	B
59 undetermined 38g	- -	-	post 1830	B
60 undetermined 38c	- -	-	post 1830	B
61 undetermined	- -	-	post 1830	B
62 undetermined	- -	-	post 1830	B
63 undetermined	- -	-	post 1830	B
64 undetermined 38a	- -	R. Stevenson(?)		B

Table 9. Continued.

Pattern No. Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
65 Sw(iss?) 37b	Laidacker 1951:80	R. Stevenson	1810-32*	B
66 undetermined 38b	- -	-	post 1830	B
68 Florentine 37g	Williams 1978:261	T.J. & J Mayer others (?)	1843-55* 1855-?	B
69 undetermined 29g	- -	-	post 1830	B
70 Don Quioxte Series"Meeting of Sancho and Dapple"	Larsen 1975:80 Coysh and Henrywood 1982:112	J. & R. Clews	1818-30	VDB
71 Landing of the Fathers at Plymouth 29d	Larsen 1975:8 Arman and Arman 1977:35 Camehl 1971:106 Moore 1903:20-21	E. Wood & Sons	1820-21	DB
72 Medallion Portrait Series 29i	Larsen 1975:225	R. Stevenson & Williams	1825	DB
73 Grapevine Border Series+ "Belvoir Castle" 28b	Coysh and Henrywood 1982:161	E. Wood & Sons	1818-30**	DB
74 Untitled 28a	Coysh and Henrywood 1982:82	Davenport(?)	1815-30?	DB

Table 9. Continued.

Pattern No.	Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
75	Ottoman Empire Series "The Musketeer" 28c, 29k	Coysh 1970:64	J. Rogers & Son	1821-30**	VDB
76	Shell Border? 29e	Larsen 1975:7	E. Wood & Sons	1819-30**	VDB
77	undetermined	- -	-	pre 1830	VDB
78	undetermined	- -	-	pre 1830	VDB
79	Picturesque Scenery 29c	Coysh and Henrywood 1982:169,285	R. Hall	1822-30	VDB
80	undetermined 29b	- -	-	pre 1830	VDB
81	undetermined 29h	- -	-	pre 1830	VDB
82	undetermined 29f	- -	-	pre 1830	VDB
83	Fruit and Flower Border "Philadelphia, The Dam and Water Works" 29a	Larsen 1975:212 Arman & Arman 1977:49	Henshall, Williams & Co.	1824-30**	VDB
84	French Series+ "Moulin Sur La Marne a Charenton" 29j	Coysh and Henrywood 1982:148 Larsen 1975:29-30 Arman & Arman 1977:31	E. Wood & Sons	1824-28**	VDB

Table 9. Concluded.

Pattern No.	Name/ Figure	Reference	Maker/ Importer	Date	Color(s)
85	undetermined	- -	-	post 1844	FLB
86	undetermined	- -	-	post 1844	FLB
87	undetermined	- -	-	post 1844	FLB

Explanation
Br = Brown
M = Mulberry
R = Red (includes range of light and dark shades)
Bl = Black
B = Blue (medium and light shades)
DB = Dark blue (occurs only on pearlware vessels)
VDB = Very dark blue (occurs only on pearlware vessels)
FLB = Flow blue
* = Date of operation of manufacturer
** = Date range within which pattern was made as determined from maker, style, and documentation regarding source for pattern.
+ = Pattern and marker determined from marked sherd.

Table 10. Dark blue and very dark blue transfer print sherd and vessel count by pattern.

Pattern No.	Series or Pattern Name*	No. Sherds	Minimum No. Vessels	Vessel Form
Dark blue				
71	Landing of the Fathers	1	1	Flatware
72	Medallion Portrait Series	8	2	Plate,Und.
73	Grapevine Border Series	5	3	Plates
74	undetermined (chinoiserie)	12	3	2 Saucers, Cup
	Dark blue total	26	9	
Very dark blue				
70	Don Quioxte Series	7	1	Plate
75	Ottoman Empire Series	16	2	Plates
76	Shell Border Series	4	2	Hollow., Cup
77	undetermined	1	1	Hollow.
78	undetermined	1	1	Flatware
79	Picturesque Scenery Series	1	1	Saucer
80	undetermined	1	1	Saucer
81	undetermined	1	1	Plate
82	undetermined	2	1	Plate
83	Fruit and Flower Border Series	1	1	Plate
84	French Series	1	1	Plate
Sherds not ascribed to specific pattern		70	?	
	Very dark blue total	106	13	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 11. Brown transfer print sherd and vessel count by pattern.

Pattern No.	Pattern Name*	No. Sherds	Minimum No. Vessels	Vessel Form
1	Antique Vases	61	15	3 und. 2 saucers 6 plates 2 bowls 1 hollowware 1 cup
2	Undetermined	21	2	2 flatware
3	Undetermined	6	1	1 cup
5	Undetermined	2	1	1 plate
6	Undetermined	2	1	1 hollowware
8	Moral Maxims	4	3	1 flatware 2 plates
10	Ceylonese	1	1	1 und.
11	Blenheim	11	1	1 plate
12	Undetermined	1	1	1 und.
Sherds not ascribed to a specific pattern		33	?	
Site total		142	26	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 12. Mulberry transfer print sherd and vessel counts by pattern.

Pattern No.	Name *	No. Sherds	Minimum No. Vessels	Vessel Form
13	Picturesque Views	5	1	1 plate
14	Caledonia	3	1	1 plate
15	Clyde Scenery	7	4	3 plates, 1 saucer
16	The Pet	9	2	cup, saucer
17	Undetermined	22	4	cup, small bowl,serving bowl, sugarbowl
Sherds not ascribed to a specific pattern		28	?	?
Site total		74	12	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 13. Red transfer print sherds and vessel counts by pattern.

Pattern No.	Name	No. Sherds	Minimum No. Vessels	Vessel Form
15	Clyde Scenery	1	1	saucer
17	Undetermined	2	1	und.
20	Bologna	1	1	plate
21	Indian Temples	9	1	plate
22	Tyrolean	1	1	saucer
23	Undetermined	3	1	plate
24	Cyrene	2	1	plate
25	Undetermined	2	1	cup
27	Undetermined	2	1	cup
28	Undetermined	1	1	hollowware
29	Undetermined	3	1	flatware
30	Undetermined	1	1	und.
31	Canova	1	1	flatware
32	Fountain Scenery	2	2	flatware
33	Arabian	4	1	saucer
34	Oriental	4	1	flatware
35	Undetermined	1	1	und.
37	The Sower	5	3	cup, plate, bowl
38	Undetermined	40	1	hollowware
Sherds not ascribed to specific pattern		42	?	?
Site total		127	22	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 14. Black transfer print sherd and vessel counts by pattern.

Pattern No.	Name	No. Sherds	Minimum No. Vessels	Vessel Form
13	Picturesque Views	11	1	plate
31	Canova	3	1	plate
39	Fruit Basket	26	1	pitcher
40	Undetermined	2	1	hollowware
42	Venetian Scenery	1	1	plate
43	Undetermined	1	1	plate
Sherds not ascribed to specific pattern		6	?	?
Site total		50	6	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 15. Blue transfer print sherd and vessel counts by pattern.

Pattern No.	Name	No. Sherds	Minimum No. Vessels	Vessel Form
19	Undetermined	2	1	Flatware
26	Undetermined	2	1	undetermined
31	Canova	22	4	Flatware, Plate Hollowware, Cup
43	Tuscan Rose	5	1	Flatware
44	Siam	68	13	3 Saucer, 3 Plate 1 Platter, 2 Cup 1 Bowl, 2 Und., 1 Pitcher
45	Lucerne	68	9	1 Bowl, 4 Plates 1 Saucer, 2 Cup, 1 Und.
46	Ontario Lake Scenery	23	5	1 Cup, 1 Plate, 2 Serving Bowls, 1 Saucer
49	Log Cabin	1	1	Plate
50	Undetermined	1	1	Cup
51	Undetermined	1	1	Und.
52	Undetermined	2	1	Und.
53	Undetermined	1	1	Und.
55	Napier	1	1	Cup plate
56	Sirius	9	3	2 Flatware, Handle
57	Paroq...	1	1	Flatware
58	Undetermined	14	2	Cup, Saucer
59	Undetermined	6	2	Und., Cup plate
60	Undetermined	2	2	Hollowware, Cup
61	Undetermined	1	1	Cup
62	Undetermined	1	1	Flatware
63	Undetermined	5	1	Flatware
64	Undetermined	1	1	Cup
65	Swiss	11	3	Hollowware Plate, Und.
66	Undetermined	14	1	Cup
68	Florentine	2	1	Hollowware
69	Undetermined	2	2	Und.
Sherds not ascribed to a specific pattern		89		
Site total		355	61	

Explanation
* see Table 9 for complete identification, temporal span, manufacturer, references, and patterns illustrated in this report.

Table 16. Temporal trends in transfer print patterns.

Stylistic Period	Pattern or Series No.	Name	Maker	Approximate Date of Production
Vintage				
	(Early)			
	57	Paroq...	R. Stevenson	1815-32
	64	?	R. Stevenson	1815-32
	65	Swiss	R. Stevenson	1815-32
	70	Don Quioxte Series	J. & R. Clews	1818-30
	71	Landing Of the Fathers at Plymouth	E. Wood	1820
	73	Grapevine Border Series	E. Wood	1818-30
	76	Shell Border Series	E. Wood	1818-30
	84	French Series	E. Wood	1824-25
	75	Ottoman Empire Series	J. Rogers & Son	1814-30
	79	Picturesque Scenery Series	R. Hall	1822-30
	83	Fruit and Flower Border Series	Henshall, Williams & Co.	1824-30
	72	Medallion Portrait Series	R. Stevenson & Williams	1825
	74	?	?	1815-30
	77	?	?	1820-30
	78	?	?	1820-30
	80	?	?	1820-30
	81	?	?	1820-30
	82	?	?	1820-30
	(Late)			
	13	Picturesque Views	J. & R. Clews	1829-34
	42	Venetian Scenery	E. Wood & Sons	1818-46
	15	Clyde Scenery	J. & J. Jackson	1831-35
	8	Moral Maxims	J. & J. Jackson	1831-35
	34	Oriental	W. Ridgway	1830-34
Transitional and Romantic				
	49	Log Cabin	J. Ridgway	1840
	22	Tyrolean	Ridgway & Co.	1834-54
	56	Sirius	J. & T. Edwards	1839-41
	10	Ceylonese	G. Phillips	1834-48
	33	Arabian	F. Dillon	1834-43
	14	Caledonia	W. Adams	1830-40
	20	Bologna	W. Adams	1830-40
	32	Fountain Scenery	W. Adams	1830-40
	37	The Sower	W. Adams	1830-40
	21	Indian Temples	?	1830-40

Table 16. Concluded.

Stylistic Period	Pattern or Series No.	Name	Maker	Approximate Date of Production
	68	Florentine	T. & J. Mayer	1843-55
	46	Ontario Lake Scenery	J. Heath	1845-53
	44	Siam	J. Clementson	1850-?
	45	Lucerne	J. Clementson	1839-60
	16	The Pet	W. Adams	1840-60
	24	Cyrene	W. Adams	1840-60
	11	Blenheim	S. Alcock	1830-59
	55	Napier	J. Ridgway	1830-55

Table 17. Edge decorated sherd and vessel counts by pattern.

Pattern No.	Name	No. Sherds	Minimum No. Vessels	Vessel Form	Figure No.
1	Green dot and plume	1	1	Plate	40f
2	Green dot and plume	2	1	Flatware	40d
3	Green shell edge	2	2	Plate, Flatware	40c
4	Blue complex molded	6	1	Plate	40e
5	Blue complex molded	1	1	Plate	40b
6	Blue spiral and dot	8	2	Plate	40a
7	Blue spiral and dot	1	1	Plate	40c
8	Blue shell edge	6	3	Plates	40g
9	Blue shell edge	2	2	Soup plate	39b
10	Blue shell edge	6	4	Plate	40j
11	Blue shell edge	2	1	Platter	39a
12	Blue shell edge	7	4	Platter, 3 Plates	40i
13	Blue shell edge	1	1	Plate	-
14	Blue shell edge	1	1	Plate	-
15	Blue shell edge	11	4	Plates	40h
16	Unpainted shell edge	1	1	Und.	40k
	sherds not ascribed to a specific pattern	39			
	Site total	97	30		

Table 18. Annular decorated sherd and vessel counts by pattern.

Pattern No.	Name	Ware	No. Sherds	Minimum No. Vessels	Vessel Form	Figure No.
1	undet.	WW	1	1	Bowl	-
2	undet.	WW	7	1	Bowl	-
3	marbled	PW	12	2	Bowl	42c
4	swirl	PW	7	1	Pitcher	41a
5	undet.	WW	1	1	Hollowware	-
6	undet.	WW	2	1	Hollowware	-
7	swirl	PW	5	3	Bowls	41b
8	undet.	PW	1	1	Hollowware	-
9	undet.	PW	3	1	Hollowware	-
10	swirl	WW	4	1	Hollowware	-
11	swirl	WW	1	1	Bowl	42a
12	swirl	WW	1	1	Bowl	-
13	mocha	WW	4	1	Hollowware	-
14	swirl	WW	1	1	Hollowware	-
15	marbled	WW	1	1	Hollowware	-
16	undet.	WW	1	1	undet.	-
	sherds not ascribed to specific pattern		22			
	Site total		74	19		

Explanation
PW = Pearlware
WW = Whiteware
Undet. = Undetermined

Table 19. Hand painted sherd and vessel count by pattern.

Pattern No.		Minimum No. Vessels	Pearlware	Vessel Form	No. Sherds
1	Broadline	1	no	Plate	1
2	Broadline	1	no	Undetermined	1
3	Broadline	1	no	Plate	1
4	Broadline	1	no	cup	1
5	Broadline	1	no	Hollowware	1
6	Broadline	1	no	Cup	5
7	Broadline	1	no	Hollowware	1
8	Broadline	1	no	Hollowware	1
9	Broadline	1	no	Hollowware	2
10	Broadline	1	no	Hollowware	1
11	Broadline	1	no	Hollowware	1
12	Broadline	1	no	Hollowware	1
13	Broadline	1	no	Hollowware	1
14	Broadline	1	no	Hollowware	1
15	Broadline	1	yes	Hollowware	1
16	Sprig	1	no	Hollowware	2
17	Sprig	1	yes	Hollowware	1
18	Sprig	1	no	Hollowware	1
19	Sprig	1	no	Plate	2
20	Sprig	1	no	Hollowware	1
21	Sprig	1	no	Plate	1
22	Sprig	1	no	Undetermined	1
23	Sprig	1	no	Plate	1
24	Sprig	1	no	Hollowware	1
25	Sprig	1	no	Hollowware	1
26	Broadline	1	yes	Hollowware	1
27	Broadline	1	no	Hollowware	1
sherds not ascribed to a specific pattern					45
Total		27			79

Table 20. Plain and molded whiteware patterns and vessels.

White paste vessels, sherds, and patterns.

Tint of Glaze	No. Sherds	Molded Design/ Pattern	Minimum No. Vessels	Vessel Form
Blue	1	undecorated	1	Wash Basin
	1	undecorated	1	Cup
sherds not ascribed to a specfic vessel	20			
Subtotal	22		2	
Green	1*	Stepped Bands (Figure 46b)	1	Pitcher
sherds not ascribed to a specfic vessel	99			
Subtotal	100		1	
Cream Color	30	undecorated	1	Platter
			1	Cup
			1	Flatware
			3	Hollowware
			6	undetermined
			4	Mixing Bowls
	2	Molded	2	undetermined
sherds not ascribed to a specfic vessel	214			
Subtotal	246		18	
Colorless (white surface)	13	undecorated	3	Cups
			1	Plate
			2	Flatware
			3	undetermined
			2	Hollowware
	6	Molded	4	Flatware
			2	Hollowware
	3	Paneled	1	Cup

Table 20. Concluded.

Tint of Glaze	No. Sherds	Molded Design/ Pattern	Minimum No. Vessels	Vessel Form
sherds not ascribed to a specfic vessel	160			
Subtotal	182		18	

Gray paste vesels, sherds, and patterns.

	No. Sherds	Molded Design/ Pattern	Minimum No. Vessels	Vessel Form
	26	undecorated	2	Hollowware
			10	undetermined
			1	Large Bowl
			2	Bowls
			1	Saucer
			3	Plates
			3	Flatware
	15	Molded	2	Flatware
			3	undetermined
			1	Bowl
			3	Hollowware
			2	Plates
	1	Wheat and Blackberry (Figure 45d)	1	Plate
sherds not ascribed to a specfic vessel	144			
Subtotal	186		34	
Total	736		73	

Explanation
* = complete vessel reconstructed from numerous fragments.
No. = Number

Table 21. Sponge, gilt and decal decorated sherd and vessel counts by pattern.

Decoration	No. Sherds	Pattern	Minimum No. Vessels	Vessel Form
Sponge	12	amorphous	1	Cup
			1	Saucer
			2	undetermined
Total	12		4	
Decal and/or Edge decorated	1	Brown floral decal with gilt line (Figure 46c)	1	Plate
	1	Gilt line (Figure 46a)	1	Relish Plate
	2	Blue floral decal	1	Flatware
	1	Pink floral decal	1	undetermined
	1	Pink floral decal	1	Flatware
	1	Geometric design	1	undetermined
Total	7		6	

Table 22. Yellowware sherd and vessel count by pattern.

Decorative Type	No. Sherds	Minimum No. Vessels	Vessel Form
Rockingham	17	3	large bowl, 2 undetermined
Clear glaze,			
plain	60	6	2 large bowls, 3 hollowware, shallow bowl
molded	14	2	plate ?, holloware
Annular	38	5	2 mixing bowls, large bowl, jar, undetermined
Site Total	129	16	

Table 23. Redware sherd and vessel summary.

Vessel No.	Form	Decorative Treatment	Provenience Unit	Level	No. Sherds
1	Flower pot (Figure 47)	clear glaze w/ polychrome floral design	14	5	5
			14	6	
2	Flower pot	Unglazed plain	33	1	1
3	Flower pot	Unglazed plain	6	5	1
4	Flower pot	Unglazed plain	14	2	1
5	Flower pot	Unglazed plain	14	2	1
6	Flower pot	Unglazed plain	15	3	1
7	Flower pot	Unglazed plain	29	4	1
8	Flower pot	Unglazed plain	33	surface	1
9	Flower pot	Unglazed plain	34	8	1
10	undet.	Albany slip	42	6	2
			45	2	
11	undet.	brown glaze	29	2	1
12	Flower pot	Unglazed plain		Surface	1
13	undet.	Albany slip	2	2	5
			49	3	
			52	3	
			16	1	
14	undet.	Albany slip	6	7	1
15	undet.	Albany slip interior	6	2	3
16	Flower pot	Albany slip	15	3	5
17	cylindrical jug	Albany slip		Surface	2
18	Milk pan	Albany slip	36	surface	1
19	undet.	Black glaze	34	1	1
20	undet.	Albany slip	5	2	9
21	undet.	Blue glaze	36	1	1
22	Hollowware	Albany slip	6	3	40
			39	2	
			45	2	
			42	1-4	
23	Pan(?)	Tan Slip	14	6	2
		Sherds not ascribed to a particular vessel			21
			Site Total		108

Explanation
undet. = undetermined

Table 24. Stoneware vessel forms and sherd counts.

Vessel No.	No. Sherds	Vessel Form	Figure No.
1	1	Milk Pan	49e
2	1	Milk Pan	49f
3	1	Pot	
4	1	Bowl	
5	3	Pot	
6	8	Undet. Globular	
7	1	Undet.	
8	1	Undet.	
9	3	Undet. Globular	
10	7	Undet. Globular	
11	1	Pot	
12	1	Pot	48f
13	2	Undet. Globular	
14	1	Jar	48a
15	4	Bowl	
16	1	Bottle	
17	1	Bottle	
18	1	Ink Bottle	49a
19	1	Bottle	
20	1	Bottle	
21	1	Ink Bottle	
22	1	Undet.	48d
23	4	Bowl	
24	16	Bottle	48b
25	4	Undet. Cylinder	
26	25	Jug (Cylinder)	49c
27	3	Undet. Cylinder	
28	10	Undet. Cylinder	
29	6	Undet. Globular	
30	2	Undet. Globular	
31	1	Undet.	
32	6	Undet. Cylinder	
33	1	Undet.	
34	16	Undet. Globular	
35	7	Undet. Globular	49b
36	4	Undet.	
37	2	Undet. Cylinder	
38	1	Undet.	
39	1	Undet.	
40	1	Crock	
41	14	Undet. Globular	
42	7	Pitcher	48c
43	9	Pitcher	48e

Table 24. Concluded.

Vessel No.	No. Sherds	Vessel Form	Figure No.
44	32	Cylinder Crock	49d
45	15	Globular Crock	48g
46	3	Undet. Globular	
47	1	Undet. Globular	
48	8	Undet. Globular	
49	1	Pot	
50	3	Pot	
51	1	Undet.	
52	1	Pot	
53	3	Pot	
54	1	Undet. Globular	
55	1	Undet.	
56	6	Undet.	
57	4	Undet.	
58	1	Bottle	
59	1	Undet. Cylinder	
60	1	Undet.	
61	2	Undet.	
62	8	Undet. Globular	
63	2	Undet.	
64	1	Jar	
65	1	Pitcher	
66	3	Bowl	
67	1	Churn Lid	
68	74	Pitcher	
Sherds not attributed to a particular vessel	107		
Site total	462		

Table 25. Flatware.

Prov Un-Le/ Figure	Manufacturer	Material	Pattern Name	Form/No.	Approx. date Range
8-1	Und.	Pewter/ Britann.	Windsor	Ice Cream Spoon/2	1850-Present
12-1 50b	Und.	Ferrous/ Wood	Und.	Knife/1	1865-Present
19-3	Und.	Pewter/ Britann	Windsor	Teaspoon/1	1850-Present
20-1	Und.	Ferrous/ Wood	Und.	Fork/1	1865-Present
20-4	Und.	Ferrous/ Bone	Und.	Fork/1	Und.
21-1	Und.	Pewter/ Britann	Windsor	Teaspoon/1	1850-Present
23-1	Und.	Ferrous/ Bone	Und.	Knife/1	1865-Present
29-4 50f	Sterling Silver Plate Company	Cuprous/ Silver plate	tipped	Teaspoon/1	1847-1914
31-2 50h	Und.	Cuprous/ Silver plate	Plain	Table-spoon/1	1870-1900
37-3 50c	Und.	Cuprous/ Silver plate	Plain	Serving Spoon/1	1800-1900
41-1 50g	Und.	Cuprous/ Silver plate	French	Teaspoon/1	1874-1900
45-2	Und.	Pewter/ Britann	Windsor	Teaspoon/1	1850-Present
50-3 50a	Und.	Ferrous/ Organic	Und.	Fork/1	1865-Present
62-0 50d	Sterling Silver Plate Company	Cuprous/ Silver plate	Tipped	Teaspoon/1	1847-1914
Nwall 50e	Und.	Cuprous/ Silver plate	Unnamed Wheat Sheaf W/ Hand Sickle	Table-spoon/1	Und.
				Total No. 16	

Explanation

Prov = Provenience
Nwall = North Wall (30-60cm)
Und. = Undetermined
Britann = Britannica
Un = Unit
Le = Level

Table 26. Window glass thickness means from select exterior units.

Prov Un-Le	No.	Thickness Mean	S2	S	Color B	G	A	C	Size Mean
South Wall									
4-1	34	1.67	.15	.39	1	31	1	1	2.35
4-2	27	1.87	.17	.41	15	10	2	0	2.07
4-3	12	1.72	.08	.28	5	5	0	2	3.25
4-4	68	1.70	.13	.37	15	53	0	0	1.98
4-5	20	1.23	.08	.28	4	16	0	0	1.5
4-6	7	1.16	.02	.16	1	5	1	0	1.4
Sub.	168				41	120	4	3	
6-1	18	1.86	.04	.20	11	0	3	4	3.56
6-2	33	1.69	.16	.40	4	27	0	2	1.89
6-3	14	1.77	.27	.52	1	13	0	0	2.43
6-4	3	1.75	.23	.48	3	0	0	0	1.00
6-5	229	1.36	.16	.4	0	229	0	0	1.8
6-6	76	1.27	.11	.34	2	74	0	0	2.22
6-7	52	1.22	.06	.25	7	45	0	0	2.07
6-8	4	1.11	.02	.13	0	4	0	0	1.75
Sub.	429				28	312	3	6	
42-1	23	1.98	.20	.44	1	20	0	2	3.39
42-2	230	1.40	.22	.47	4	217	1	8	2.77
42-3	43	2.00	.15	.39	11	27	0	5	7.00
42-4	40	1.85	.35	.60	4	28	0	8	3.13
42-5	83	1.52	.07	.27	2	81	0	0	3.73
92-1 (FT 10 w/in Level 5)	206	1.63	.04	.19	0	189	17	0	4.93
42-6	80	1.28	.09	.31	0	76	4	0	2.38
42-7	30	1.28	.10	.32	1	29	0	0	2.00
42-8	0								
Sub.	735				23	667	22	23	
Sub. South Wall	1332				92	1079	29	32	
North Wall									
14-1	43	1.78	.03	.17	0	42	1	0	3.35
14-2	168	1.56	.16	.40	9	144	1	14	2.13
14-3	292	1.52	.16	.40	20	255	2	15	2.22
14-4	198	1.23	.09	.31	5	191	2	0	2.69
14-5	276	1.20	.06	.25	0	271	5	0	3.04
14-6	171	1.22	.05	.22	0	170	1	0	3.30

Table 26. Concluded.

Prov Un-Le	No.	Thickness Mean	S2	S	Color B	G	A	C	Size Mean
14-7	71	1.15	.06	.24	0	68	3	0	3.22
14-8	22	.99	.02	.14	0	0	22	0	3.00
Sub.	1241				34	1141	37	39	
29-1	6	1.33	.41	.60	0	6	0	0	
29-2	28	1.33	.14	.38	0	26	1	1	2.17
29-3	8	1.52	.16	.39	0	6	2	0	4.12
29-4	92	1.52	.23	.48	1	91	0	0	3.28
29-5	26	1.33	.08	.30	0	25	1	0	2.35
29-6	17	1.30	.05	.21	0	14	3	0	2.18
29-7	7	1.30	.07	.27	0	6	1	0	4.86
29-8	0								
29-9	2	1.30			0	2	0	0	
Sub.	816				1	176	8	1	
Sub. North Wall	1427				35	1317	45	30	
Total	2759				127	2496	74	62	

Explanation
Only sherds less than 3.2 mm thick were used in this table.
B = Blue tinted
G = Green tinted
A = Aqua tinted
C = Colorless
Prov = Provenience
Un = Unit
Le = Level

Table 27. Summary of window glass dating schemes based on mean thickness values.

Average Sherd Thickness (mm)	Moir (1982)	Schoen (1985)	Whelan (1985)
.95	1788	1790	1830
1.00	1792	1793	1833
1.05	1797	1796	1835
1.10	1801	1800	1838
1.15	1806	1803	1840
1.20	1810	1807	1843
1.25	1815	1810	1845
1.30	1819	1813	1848
1.35	1824	1817	1850
1.40	1828	1820	1853
1.45	1833	1823	1855
1.50	1837	1827	1858
1.55	1842	1830	1860
1.60	1846	1834	1863
1.65	1851	1837	1866
1.70	1855	1840	1868
1.75	1860	1844	1871
1.80	1864	1847	1873
1.85	1869	1850	1876
1.90	1873	1854	1878
1.95	1878	1857	1881
2.00	1882	1861	1883
2.05	1887	1864	1886
2.10	1891	1867	1888
2.15	1896	1871	1891
2.20	1900	1874	1894
2.25	1905	1877	1896

Explanation

* Dates are rounded to the nearest year.
The Moir and Schoen schemes relect initial building construction dates while Whelan's scheme reflects the date of glass manufacture.

Table 28. Furniture components.

Prov Un-Le	Description/ Illustration	Type of Furniture	Age
2-4	Candle holder fragment 54f	Candle holder	
4-1	Trunk roller	Trunk	
11-1	Brass off-set hinges 54i	Wooden Ice Box	
11-1	Porcelain wheel caster 55j	Small furniture	1865-1911
13-1	Brass "T" handle 54n	Stop cock	
15-2	Handle back plate	Drawer	
24-4	Brass hook 54h	Decorative screw-in hook	
30-2	Brass chain	Drapery chain	
34-2	Drop pull plate 54g	Cabinet	
35-3	Screw finial 54b	Curtain pole bracket	
42-3	Brass "post" 54g	Door stop	
50-5	Striker plate 54l	Cabinet	
50-5	"Thread" keyhole escutheon 54m	Cabinet	
65*	Porcelain wheel caster 54k	Bed	1865-1911

Explanation

Prov = Provenience
65* = Backdirt, east wall collapse area.
Un = Unit
Le = Level

Table 29. Buttons.

Prov Un-Le	Material Gl	Sh	MP	Bo	PR	Me	Dim	Size Sma	Med	Lrg	Total
1-1	1	--	--	--	--	--	--	1	--	--	1
2-1	--	1	--	--	--	--	--	1	--	--	1
2-3	1	--	--	--	--	--	--	1	--	--	1
2-4	--	--	--	--	--	1	--	1	--	--	1
3N-2	--	--	--	--	--	1	--	1	--	--	1
3N-3	2	--	--	--	--	--	--	2	--	--	2
5-1	1	--	--	--	--	--	--	1	--	--	1
5-3	1	--	--	--	--	--	--	1	--	--	1
5E-4	2	1	1	--	--	--	1	3	--	--	4
6-4	--	--	--	--	--	1	--	1	--	--	1
7-2	--	--	1	--	--	--	--	1	--	--	1
7-3	1	--	1	--	--	--	--	2	--	--	2
8-1	1	--	--	--	--	--	--	1	--	--	1
9-1	1	--	--	--	--	--	--	1	--	--	1
9-2	--	4	--	1	--	--	2	3	--	--	5
10-1	3	--	3	1	--	--	--	9	--	--	9
11-1	2	2	4	--	--	--	--	8	--	--	8
14-2	--	--	--	--	1	--	--	1	--	--	1
15-4	1	--	--	--	--	--	--	1	--	--	1
16-2	1	--	--	--	--	--	--	1	--	--	1
17-1	--	1	--	1	--	--	--	2	--	--	2
19-2	2	--	--	--	--	--	--	2	--	--	2
20-1	4	1	4	1	--	--	3	7	--	--	10
24-1	--	--	1	--	--	--	--	1	--	--	1
25N-1	2	--	2	--	--	--	--	4	--	--	4
25S-1	--	--	--	1	--	--	--	1	--	--	1
26-2	1	--	--	--	--	--	--	1	--	--	1
27-2	1	--	--	--	--	--	--	1	--	--	1
27-3	--	--	--	1	--	--	--	1	--	--	1
28-1	1	--	1	1	--	--	2	1	--	--	3
29-1	--	--	--	--	--	1	--	1	--	--	1
30-2	--	--	--	1	--	--	--	1	--	--	1
31-2	--	--	--	1	--	--	--	1	--	--	1
32W-1	1	--	--	--	--	--	--	1	--	--	1
32-2	2	--	1	--	--	--	--	3	--	--	3
34-0	1	--	--	--	--	--	--	1	--	--	1
34E-2	--	--	--	1	--	--	--	1	--	--	1
34-4	1	--	--	--	--	--	--	1	--	--	1
34NW-5	1	--	--	--	--	--	--	1	--	--	1
37-3	1	--	--	--	1	2	1	2	--	1	4
38-2	1	--	--	--	--	--	--	1	--	--	1
39-1	1	--	--	--	--	--	--	1	--	--	1
41-2	--	--	1	--	--	--	--	1	--	--	1

Table 29. Concluded.

Prov	Material							Size			Total
Un-Le	Gl	Sh	MP	Bo	PR	Me	Dim	Sma	Med	Lrg	
42S-5	1	--	--	--	--	--	--	1	--	--	1
42-6	1	--	--	--	--	--	--	1	--	--	1
43-2	1	--	--	--	--	--	--	1	--	--	1
45-2	1	--	--	--	--	--	--	1	--	--	1
47-0	--	--	--	1	--	--	--	1	--	--	1
47-3	1	--	--	1	--	--	--	2	--	--	2
50-2	--	1	--	--	--	--	1	--	--	--	1
50-3	6	--	--	--	--	--	--	6	--	--	6
50-4	--	1	--	1	--	--	--	2	--	--	2
50-5	--	1	--	4	--	--	1	4	--	--	5
55-1	--	1	1	--	--	--	--	2	--	--	2
55-2	3	2	1	--	--	--	1	5	--	--	6
57-2	--	1	--	--	--	--	1	--	--	--	1
59-2	--	--	--	1	--	--	--	1	--	--	1
Feat. 7	2	1	--	4	--	--	--	7	--	--	7
Feat. 8	1	--	--	--	--	--	--	1	--	--	1
Total	55	18	22	22	2	8	13	113	0	1	127

Explanation

Prov = Provenience
Un = Unit
Le = Level
Gl = Glass button
Sh = Shell button
MP = Mother-of-pearl
Bo = Bone
PR = Plastic or rubber
Me = Metal
Dim = Diminitive, up to .375in
Sma = Small, .375 - .75in
Med = Medium, .75 - 1.0in
Lrg = Large, 1.0in +

Table 30. Coins and tokens.

Prov Un-Le	Denomination/ Description	Date	Condition
Basement			
Room 001			
8-1	US Indian Head Cent	1890	vg-g
	US Indian Head Cent	1897	vg-g
9-2 (Ft4)	US Token "Our Army"	1864	
10-1	Province of Canada, Bank of Montreal Half Cent	1844	vg-g
10-3	US Half Dime	1837	au
11-1	US Indian Head Cent	1888	f
Room 002			
surface	US Indian Head Cent	1865	vg-g
41-1	US "Mercury" Dime	1924	ag
41-2	Token-"C.P. Curtis Auction & Commission 157 Summ. St. Toledo, Ohio	1863	vg-g
Room 003			
16-1	US Half Dime	?	very worn
(Rubble	US Half Dime	1853	vg-g
Fill	US Large Cent	1848	ag
Ft. 7)	Wellington Half Penny	1814	ag
Feature 7	US Three Cent Piece	1852	vg-g
(Ft. 7	Unknown	?	very worn
Base)	US Half Dime	1850	ag
	US Large Cent	1831	vg-g
	US Large Cent	1851	f
	US Large Cent	1819	worn
	US Large Cent	1840	vg-g
17-1	Unknown	1808/9 ?	worn
26-2	US Large Cent	1847	ag
27-1	US Dime	1833	worn
	US Half Dime	?	very worn
27-2	US Large Cent	?	worn
28-1	US Dime	1845	ag
	Province of Canada, Bank of Montreal 1/2 Cent Token	?	worn
28-2	US Large Cent	1834	ag
	US Large Cent	1846	vg-g
	US Large Cent	?	very worn
	Bank Of Upper Canada One Penny Bank Token	1850	vg-g

Table 30. Concluded.

Prov Un-Le	Denomination/ Description	Date	Condition
Room 003 continued			
40-1	US Large Cent	1850	vg-g
47-2	US Half Dime	1834	ag
51-2	US Large Cent	1845	vg-g
	US Large Cent	1846	vg-g
52-2	US Large Cent	?	ag
57-3	US Large Cent	1845	vg-g
	US Large Cent	1842	ag
58-2	US Three Cent Piece	1853	vg-g
59-2	Canadian (?)	?	very worn
Exterior of Structure			
15-3	US Large Cent (bent)	1827	vg-g
N wall	US Token "Union Forever"	1863	vg-g
	Bank of Upper Canada Half Penny Token	1854	ef
	US Large Cent	1835	vg-g
34-1	US Large Cent (Stamped with #13, and perforated)	18?1	ag
38-2	US Large Cent	1853	ef

Explanation

au = about uncirculated
ef = extra fine
f = fine
vg-g = very good-good
ag = about good
N wall = North Wall (30-60cm)
Prov = Provenience
Un = Unit
Le = Level

Table 31. Tobacco pipes.

Bowl Type	Pipe Bowl Data	
	No. Fragments	Minumum No. Pipes
Type A		
Variety 1	58	34
Variety 2	19	17
Variety 3	17	12
Type A Miscellaneous		
Cockled Bowl Base	17	12
Cockled Bowl	6	?
subtotal	117	75
Type B		
Variety 1	22	12
Variety 2	1	1
Variety 3	4	3
Variety 4	1	1
subtotal	28	17
Type C	7	4
Type D		
Variety 1	5	4
Variety 2	26	1
Variety 3	1	1
subtotal	32	6
Type E	3	1
Type F		
Variety 1	12	2
Variety 2	2	2
subtotal	14	4
Type G		
Variety 1	1	1
Variety 2	1	1
subtotal	2	2
Unidentified	13	--
Site total: bowl fragments	216	109

Table 31. Concluded.

	Pipe Stem Data	
	No. Fragments	Minumum No. Pipes
Pipe stem forms		
Diamond (Noel Alyon?)	6	-
Oval	495	-
"C.P." (Type B ?)	1	-
Round	138	-
Dot stem (Type B ?)	5	5*
Crocodile stem	4	3*
Stem Total	649	8*
Pipe Bit Forms		
Ground/beveled bit	33**	33*
Ring bit	9**	9*

* The number of pipes represented by stems is not mutually exclusive of the minimum number of pipes represented by bowl fragments.

** Stem bit counts are included within round and oval stems.

Table 32. Artifact frequencies.

Int. Units	Kitchen Group												
			Whiteware					Plain/Molded					
	Tp	An	Hp	Ed	De	Sp	Gy	Wh	Cc	Bl	Gr	Un	Tot
Room 001													
7	2	-	-	-	-	-	5	-	-	-	-	-	7
8	2	1	-	-	-	-	4	1	-	1	-	1	10
9	-	-	-	-	-	-	3	-	-	-	-	-	3
10	3	-	1	-	-	1	1	1	-	-	1	4	12
11	1	-	-	-	-	-	4	-	1	-	-	2	8
13	-	-	1	-	-	-	1	1	-	-	-	4	7
20	4	-	-	-	-	-	5	-	-	-	1	1	11
21	-	-	-	-	-	-	1	-	-	-	-	1	2
24	2	-	-	-	-	-	-	-	-	-	-	1	3
50	8	1	-	-	1	-	1	1	-	-	1	1	14
55	-	-	-	-	-	-	2	-	-	-	1	-	3
Subtot.	22	2	2	-	1	1	27	4	1	1	4	15	80
Room 002													
22	-	-	-	-	-	-	-	-	-	-	-	1	1
23	1	-	-	-	-	-	1	-	-	-	-	-	2
41	5	-	-	-	-	-	1	2	-	-	-	-	8
25N	5	-	-	1	-	-	-	-	-	-	1	-	7
43	2	-	2	-	-	-	-	1	-	-	-	1	6
Subtot.	13	-	2	1	-	-	2	3	-	-	1	2	24
Room 003													
12	3	-	-	-	-	-	-	1	-	-	-	-	4
16	-	-	-	-	-	-	1	-	-	-	-	-	1
17	3	-	-	-	-	-	-	-	-	-	1	-	4
18	1	-	-	-	-	-	-	-	-	-	-	-	1
25s	19	1	-	1	-	-	-	-	2	-	-	1	24
26	-	-	-	-	-	-	-	-	-	-	-	-	-
27	1	-	-	-	-	-	-	-	-	-	-	-	1
28	2	-	-	-	-	-	-	1	-	-	-	-	3
40	2	-	-	1	-	-	-	-	-	-	-	1	4
47	5	-	-	3	-	-	-	-	-	-	4	-	12
48	2	2	-	2	-	-	-	-	-	-	3	1	10
49	-	2	3	-	-	-	-	-	-	-	-	1	6
51	4	-	1	-	-	-	-	-	-	-	-	-	5
52	7	2	-	-	-	-	-	-	-	-	-	12	21

Table 32. Continued.

Int. Units	Kitchen Group												
			Whiteware					Plain/Molded					
	Tp	An	Hp	Ed	De	Sp	Gy	Wh	Cc	Bl	Gr	Un	Tot
Room 003 cont.													
54	2	-	-	2	-	-	1	-	-	-	-	-	5
56	6	-	1	-	-	-	-	-	-	-	-	-	7
57	1	-	-	-	-	-	-	-	-	-	1	-	2
58	10	-	-	-	-	-	-	-	-	-	-	1	11
59	2	-	-	1	-	-	-	-	-	-	1	-	4
60	5	-	-	-	-	-	-	-	-	-	-	-	5
Subtot.	75	7	5	10	-	-	2	2	2	-	10	17	130
Int. Total	110	9	9	11	1	1	31	9	3	1	15	34	234
Ext. Units													
South Wall													
1	24	-	1	2	2	1	16	18	5	1	-	5	75
2	26	-	2	2	1	2	20	11	12	1	2	2	81
4	14	-	4	3	-	-	14	11	10	1	-	1	58
6	56	3	5	8	-	2	10	9	22	-	2	2	119
39	18	1	5	-	-	-	2	3	7	1	2	-	39
42	17	-	-	1	-	1	3	2	10	-	-	-	34
45	41	4	3	3	-	-	16	13	13	1	4	1	99
46	52	1	-	2	-	-	2	1	4	-	1	1	64
Subtot.	248	9	20	21	3	6	83	68	83	5	11	12	569
North Wall													
14	49	1	3	3	-	-	14	9	-	3	3	5	90
15	65	1	3	2	-	-	-	12	11	1	4	2	101
19	26	1	-	6	-	-	9	9	13	2	3	5	74
29	7	-	-	-	-	-	-	2	2	-	5	1	17
Subtot.	147	3	6	11	-	-	23	32	26	6	15	13	282
East Wall													
34	6	3	2	-	-	1	1	2	5	1	2	5	28
44	21	5	10	16	-	-	-	-	2	-	-	46	100
62	-	-	1	-	-	-	-	-	-	-	-	-	1

Table 32. Continued.

Ext. Units	Kitchen Group: Tp	An	Whiteware: Hp	Ed	De	Sp	Gy	Plain/Molded: Wh	Cc	Bl	Gr	Un	Tot
63	2	-	1	1	-	-	1	-	1	-	-	1	7
64	1	-	1	-	-	-	3	2	1	-	3	-	11
Subtot.	30	8	15	17	-	1	5	4	9	1	5	52	147
West Wall													
3	38	7	3	1	-	3	6	9	27	2	-	-	96
5	32	3	7	5	-	1	9	19	18	-	14	-	108
30	6	-	-	1	-	-	-	1	2	-	2	1	13
31	15	-	-	2	-	-	-	2	3	-	3	1	26
32	37	-	-	2	-	-	2	3	6	-	16	2	68
33	36	4	1	1	-	-	4	-	10	1	2	1	60
35	14	2	1	-	-	-	1	3	6	1	2	-	30
36	32	6	1	3	1	-	2	4	11	-	1	1	62
37	39	2	3	1	-	-	5	5	7	3	3	10	78
38	10	5	-	2	-	-	2	7	8	1	6	-	41
Subtot.	259	29	16	18	1	4	31	53	98	8	49	16	582
Ext. Total	684	49	57	67	4	11	142	157	216	20	80	93	1580
Misc units	153	16	13	19	2	-	13	16	27	1	5	1	266
Site Total	947	74	79	97	7	12	186	182	246	22	100	128	2080

Explanation

Int.= Interior units
Ext. = Exterior units
Tp = Transfer print
An = Annular
Hp = Hand painted
Ed = Edge decorated
De = Decal/gilt
Sp = Sponge decorated
Gy = Gray paste
Wh = White surface
Cc = Cream color
Bl = Blue tint
Gr = Green tint
Un = Unidentified
Tot = Total
Misc = Miscellaneous

Table 32. Continued.

Int. Units	Ceramic Wares St	Ye	Re	Po	Bo	Tu	Glass Pr	Mg	Ot	Uten
Room 001										
7	-	-	-	2	16	2	-	-	-	-
8	-	-	-	-	24	-	2	-	-	1
9	1	-	-	-	5	-	-	-	-	-
10	-	-	-	-	22	5	-	-	-	-
11	1	-	-	-	23	1	-	-	-	-
13	-	-	-	-	1	1	-	-	-	-
20	-	-	-	-	1	-	-	-	1	2
21	2	-	-	-	3	-	-	-	-	1
24	-	-	-	-	3	-	-	-	-	-
50	1	-	1	-	37	2	1	-	-	1
55	-	1	-	-	15	1	-	-	-	-
Subtot.	5	1	1	2	150	12	3	-	1	5
Room 002										
22	-	-	-	-	1	-	-	-	-	-
23	-	-	-	-	1	-	-	-	-	1
41	-	3	-	-	21	-	-	-	-	1
25N	-	-	-	-	5	1	-	-	-	-
43	2	-	-	1	44	-	-	-	-	-
Subtot.	2	3	-	1	72	1	-	-	-	2
Room 003										
12	2	-	-	-	4	-	-	-	-	1
16	-	-	1	-	3	14	-	-	-	-
17	-	-	-	-	3	1	-	-	-	-
18	-	-	-	-	-	2	-	-	-	-
25s	-	1	-	-	-	-	-	-	-	-
26	-	-	-	-	-	3	-	-	-	-
27	-	-	-	-	5	1	-	-	-	-
28	-	-	-	-	8	1	-	-	-	-
40	-	-	-	-	5	2	-	-	-	-
47	-	-	-	-	5	1	-	-	1	-
48	-	-	-	-	2	1	-	-	-	-
49	-	-	1	-	4	-	-	-	-	-
51	-	-	-	-	9	-	-	-	-	-
52	1	-	1	-	4	-	-	-	-	-
54	-	-	-	-	4	1	-	-	-	-
56	-	-	-	-	19	1	-	-	-	1
57	1	-	-	-	3	-	-	-	-	-

Table 32. Continued.

Int. Units	Ceramic Wares St	Ye	Re	Po	Bo	Tu	Glass Pr	Mg	Ot	Uten
Room 003 Cont.										
58	-	-	-	-	2	-	-	-	-	-
59	-	-	-	-	1	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-
Subtot.	4	1	3	-	81	28	-	-	1	2
Int. Total	11	5	4	3	303	41	3	-	2	9
Ext. Units										
South Wall										
1	26	2	-	-	118	12	1	4	7	-
2	19	-	2	1	60	6	-	-	3	-
4	27	3	2	4	168	8	4	1	4	-
6	28	11	5	-	118	2	2	4	-	-
39	28	6	-	-	66	7	-	2	-	-
42	65	6	-	-	161	27	4	3	4	-
45	38	8	2	1	97	38	1	1	1	1
46	9	-	1	-	21	14	-	-	-	-
Subtot.	240	36	12	6	809	114	12	15	19	1
North Wall										
14	27	-	8	4	53	6	-	-	3	1
15	5	6	5	2	20	13	3	-	1	-
19	1	2	1	10	32	3	4	-	1	1
29	-	-	6	-	60	7	-	-	-	1
Subtot.	33	8	20	16	165	29	7	-	5	3
East Wall										
34	61	-	8	1	50	2	1	2	-	-
44	24	-	-	-	57	5	-	-	1	-
62	21	-	-	-	-	-	-	-	1	-
63	1	-	-	-	-	-	-	-	2	-
64	9	-	-	2	-	-	-	-	4	-
Subtot.	116	-	8	3	107	7	1	2	8	-

Table 32. Continued.

Ext. Units	Ceramic Wares St	Ye	Re	Po	Glass Bo	Tu	Pr	Mg	Ot	Uten
West Wall										
3	9	4	2	-	44	8	1	4	-	-
5	8	19	-	-	17	10	2	3	-	-
30	2	-	-	-	7	1	-	-	-	-
31	6	-	-	-	9	-	-	-	2	1
32	3	-	-	1	28	3	-	2	2	-
33	5	-	3	-	28	2	-	1	2	-
35	2	-	1	-	35	1	-	3	-	-
36	6	-	1	-	41	3	2	2	-	-
37	6	-	1	-	76	3	4	9	-	1
38	-	-	-	-	18	-	1	1	-	-
Subtot.	47	23	8	1	303	31	10	25	6	2
Ext. Total	436	67	48	26	1384	181	30	42	38	6
Misc Unit	15	57	56	0	590	16	5	4	14	1
Site Total	462	129	108	29	2277	238	38	46	54	16

Explanation
Int. = Interior units
Ext. = Exterior units
St = Stoneware
Ye = Yellowware
Re = Redware
Po = Porcelain
Bo = Bottle
Tu = Tumbler
Pr = Pressed
Mg = Milk glass
Ot = Other glass
Uten = Utensiles
Misc. = Miscellaneous
cont. = continued

Table 32. Continued.

Int. Units	Architectual Wind. Glass	Arms	Cloth Bt	Cloth Ot	Pers. Co	Pers. Ot	Pipe	Act.
Room 001								
7	23	1	3	-	-	-	4	-
8	60	-	1	-	2	-	5	1
9	16	-	6	-	1	2	6	2
10	8	1	9	5	2	3	8	-
11	56	1	8	-	1	-	3	5
13	6	-	-	-	-	1	9	-
20	13	-	10	-	-	6	3	-
21	5	-	-	-	-	1	4	-
24	5	-	1	-	-	-	2	-
50	93	-	14	1	-	3	24	5
55	19	-	8	-	-	1	15	-
Subtot.	304	3	60	6	6	17	83	13
Room 002								
22	-	-	-	-	-	-	-	-
23	21	-	-	-	-	-	6	-
41	26	-	1	-	2	1	6	1
25N	57	-	4	-	-	-	7	-
43	24	-	1	-	-	-	3	1
Subtot.	128	-	6	-	2	1	22	2
Room 003								
12	54	-	-	-	-	-	-	-
16	49	-	8	-	11	5	3	3
17	9	-	2	-	1	-	1	-
18	3	-	-	-	-	-	-	-
25s	-	-	1	-	-	-	7	-
26	10	-	1	-	1	-	-	-
27	9	-	2	-	3	-	5	-
28	27	-	3	-	7	-	17	-
40	21	-	-	-	1	-	4	-
47	24	1	3	-	1	-	15	-
48	19	-	-	-	-	-	5	-
49	16	-	-	-	-	-	3	-
51	13	-	-	-	2	-	2	-
52	42	-	-	-	1	-	4	-
54	20	-	-	-	-	-	-	-
56	8	-	-	-	-	-	2	-

Table 32. Continued.

Int. Units	Architectual Wind. Glass	Arms	Cloth Bt	Cloth Ot	Pers. Co	Pers. Ot	Pipe	Act.
Room 003 cont.								
57	23	-	1	-	2	-	4	-
58	21	-	-	-	1	-	3	-
59	4	-	1	-	1	-	4	-
60	4	-	-	-	-	1	-	-
Subtot.	376	1	22	-	32	6	79	3
Int. Total	808	4	88	6	40	24	184	18
Ext. Unit								
South Wall								
1	165	-	1	-	-	2	29	-
2	74	-	3	1	-	1	33	-
4	168	2	-	-	-	-	20	-
6	429	-	1	1	-	-	48	-
39	87	-	1	-	-	-	25	1
42	733	-	2	-	-	-	43	-
45	201	-	1	-	-	-	48	-
46	105	-	-	-	-	-	41	1
Subtot.	1,962	2	9	2	-	3	287	2
North Wall								
14	1241	2	1	-	-	-	14	-
15	500	-	1	1	1	-	24	-
19	528	3	2	-	-	1	19	-
29	186	-	1	-	-	1	22	3
Subtot.	2,455	5	5	1	1	2	79	3
East Wall								
34	387	1	4	-	1	-	45	1
44	212	4	-	-	-	-	53	-
62	3	-	-	-	-	-	2	-

Table 32. Concluded.

Int. Units	Architectual Wind. Glass	Arms	Cloth Bt	Cloth Ot	Pers. Co	Pers. Ot	Pipe	Act.
63	6	-	-	-	-	-	11	-
64	26	-	-	-	-	-	4	-
Subtot.	634	5	4	-	1	-	115	1
West Wall								
3	132	-	3	-	-	1	11	-
5	399	-	6	-	-	2	22	-
30	42	-	1	2	-	-	5	-
31	28	-	1	-	-	-	8	-
32	45	-	4	-	-	-	17	-
33	100	-	-	-	-	-	10	-
35	89	-	-	-	-	-	20	-
36	120	-	-	-	-	-	28	-
37	230	-	4	-	-	-	12	5
38	33	-	1	-	1	-	5	1
Subto.	1,218	-	20	2	1	3	138	6
Ext. Total	6,269	12	38	5	3	8	619	12
Misc Units	205	-	1	-	3	-	62	9
Site Total	7,282	16	127	11	46	32	865	39

Explanation
Int. = Interior units
Ext. = Exterior units
Wind. Glass = Window glass
Bt = Buttons
Ot = Other
Co = Coins
Act. = Activities
Misc = Miscellaneous
cont. = continued

Table 33. Artifact frequences relative to excavation matrix volume.

	Kitchen Group										
			Whiteware					Plain/Molded			
	Tp	An	Hp	Ed	De	Sp	Gy	Wh	Cc	Bl	Gr
Interior Units											
Sherds per cubic meter matrix											
Room 001	6.3	*	*	*	*	*	7.7	*	*	*	*
Room 002	10.8	*	*	*	*	*	1.7	*	*	*	*
Room 003	17.4	*	*	*	*	*	.4	*	*	*	*
Sherds per square meter											
Room 001	2.0	*	*	*	*	*	2.5	*	*	*	*
Room 002	10.8	*	*	*	*	*	.4	*	*	*	*
Room 003	3.4	*	*	*	*	*	.1	*	*	*	*
Exterior Units											
Sherds per cubic meter matrix											
South Wall	37.6	1.4	3.0	3.2	*	*	12.6	10.3	12.6	*	1.7
North Wall	38.7	.79	1.6	2.9	*	*	6.1	8.4	6.8	*	3.9
West Wall	52.7	5.9	3.3	3.7	*	*	6.3	10.8	20.0	*	10.0
East Wall	8.1	2.2	4.1	4.6	*	*	1.4	1.1	2.4	*	1.4
Sherds per square meter											
South Wall	31.0	1.1	2.5	2.6	*	*	10.4	8.5	10.4	*	1.4
North Wall	29.4	.6	1.2	2.2	*	*	4.6	6.4	5.2	*	3.0
West Wall	25.9	2.0	1.6	1.8	*	*	3.1	5.3	9.8	*	4.9
East Wall	3.0	.9	1.7	1.9	*	*	.5	.4	1.0	*	.5

Table 33. Continued.

	Kitchen Group										
	Whiteware							Plain/Molded			
	Tp	An	Hp	Ed	De	Sp	Gy	Wh	Cc	Bl	Gr
Site Total of sherds per cubic meter matrix	33.9	2.7	2.8	3.48	.3	.4	6.7	6.5	8.8	.8	3.6
Site total of sherds per square meter	13.5	1.1	1.1	1.4	.1	.2	2.7	2.6	3.5	.3	1.4

Explanation
Tp = Transfer print
An = Annular
Hp = Hand painted
Ed = Edge decorated
De = Decal/gilt
Sp = Sponge decorated
Gy = Gray paste
Wh = White paste
Cc = Cream color
Bl = Blue tint
Gr = Green tint
* = Units had under 30 artifacts.

Interior	Cu. m. Matrix	Sq. m.	Interior	Cu. m. Matrix	Sq. m.
Room 001	3.5	11	South Wall	6.6	8
Room 002	1.2	5	North Wall	3.8	5
Room 003	4.3	22	East Wall	3.7	9
			West Wall	4.9	10
Site total	27.9	70			

	Ceramic Wares						Glass		
	St	Ye	Re	Po	Bo	Tu	Pr	Mg	Uten
Interior Units									
Sherds and items per cubic meter matrix									
Room 001	*	*	*	*	42.8	3.4	*	*	*
Room 002	*	*	*	*	60.0	*	*	*	*
Room 003	*	*	*	*	18.8	6.5	*	*	*
Sherds and items per square meter									
Room 001	*	*	*	*	13.6	1.1	*	*	*
Room 002	*	*	*	*	14.4	*	*	*	*
Room 003	*	*	*	*	3.7	1.9	*	*	*

Table 33. Continued.

	Ceramic Wares						Glass		
	St	Ye	Re	Po	Bo	Tu	Pr	Mg	Uten
Exterior Units									
Sherds and items per cubic meter matrix									
South Wall	*	*	*	*	122.6	17.3	*	*	*
North Wall	*	*	*	*	43.4	7.6	*	*	*
East Wall	*	*	*	*	28.9	1.9	*	*	*
West Wall	*	*	*	*	61.84	.6	*	*	*
Sherds and items per square meter									
South wall	*	*	*	*	73.3	14.2	*	*	*
North Wall	*	*	*	*	33.0	5.8	*	*	*
East Wall	*	*	*	*	9.7	.8	*	*	*
West Wall	*	*	*	*	30.3	3.1	*	*	*
Site total of sherds and items per cubic meter matrix	16.6	4.6	3.9	1.1	81.6	8.5	1.4	1.7	.6
Site total of sherds and items per square meter	6.6	1.8	1.5	.5	32.53	3.4	.5	.7	.3

Explanation
St = Stoneware
Ye = Yellowware
Re = Redware
Po = Porcelain
Bo = Bottle
Tu = Tumbler
Pr = Pressed
Mg = Milk glass
Uten = Utensils
* = Units had under 30 artifacts.

Interior	Cu. m. Matrix	Sq. m.	Interior	Cu. m. Matrix	Sq. m.
Room 001	3.5	11	South Wall	6.6	8
Room 002	1.2	5	North Wall	3.8	5
Room 003	4.3	22	East Wall	3.7	9
			West Wall	4.9	10
Site total	27.9	70			

Table 33. Continued.

	Architectual Wind. Glass	Arms	Butt.	Coins	Pipe	Act.
Interior Units						
Sherds and items per cubic meter matrix						
Room 001	86.9	*	17.1	1.7	23.7	*
Room 002	106.7	*	5.0	1.7	18.5	*
Room 003	87.4	*	5.1	7.4	18.4	*
Sherds and items per square meter						
Room 001	27.64	*	5.5	.5	7.5	*
Room 002	25.6	*	1.2	.4	4.4	*
Room 003	17.1	*	1.0	1.5	3.6	*
Exterior Units						
Sherds and items per cubic meter matrix						
South Wall	247.3	*	1.4	*	43.5	*
North Wall	646.1	*	4.2	.8	20.8	*
East Wall	171.4	*	1.1	.3	31.1	*
West Wall	248.6	*	4.1	.2	28.2	*
Sherds and items per square meter						
South Wall	245.3	*	1.1	*	43.5	*
North Wall	491.0	*	1.0	.2	15.8	*
East Wall	70.4	*	.4	.1	12.8	*
West Wall	121.8	*	2.0	.1	13.8	*

Table 33. Concluded.

Architectual Wind. Glass	Arms	Butt.	Coins	Pipe	Act.
Site total of sherds and items per cubic meter matrix					
261.0	.6	4.5	1.6	31.0	1.4
Site total of sherds and items per square meter					
104.1	.2	1.8	.7	12.3	.6

Explanation
Wind. Glass = Window glass
Butt. = Buttons
Act. = Activities
* = Units had under 30 artifacts.

Interior	Cu. m. Matrix	Sq. m.	Interior	Cu. m. Matrix	Sq. m.
Room 001	3.5	11	South Wall	6.6	8
Room 002	1.2	5	North Wall	3.8	5
Room 003	4.3	22	East Wall	3.7	9
			West Wall	4.9	10
Site total	27.9	70			

Table 34. Economic scaling of whiteware from Block 1 and all pre-1860 vessels.

Block 1

Level 4 n=66
3 n=14
2 n=28
1 n=6

Cups and Saucers			Plates			Bowls		
Value	Decor.	No.	Value	Decor.	No.	Value	Decor.	No.
2.45	Tp	20	2.57	Tp	37	2.8	Tp	9
1.23	Hp	2	2.25	Hp	2	1.6	Hp	10
			1.14	Ed	14	1.2	An	14
			1.0	Cc	1	1.0	Cc	5
ave. 2.34			ave. 2.23			ave. 1.7		

All pre-1860 vessels

Level 4 n=126
3 n=25
2 n=47
1 n=10

Cups and Saucers			Plates			Bowls		
Value	Decor.	No.	Value	Decor.	No.	Value	Decor.	No.
2.45	Tp	40	2.57	Tp	66	2.8	Tp	20
1.23	Hp	2	2.25	Hp	5	1.6	Hp	18
			1.14	Ed	30	1.2	An	17
1.0	Cc	1	1.0	Cc	2	1.0	Cc	7
ave. 2.35			ave. 2.1			ave. 1.81		

Explanation
Decor. = Decoration
No. = Number
Tp = Transfer print
Hp = Hand painted
Ed = Edge decorated
An = Annular
Cc = Cream color
ave. = average

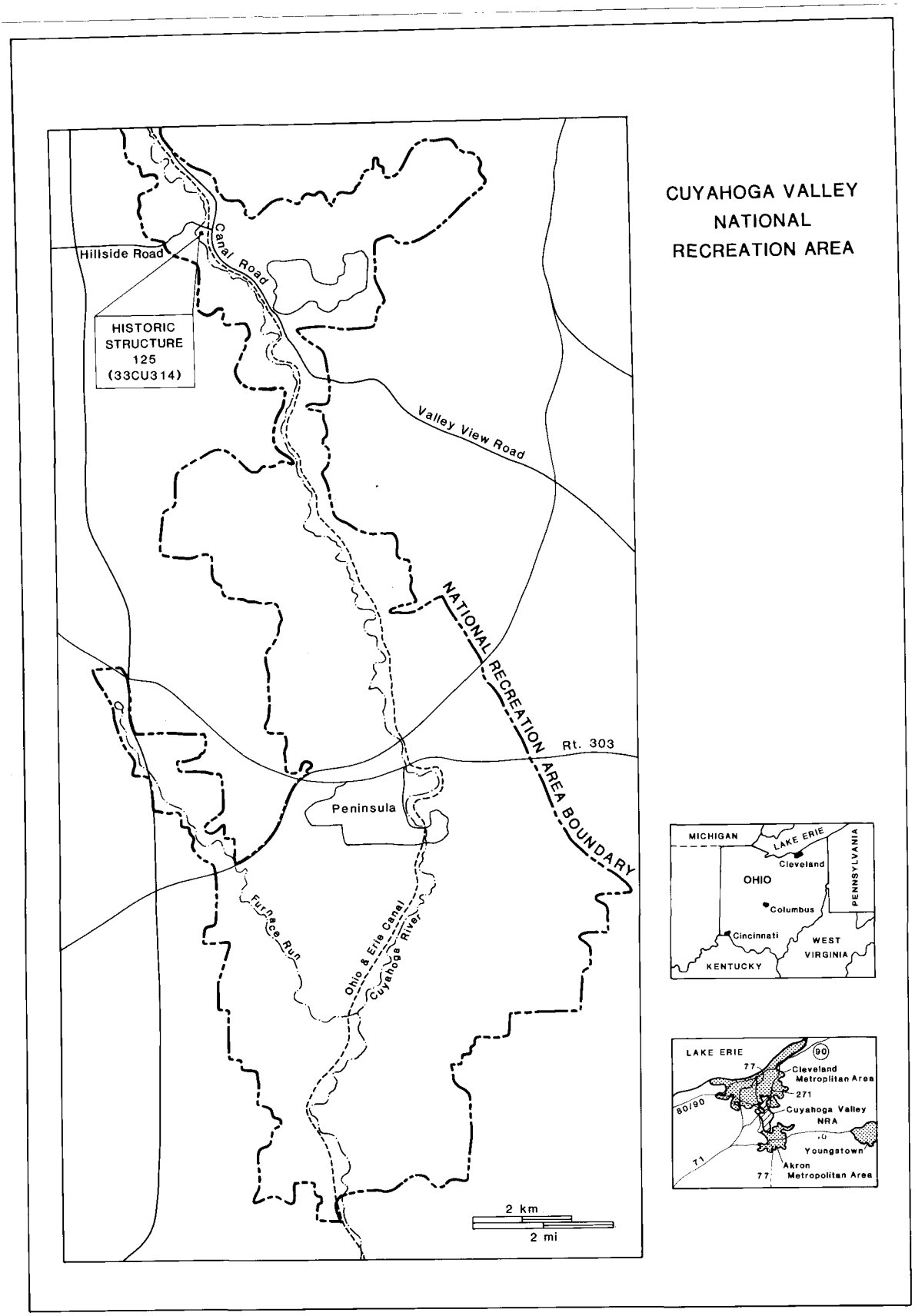


Figure 1. Project area map.

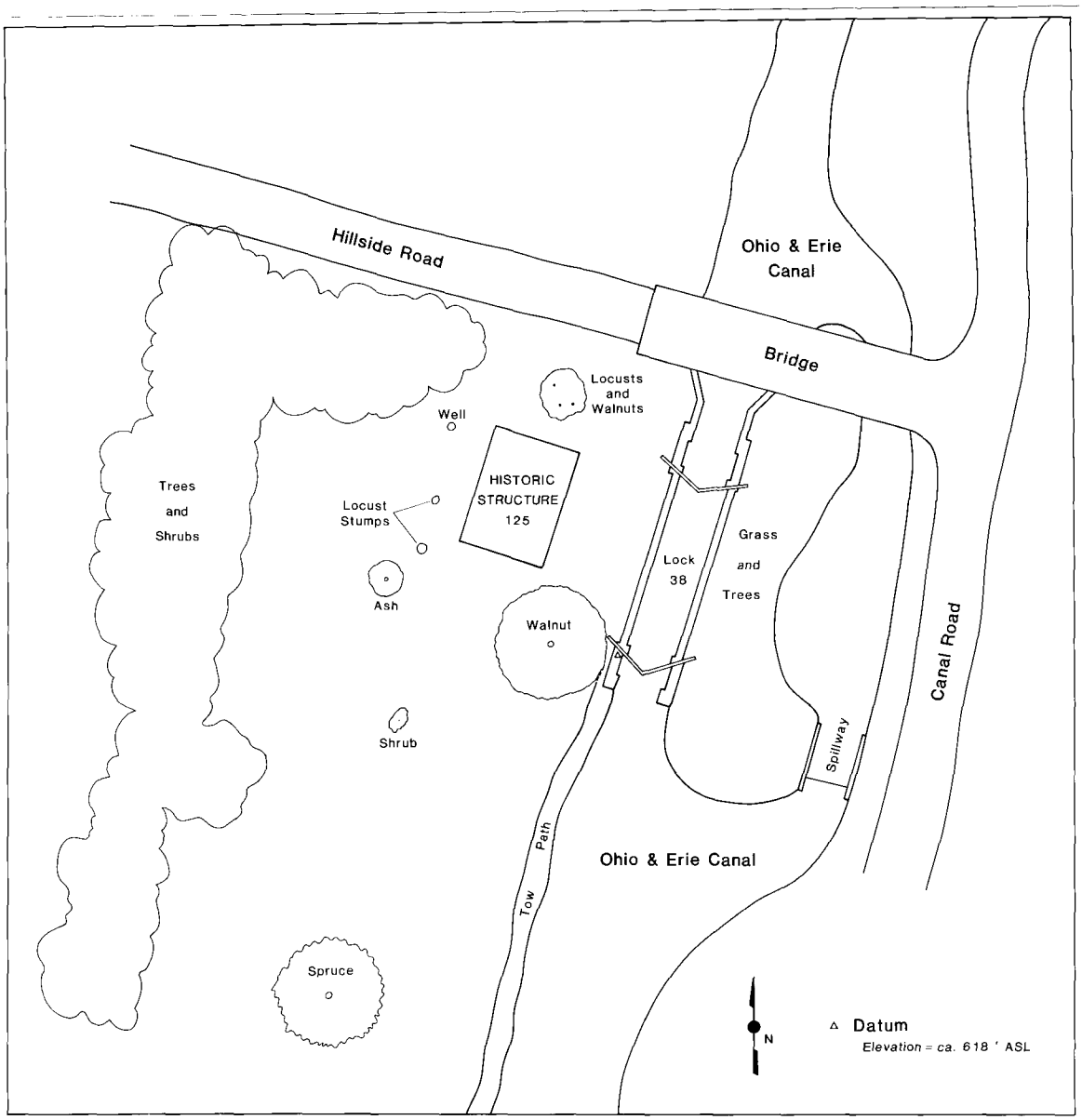


Figure 2. Site plan map.

Figure 3. Photograph of HS 125.

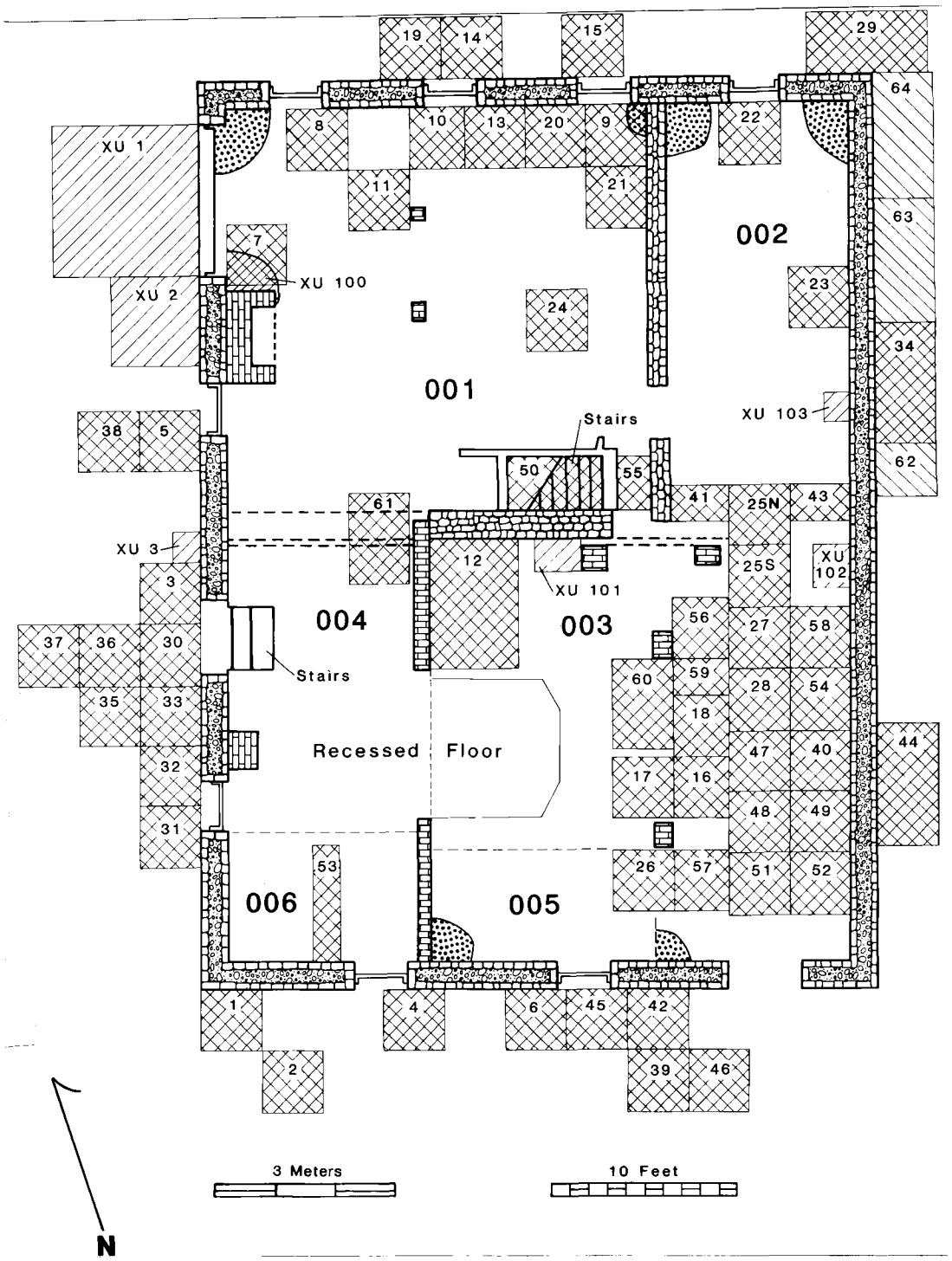
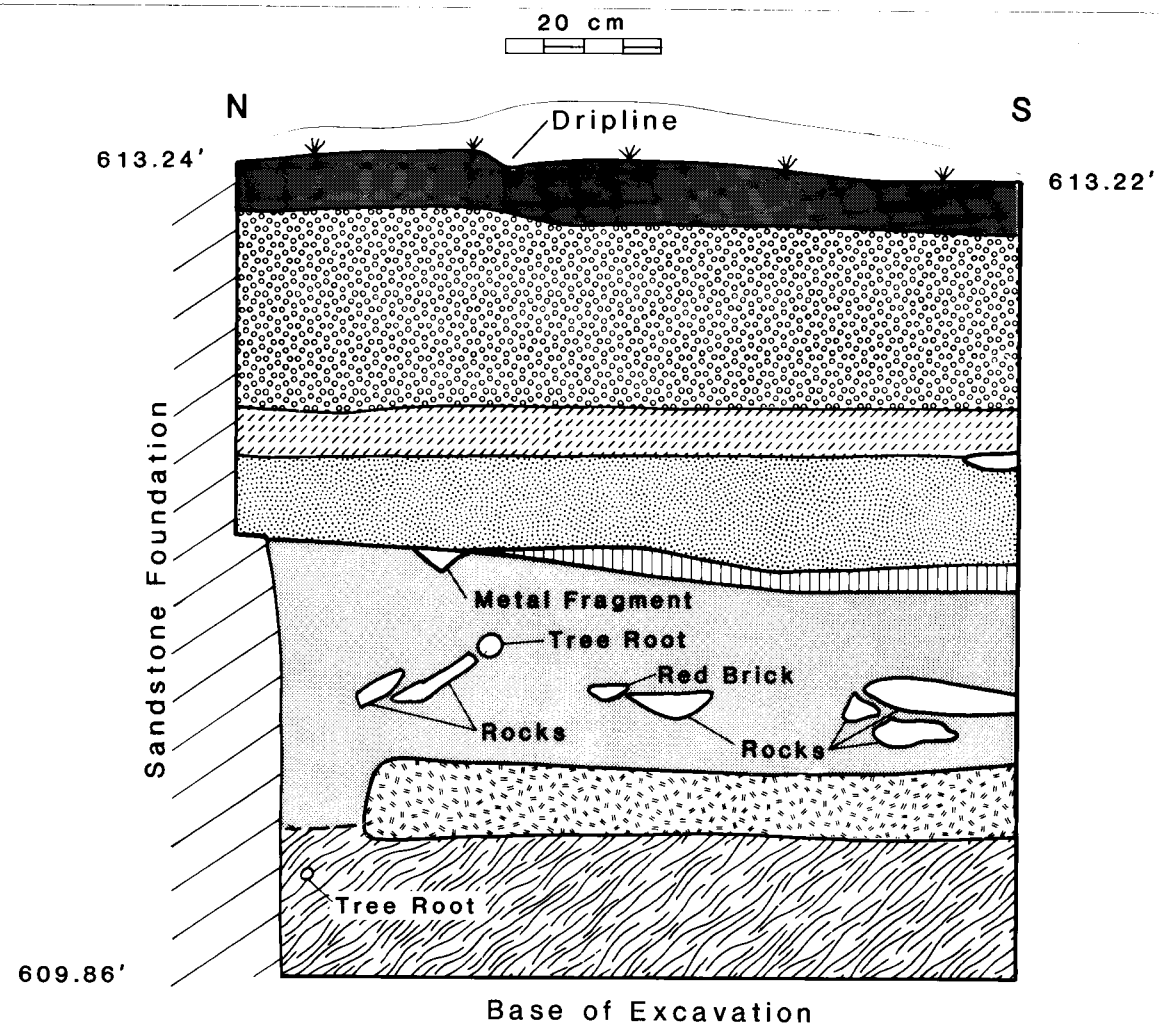


Figure 4. Excavation plan.



STRATUM 1: Black loam (2.5YN2/1).

STRATUM 3: Dark grayish brown loam (2.5Y4/2).

STRATUM 4: Very dark gray sandy loam with 50% coal.

STRATUM 5: Very dark gray loamy sand (2.5YN3/1).

STRATUM 6: Gray Sandy loam with 50% coal (2.5YN5).

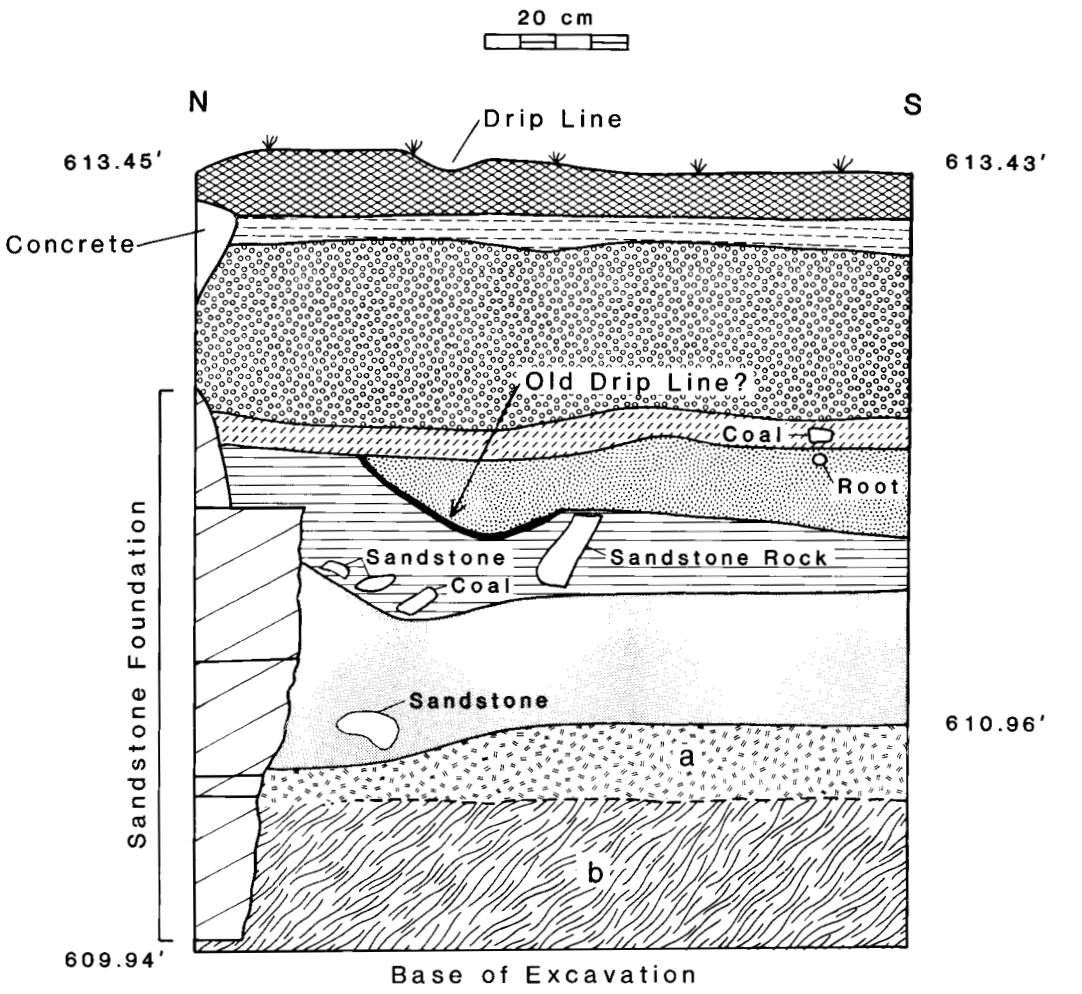
STRATUM 7: Very dark grayish brown loam (2.5Y3/2).

PALEOSOL

STRATUM 8a: Dark grayish brown loam (2.5Y4/2).

STRATUM 8b: Olive brown silty clay loam (2.5YN3/1).

Figure 5. Profile, east wall, Unit 4.



STRATUM 1: Dark brown/black loam.

STRATUM 2: Very dark gray sandy loam with 40% coal.

STRATUM 3: Dark grayish brown loam.

STRATUM 4: Very dark gray sandy loam with 50% coal.

STRATUM 5: Very dark gray loamy sand.

STRATUM 6: Gray sandy loam with 25% coal.

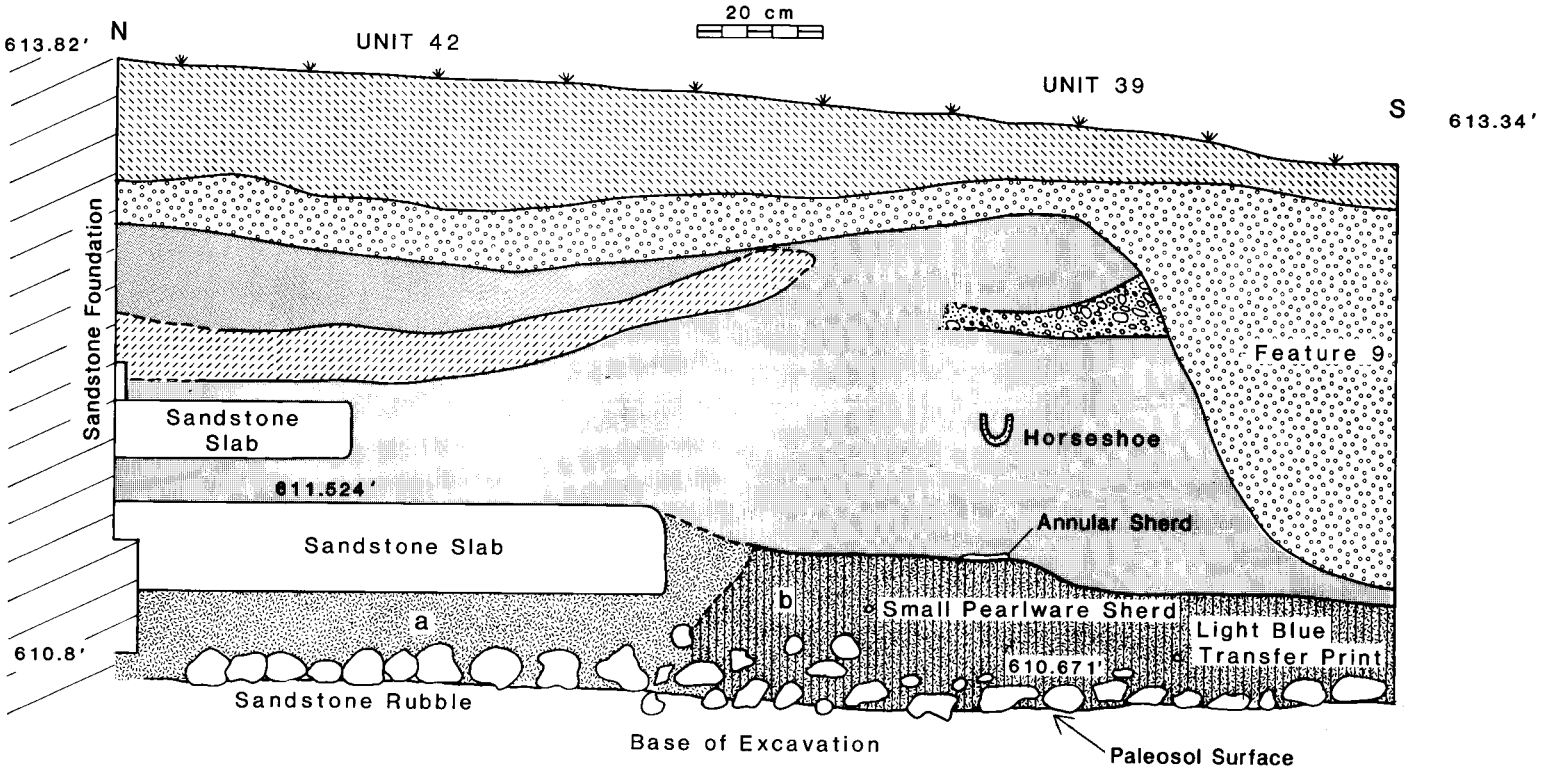
STRATUM 7: Very dark grayish brown loam.

PALEOSOL

STRATUM 8a: Dark grayish brown loam.

STRATUM 8b: Olive brown silty clay loam.

Figure 6. Profile, east wall, Unit 6.



STRATUM 1: Dark brown/black loam with gravel and coal.

STRATUM 9: Cinders.

STRATUM 7: Very dark grayish brown loam.

STRATUM 10 : Gravel.

STRATUM 4 : Very dark gray sandy loam with 50% coal.

STRATUM 11a : Brown laminated silt.

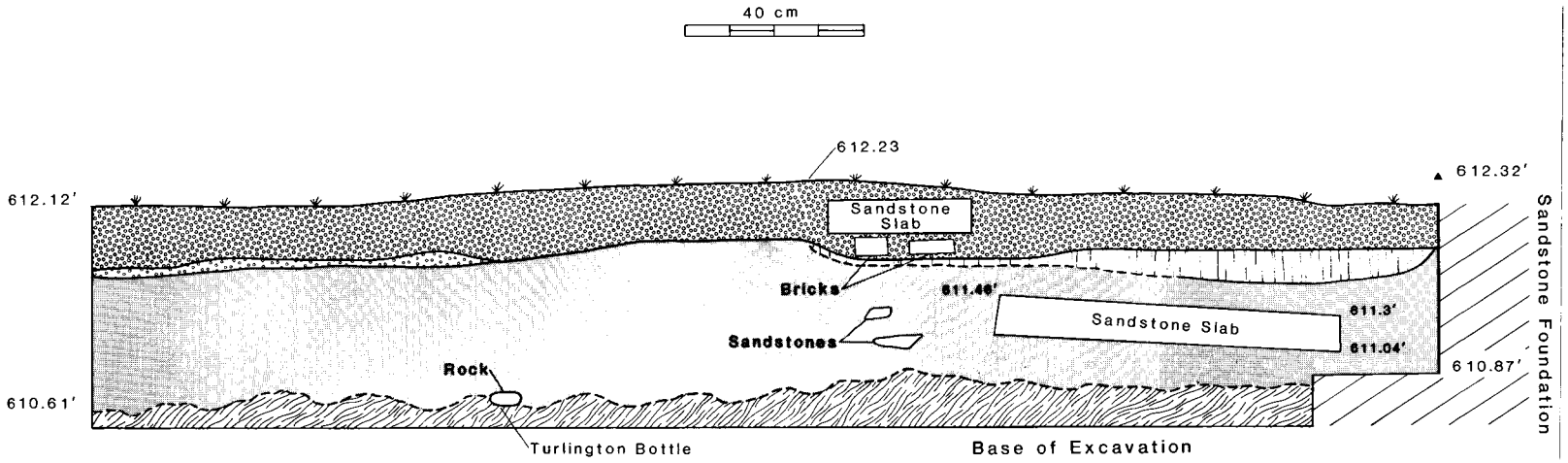
STRATUM 11b : Brown and olive laminated silt.

Figure 7. Profile, east wall, Units 39 and 42.

Figure 8. Sandstone slab at south door. Note raised threshold.

Figure 9. South door area.

Figure 10. Feature 1.



STRATUM 1: Dark grayish brown loam.

STRATUM 9: Cinders.

STRATUM 13 : Ash.

STRATUM 7: Very dark grayish brown loam.

STRATUM 8b : Olive brown silty gray loam.

Figure 11. Profile, north wall, Units 30, 36, 37.

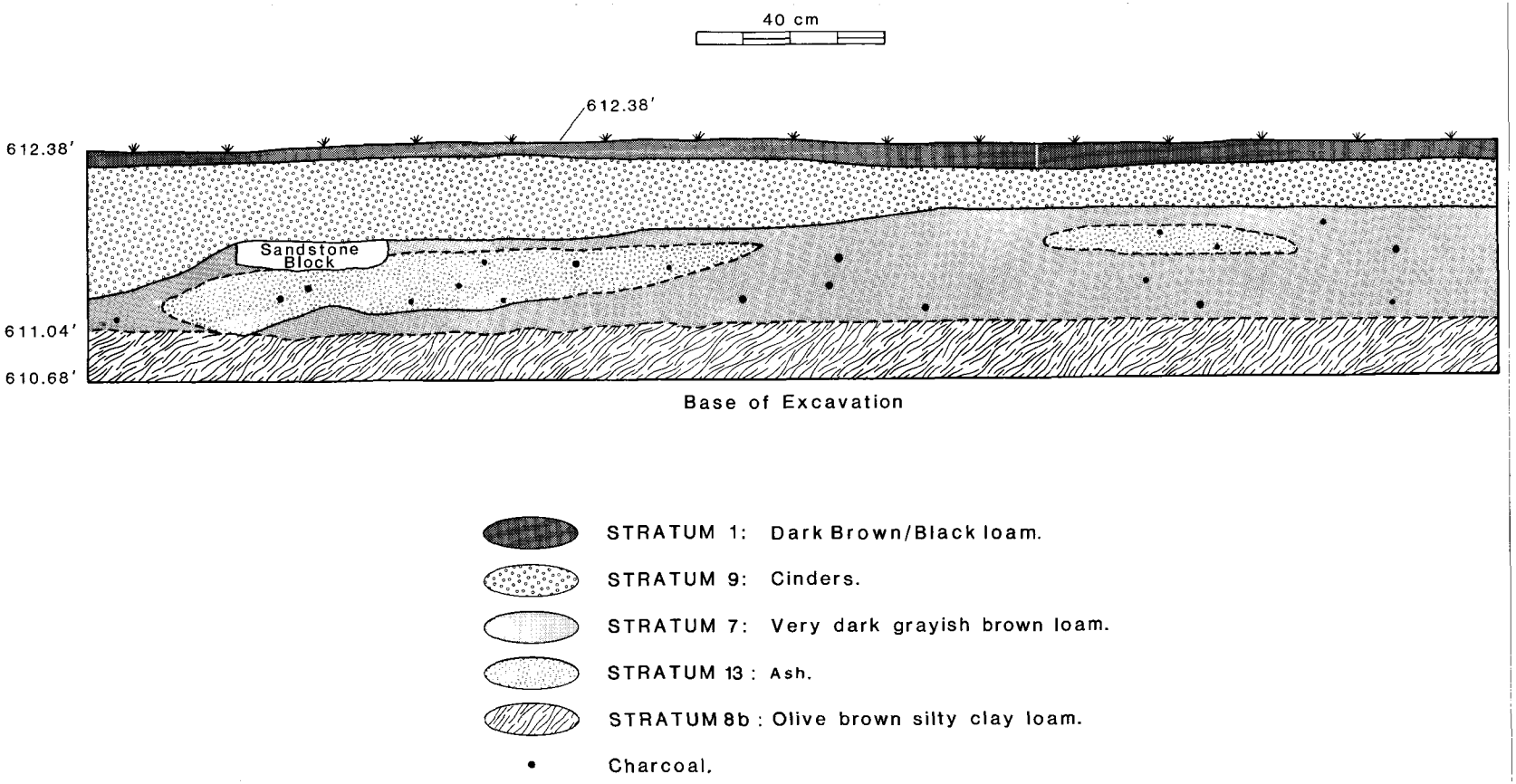
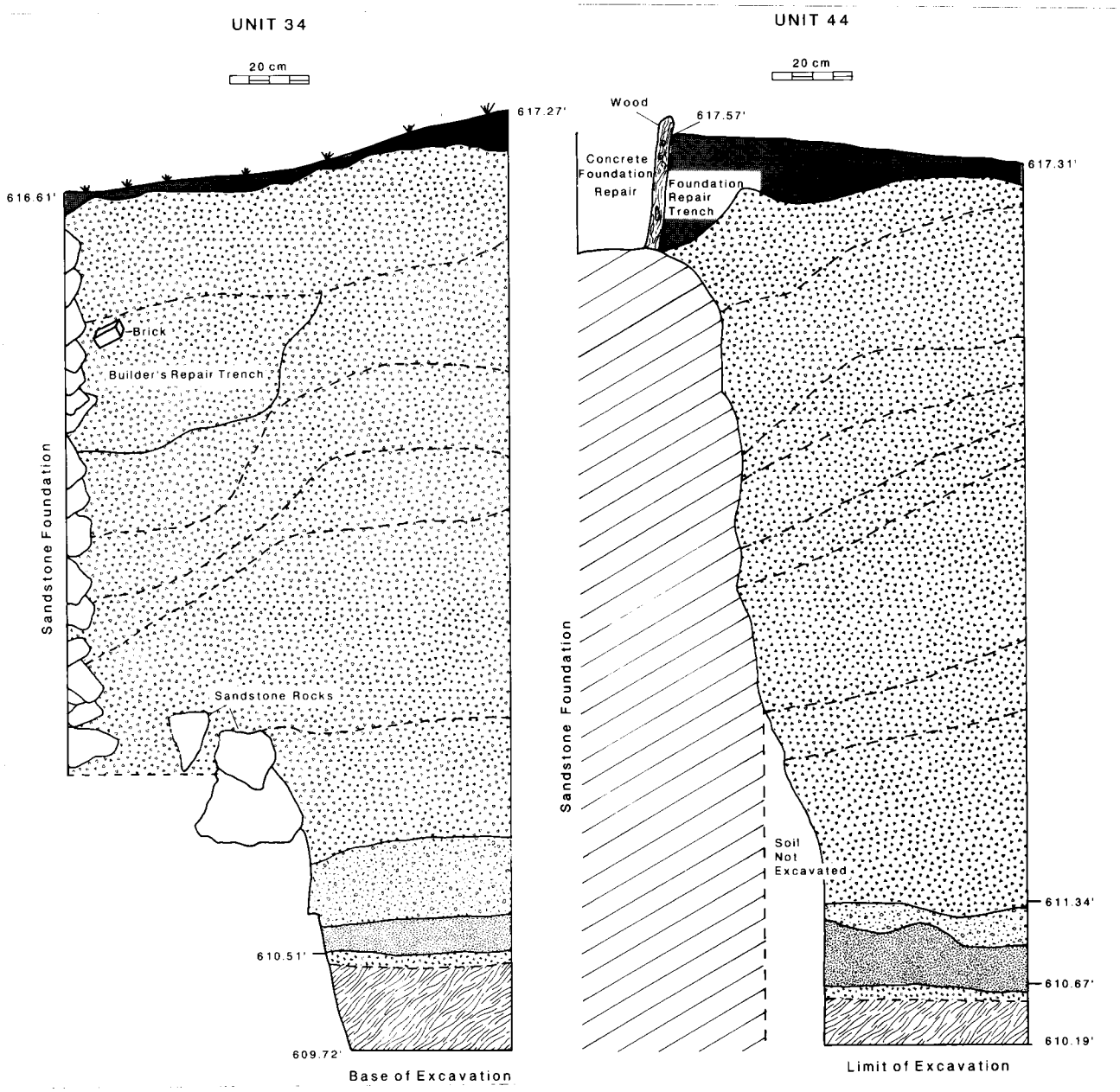


Figure 12. Profile, west wall, Units 31, 32, 33.



STRATUM 11: Brown laminated silt.
STRATUM 15: Dark gray/burned layer.
STRATUM 1: Dark brown/black loam.
STRATUM 14: Yellow/brown mottled sandy loam.
STRATUM 8a: Dark grayish brown loam.
STRATUM 8b: Olive brown silty clay loam.

STRATUM 1: Dark brown/black loam.
STRATUM 11: Brown laminated silt.
STRATUM 14: Yellow/brown mottled sandy loam.
STRATUM 15: Dark gray/burned layer.
STRATUM 8a: Dark grayish brown loam.
STRATUM 8b: Olive brown silty clay loam.

Figure 13. Profiles, north walls, Units 34, 44.

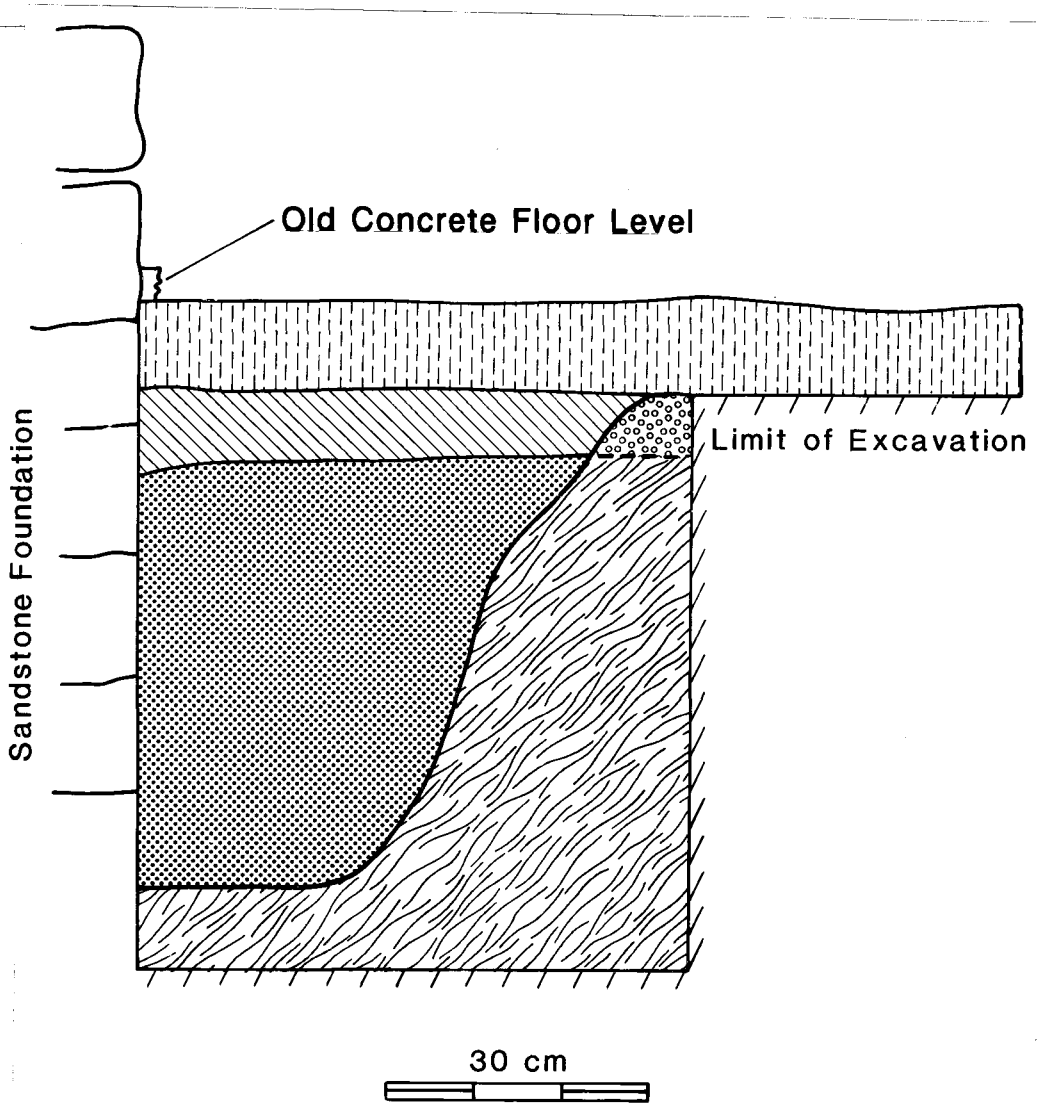


Figure 14. Profile, east wall, Unit 13.

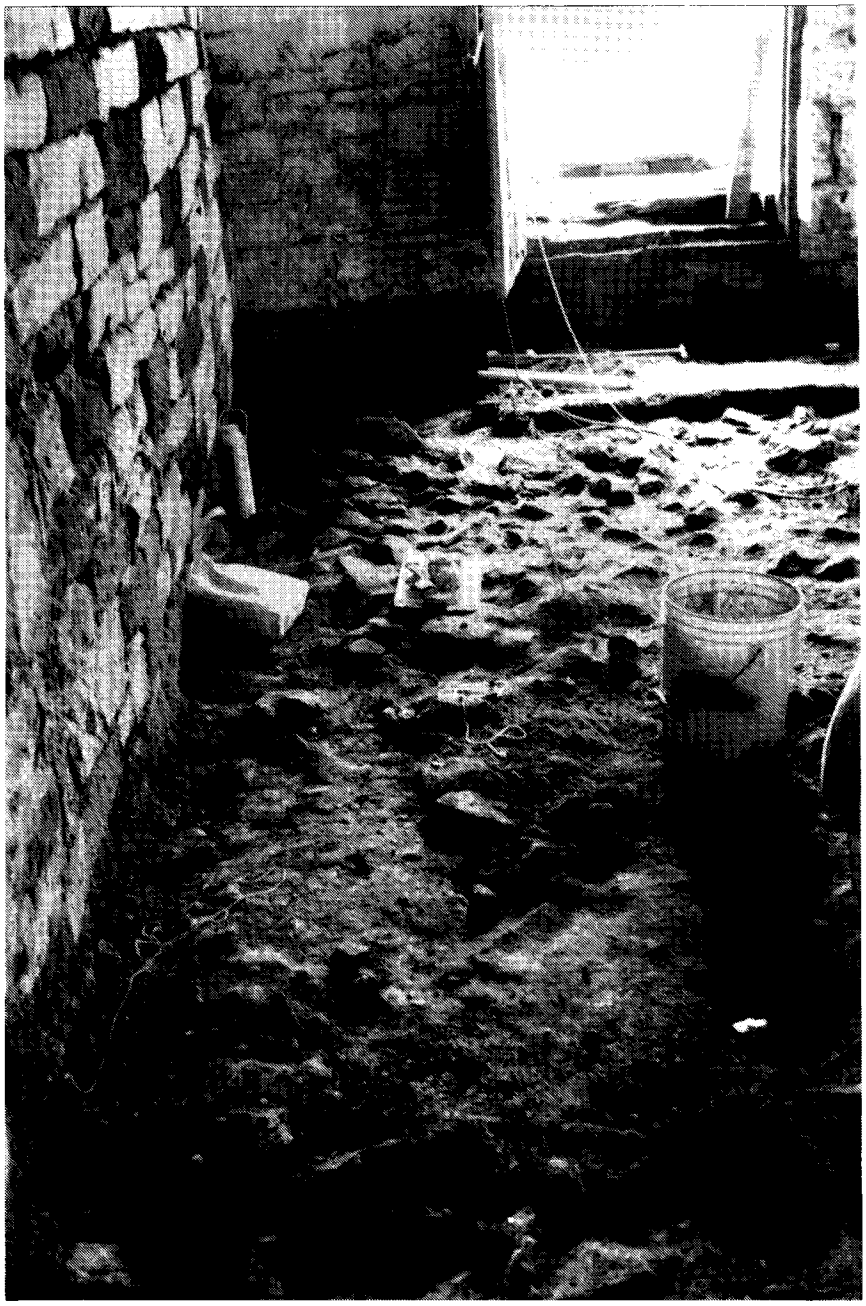
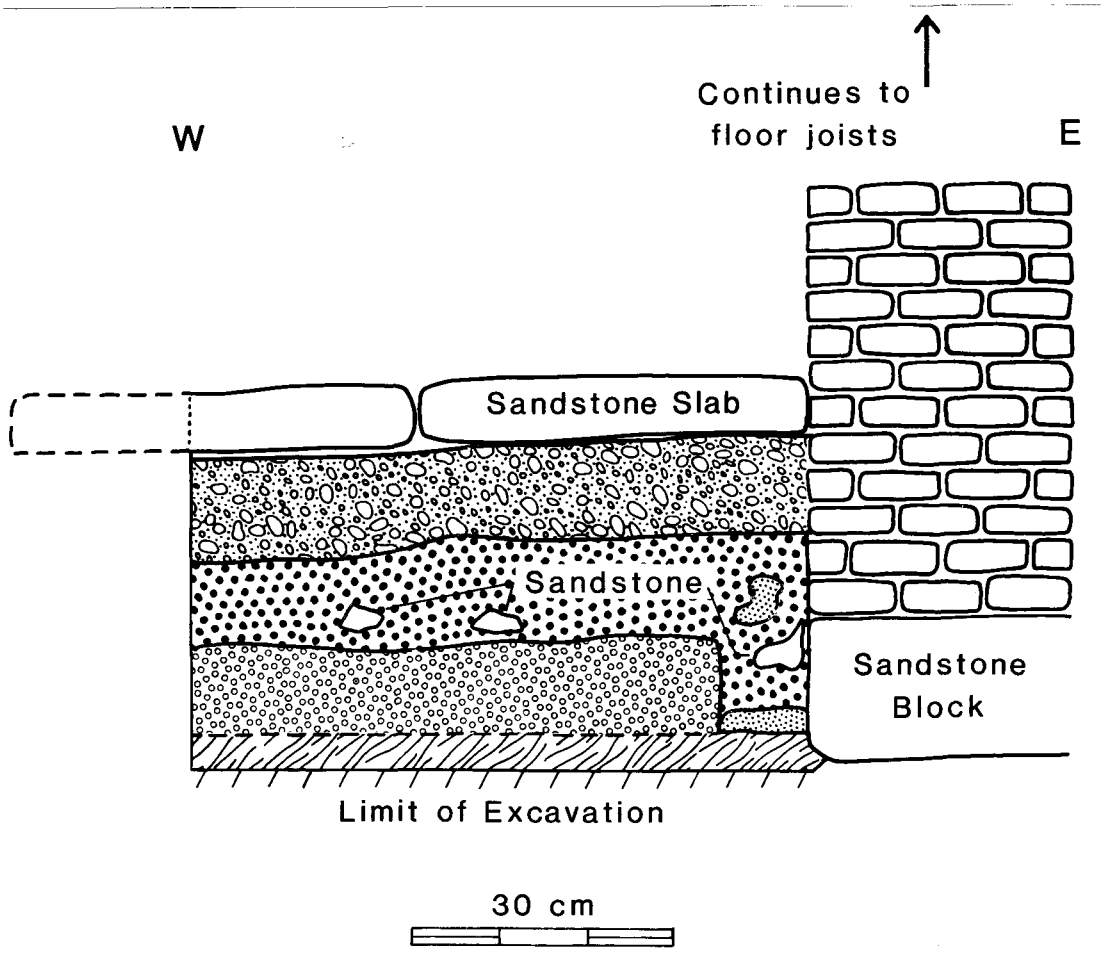


Figure 15. Rubble layer, Room 003.



Loose sand and pea gravel

Mixed fill

Sand

A HORIZON: Dark grayish brown loam

B HORIZON: Olive brown silty clay loam

Figure 16. Profile, north wall, Unit 26.

Figure 17. South wall foundation.

Figure 18. West wall foundation.

Figure 19. North wall foundation.

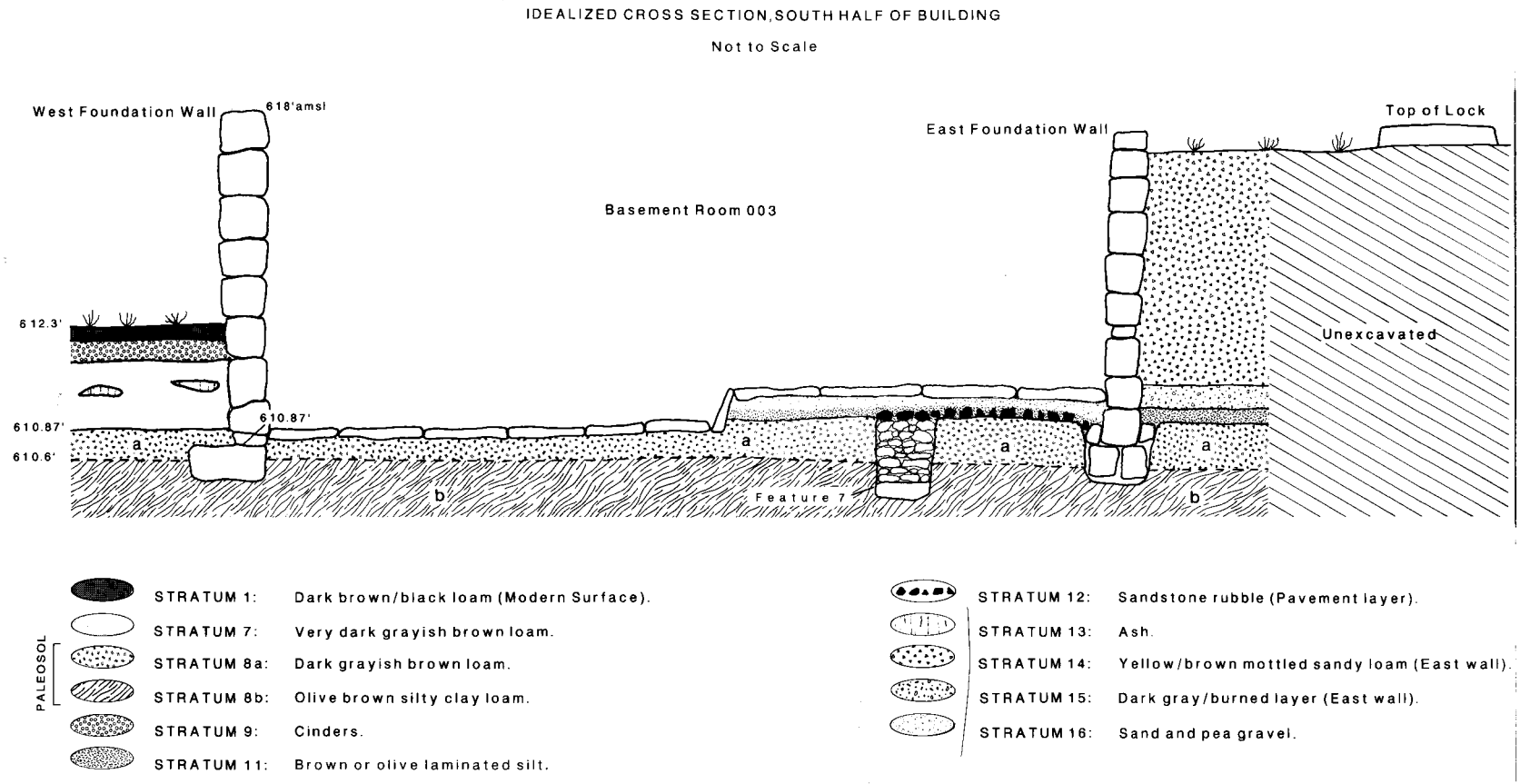


Figure 20a. Composite stratigraphic profile, north view.

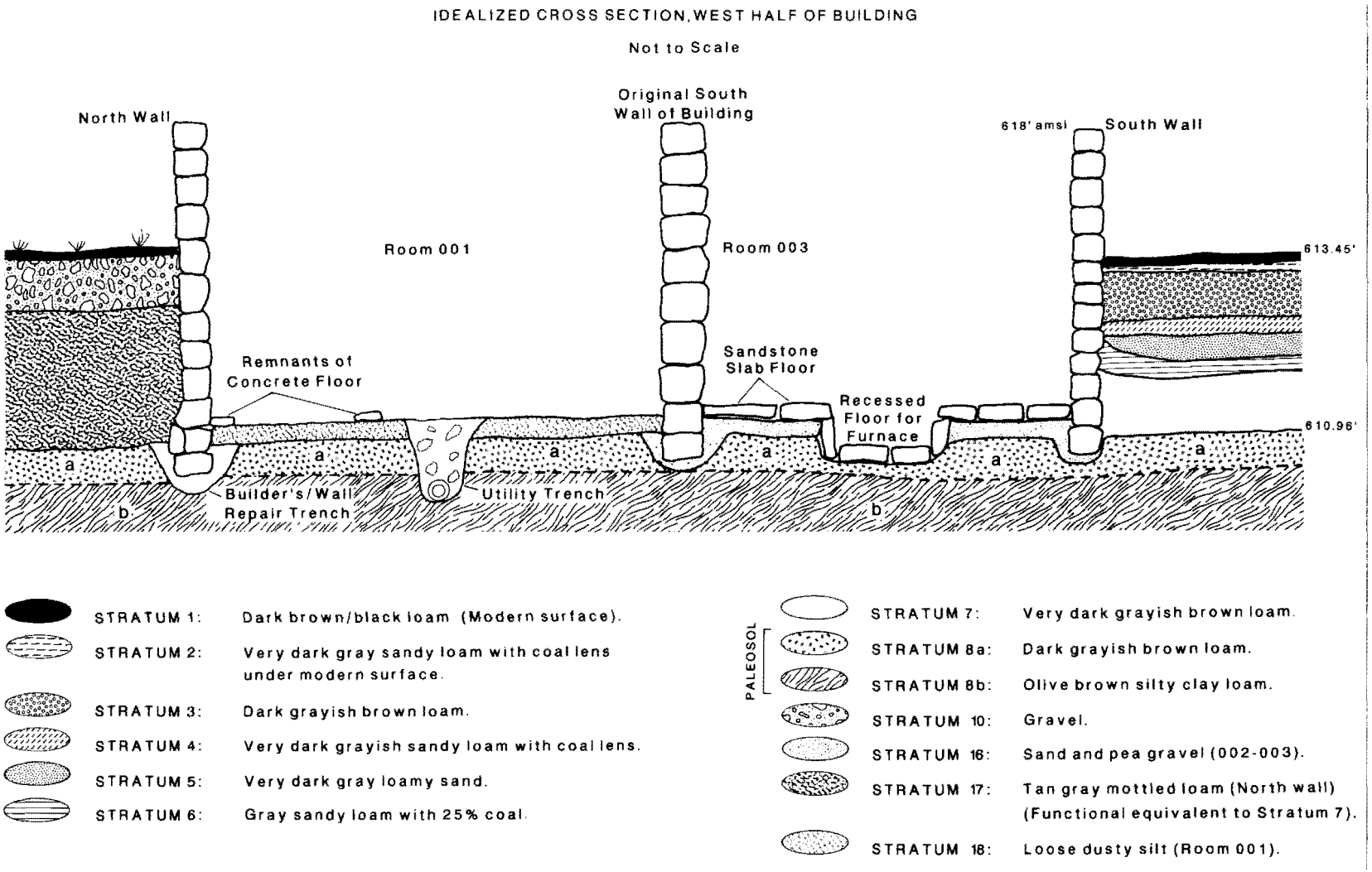


Figure 20b. Composite stratigraphic profile, east view.

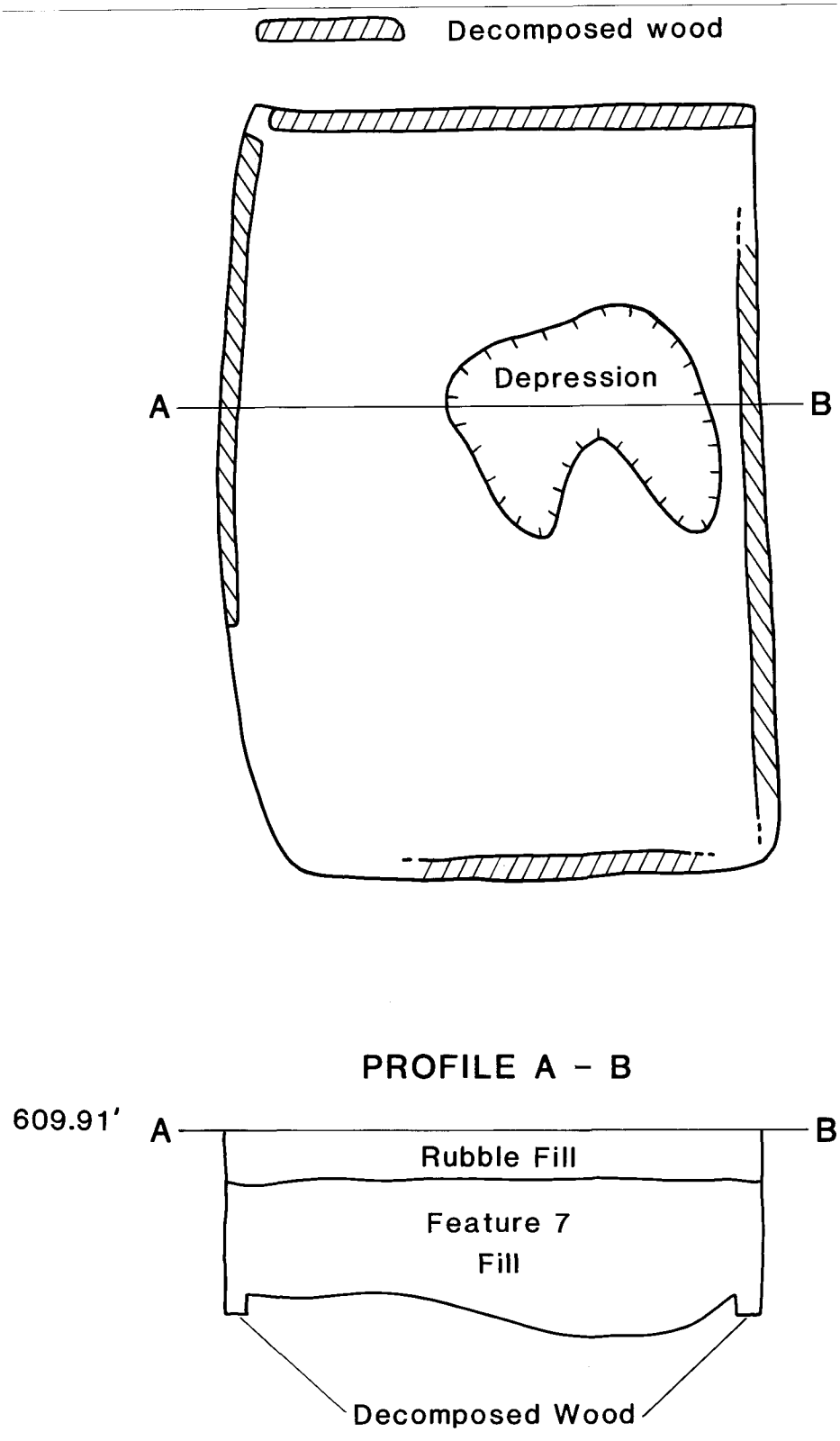
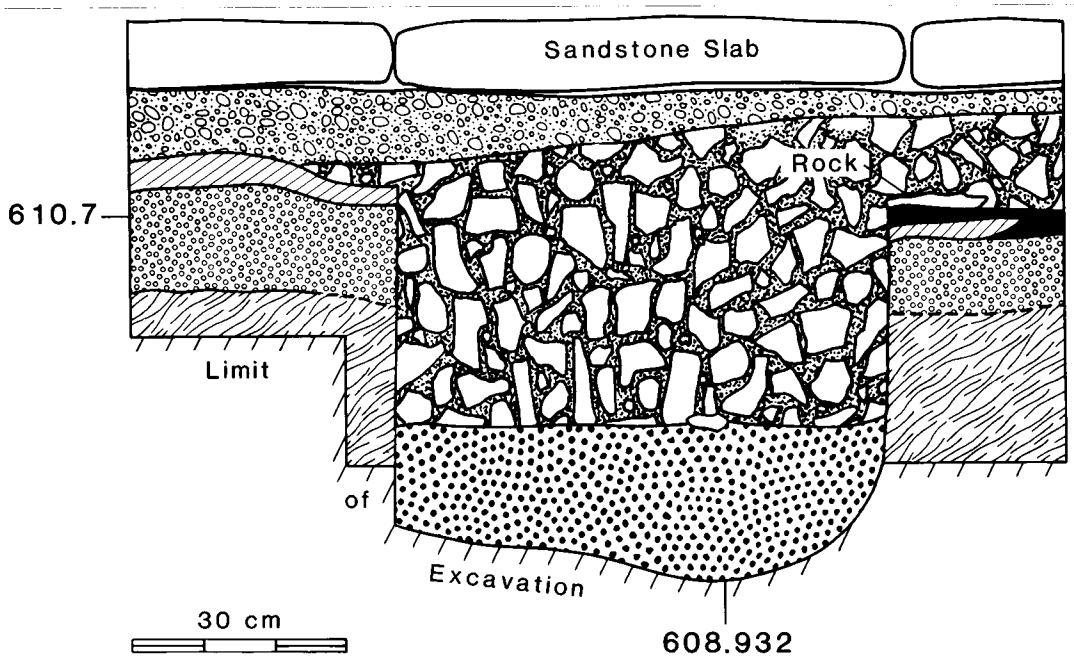


Figure 21. Feature 7, plan view and profile.




Sand and pea gravel


Clay


Sandstone rubble fill with red brick fragments


Burned Soil


Feature 7 Fill


A HORIZON: Dark grayish brown loam


B HORIZON: Olive brown silty clay loam

Figure 22. Feature 7, profile, Units 16, 17.

Figure 23. Bottles.

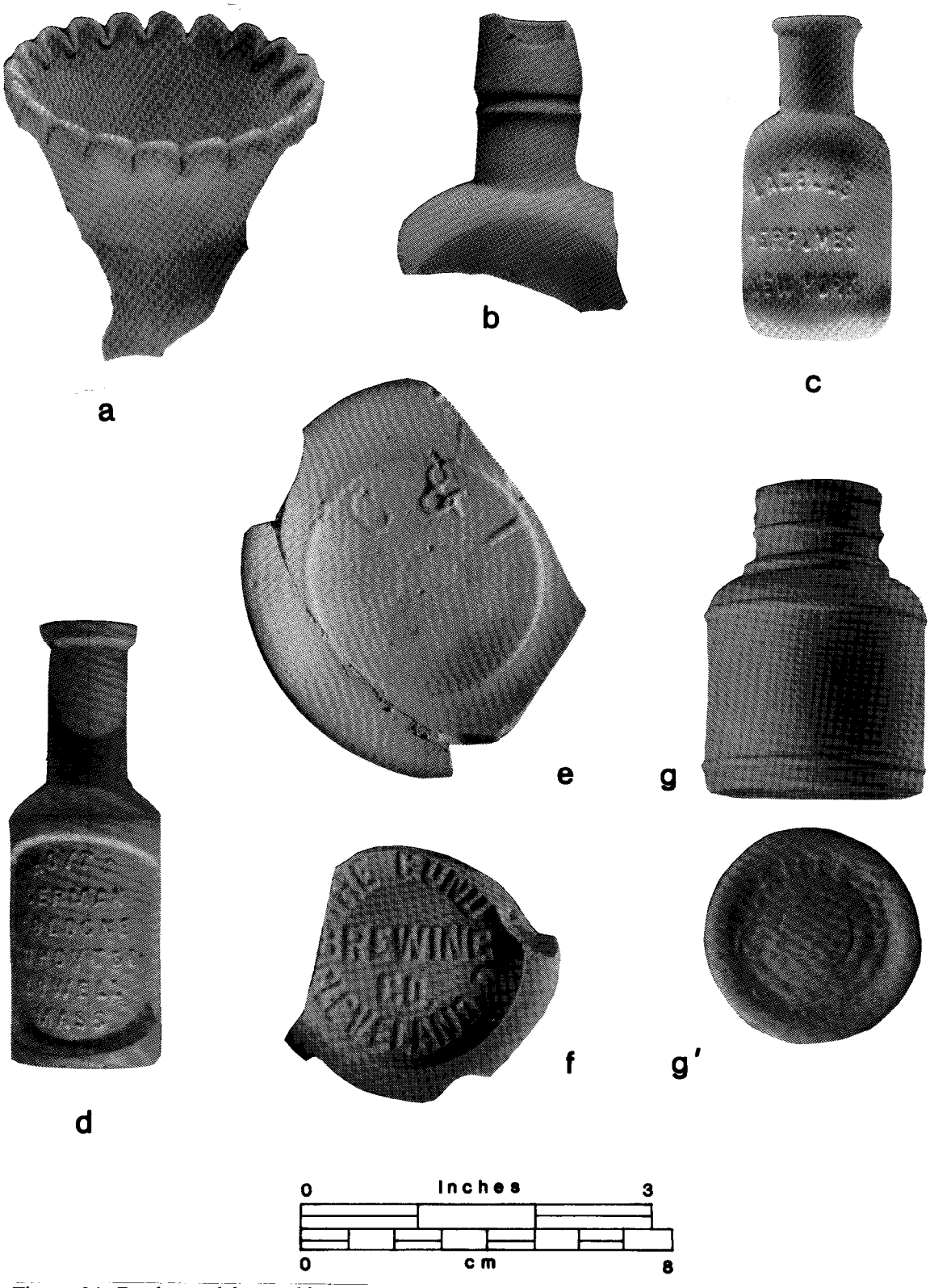


Figure 24. Bottles and lamp chimney.

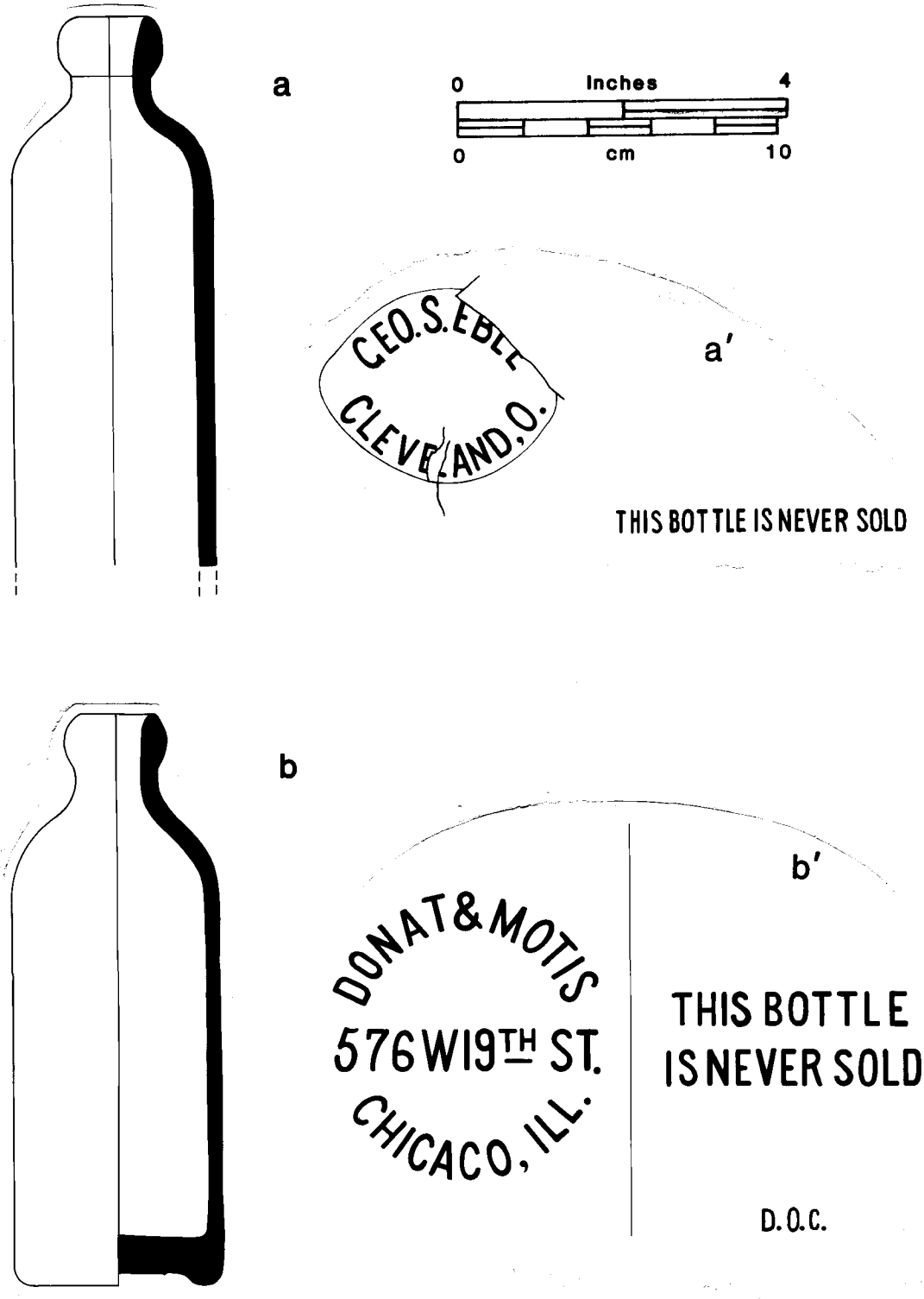
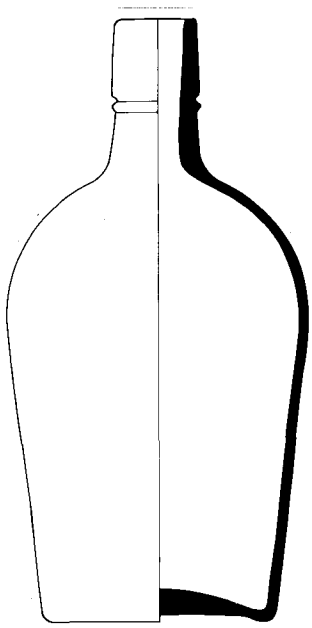
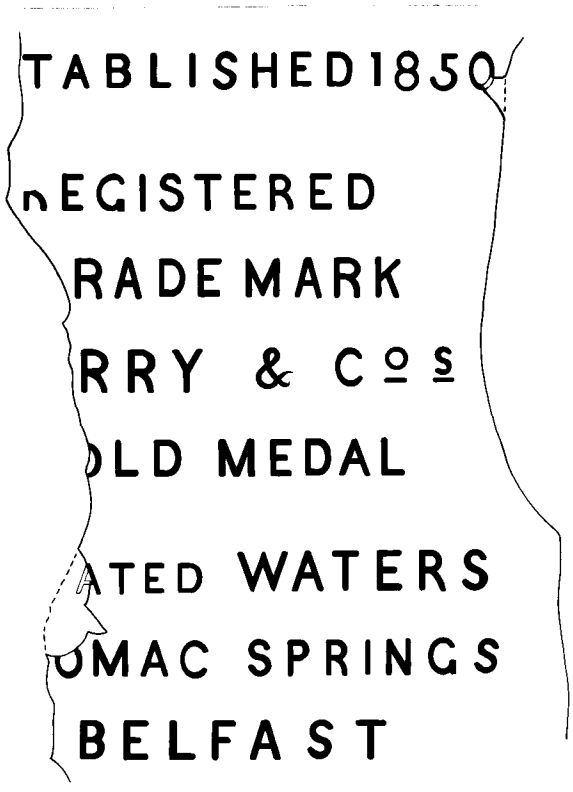


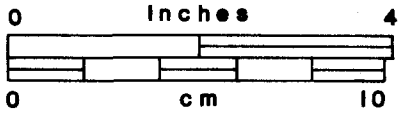
Figure 25. Embossed soda water bottles.

a



b





c

Figure 26. Bottles.

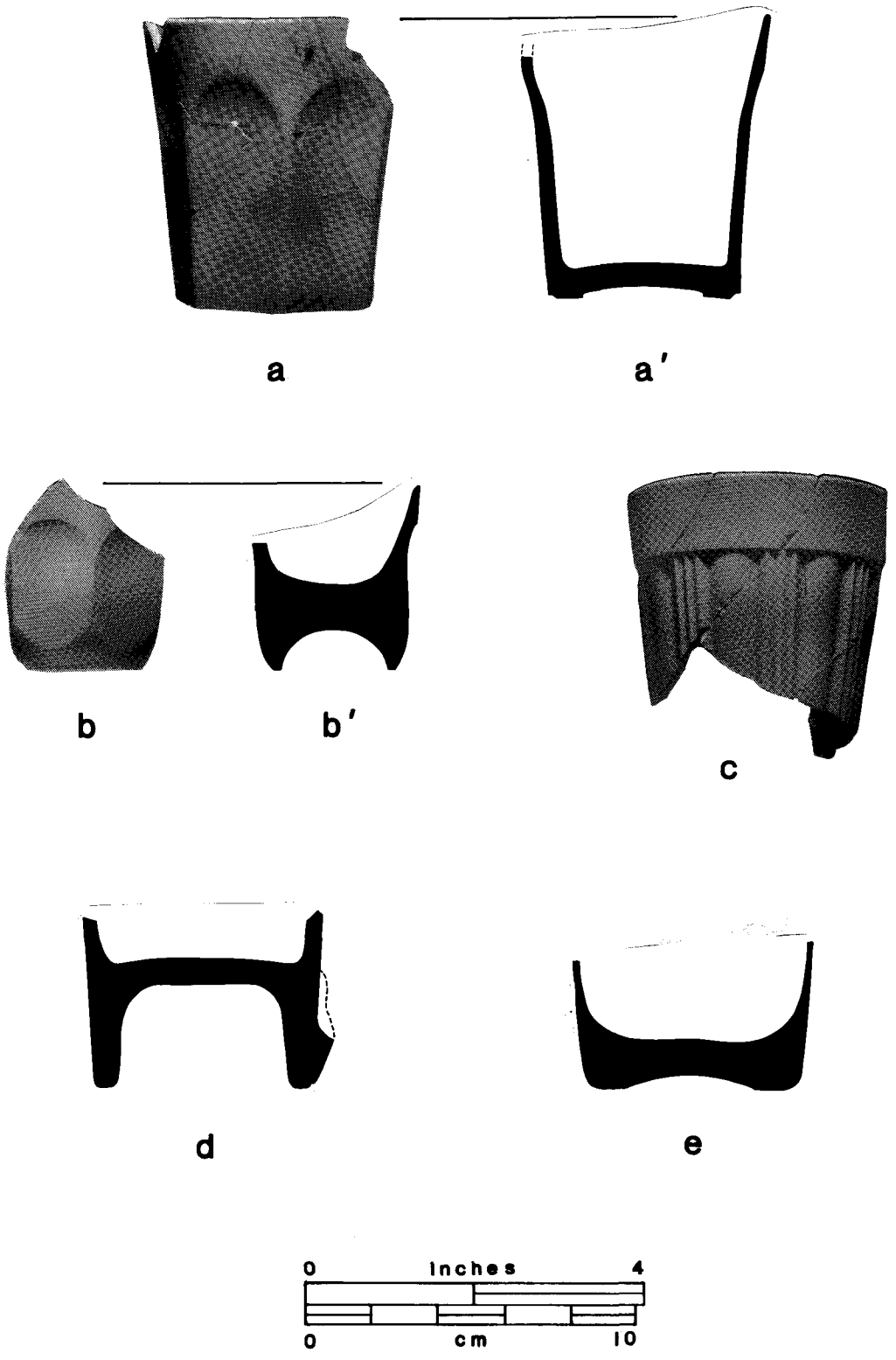


Figure 27. Tumblers.

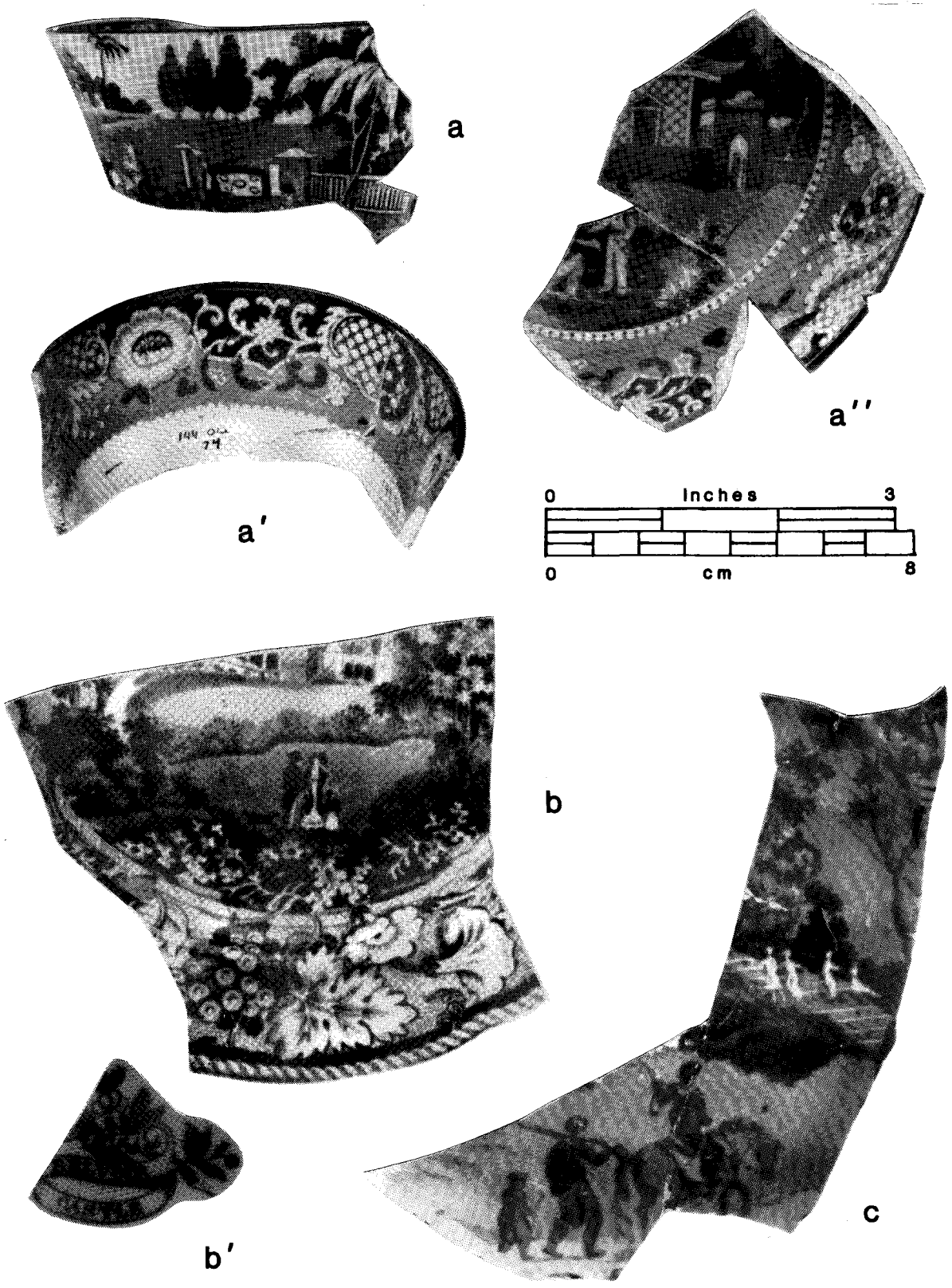


Figure 28. Dark blue transfer print patterns.

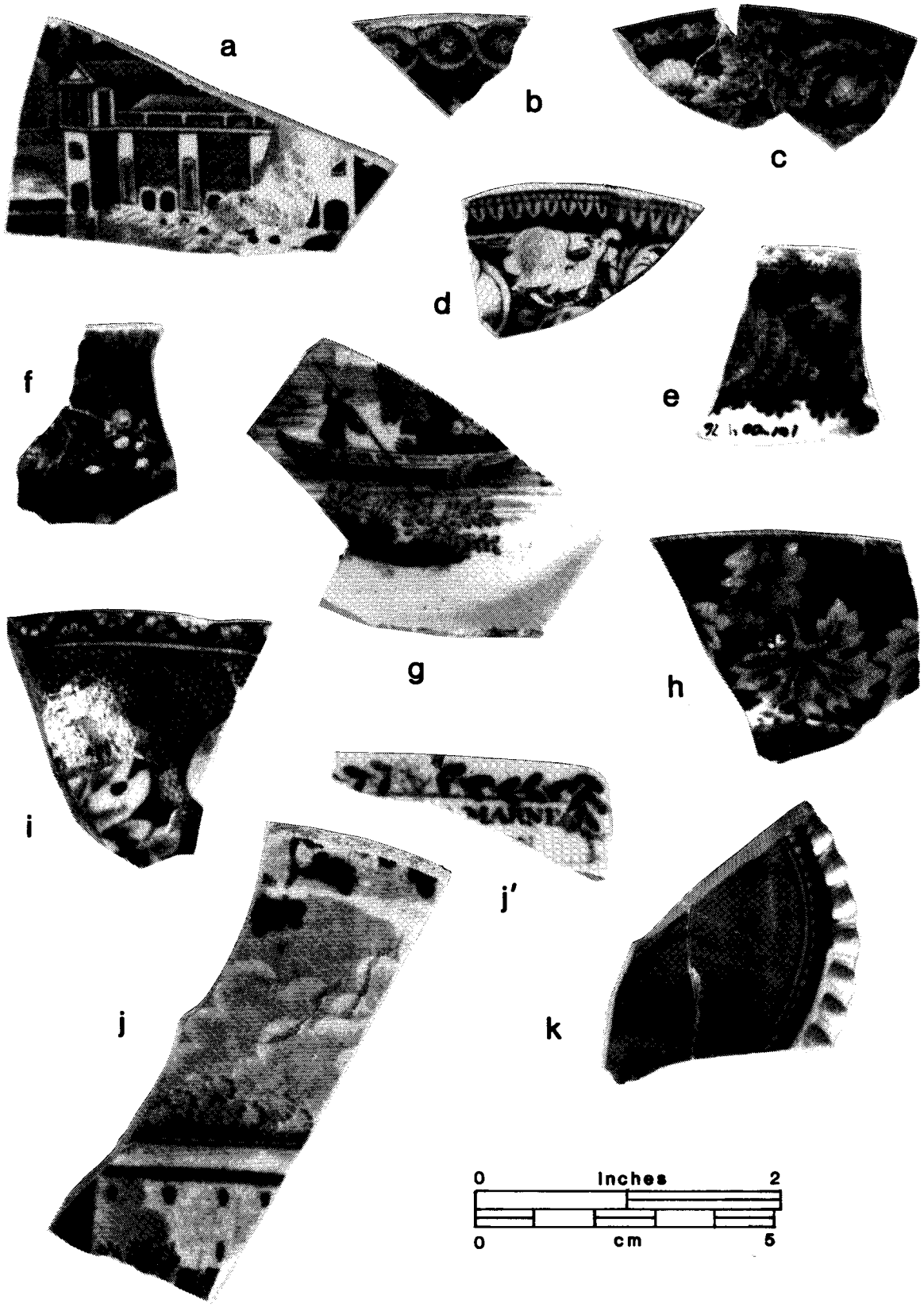


Figure 29. Dark blue transfer print patterns.

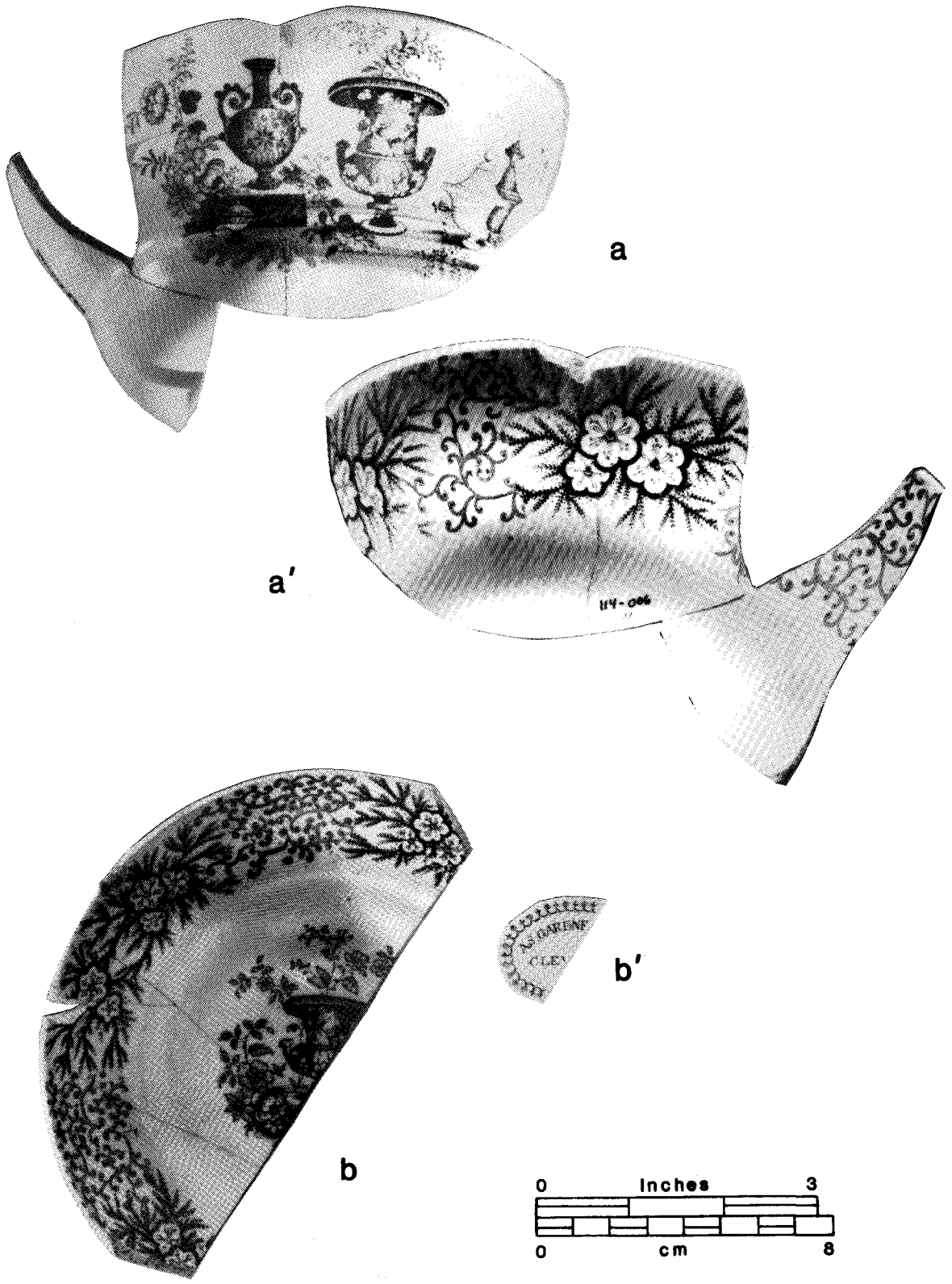


Figure 30. "Antique Vases" pattern transfer print.

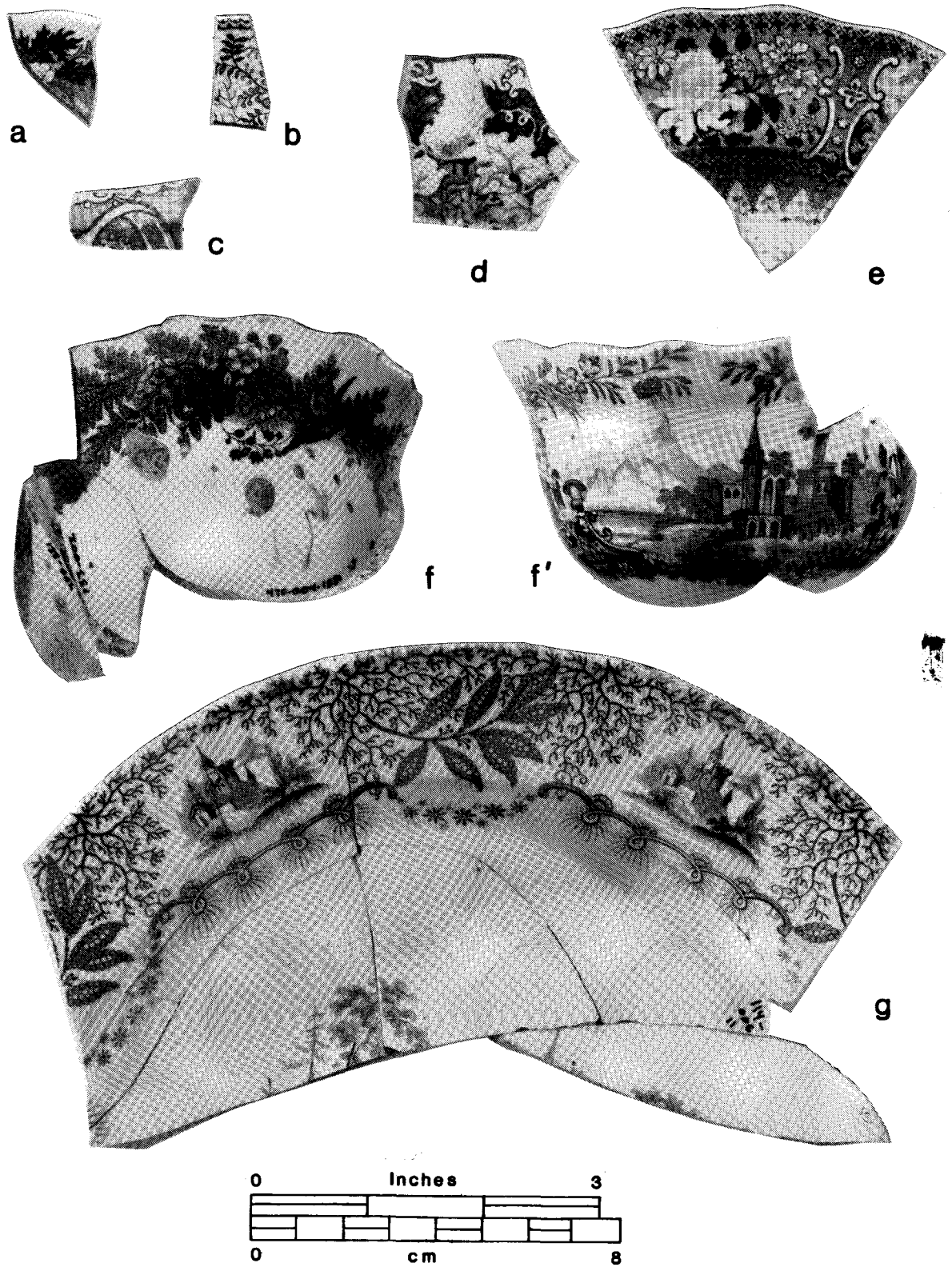


Figure 31. Brown transfer print patterns.

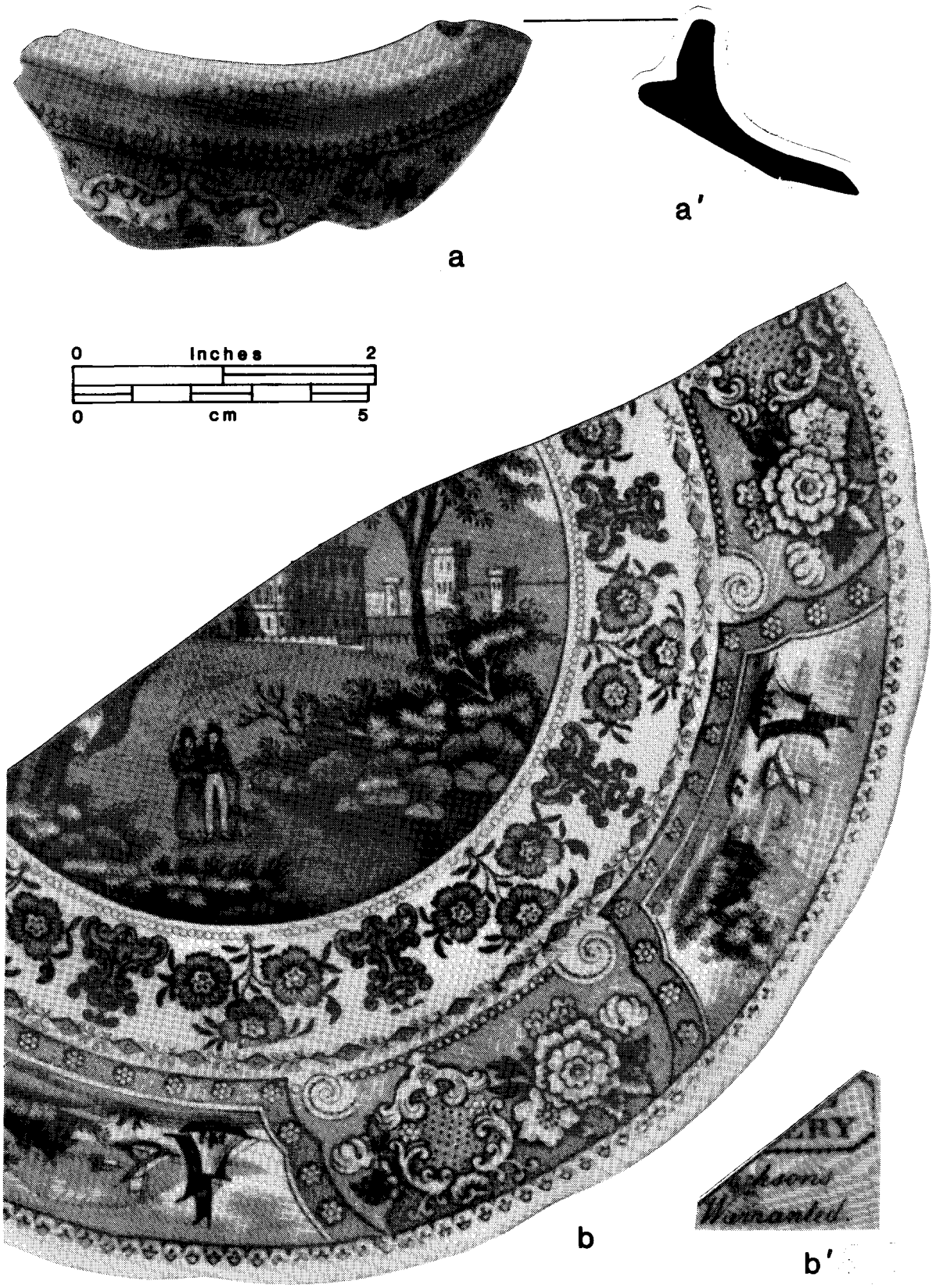


Figure 32. Mulberry transfer print patterns.

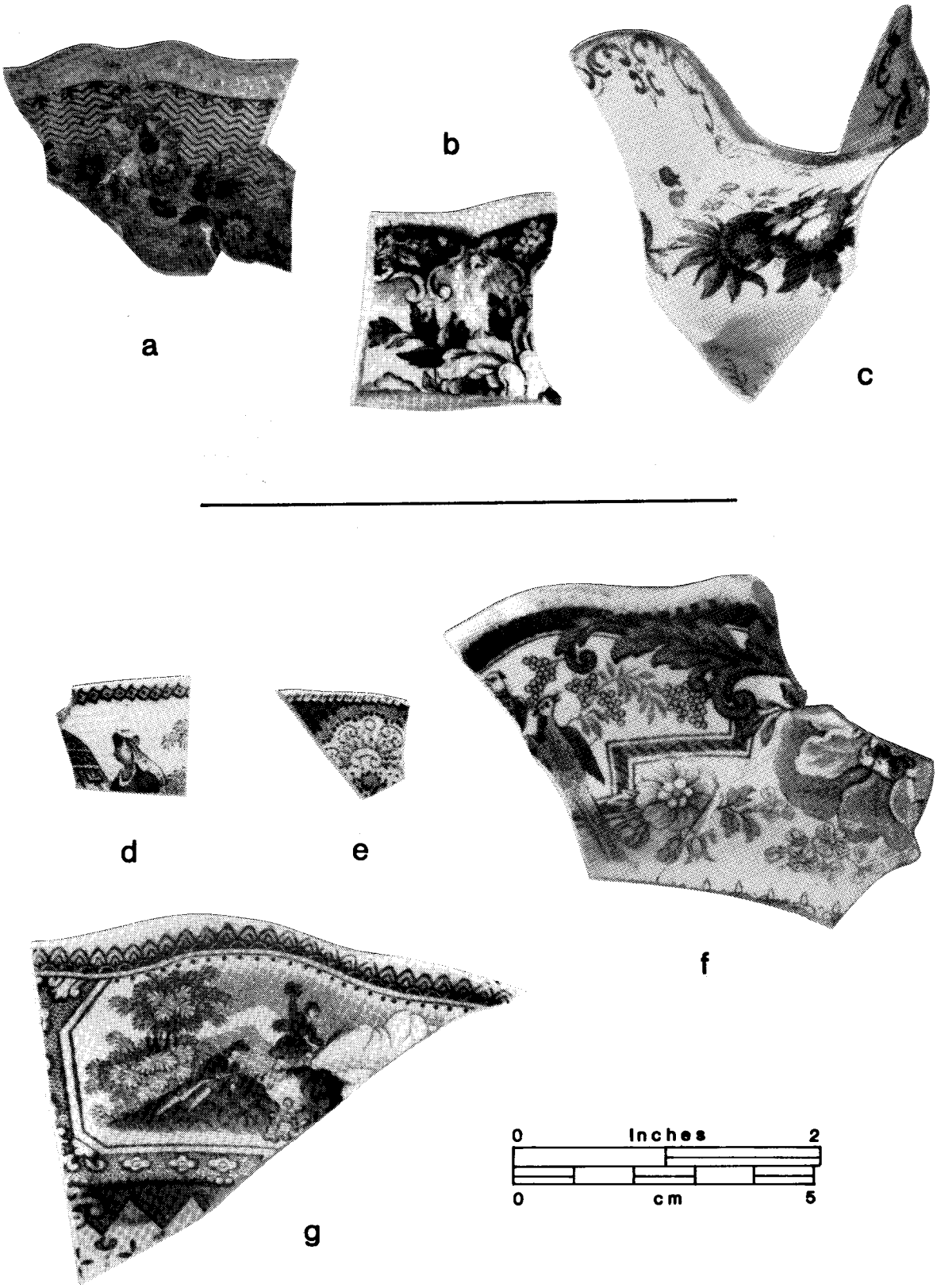


Figure 33. Black and mulberry transfer print patterns.

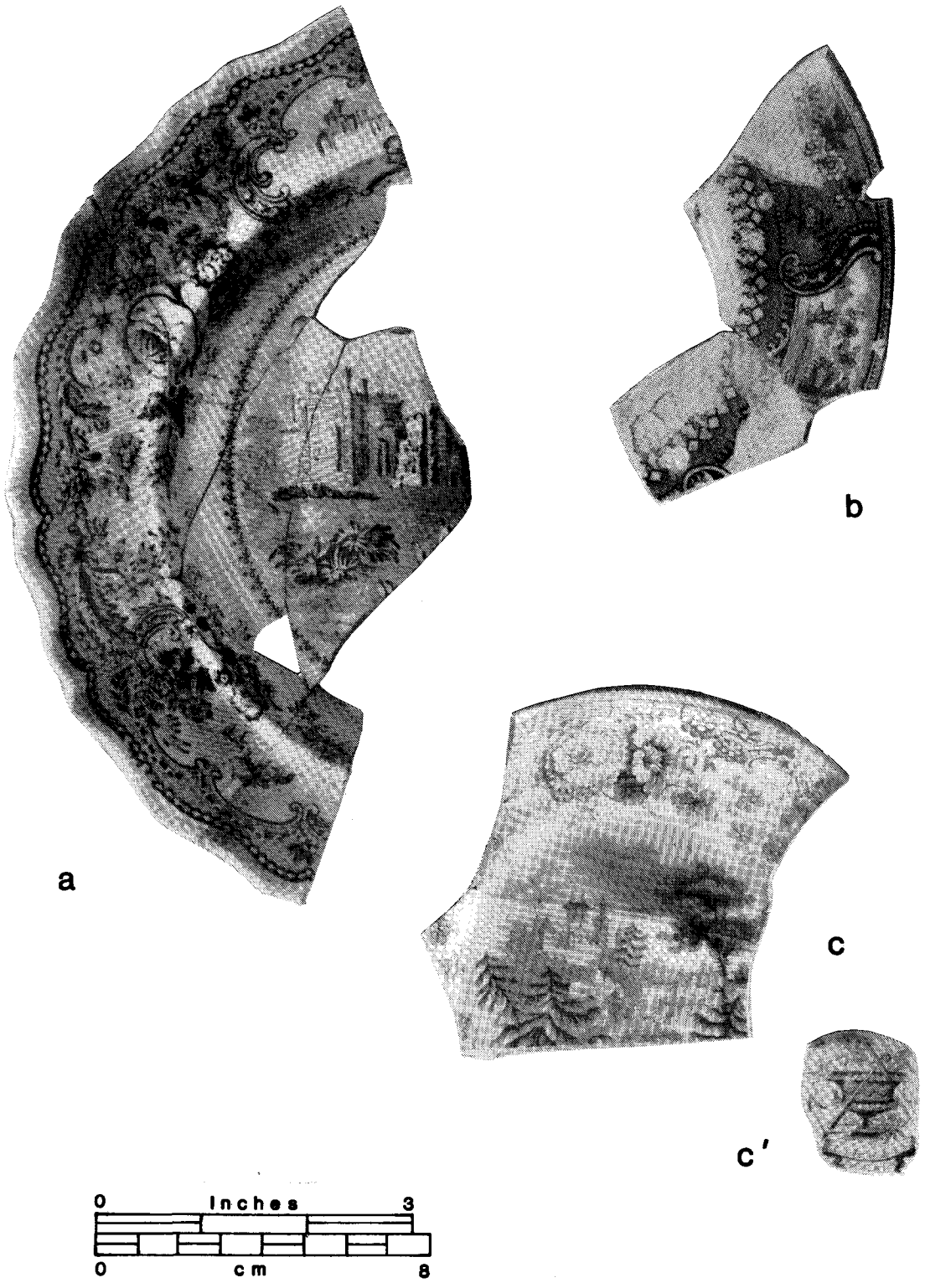


Figure 34. Red transfer print patterns.

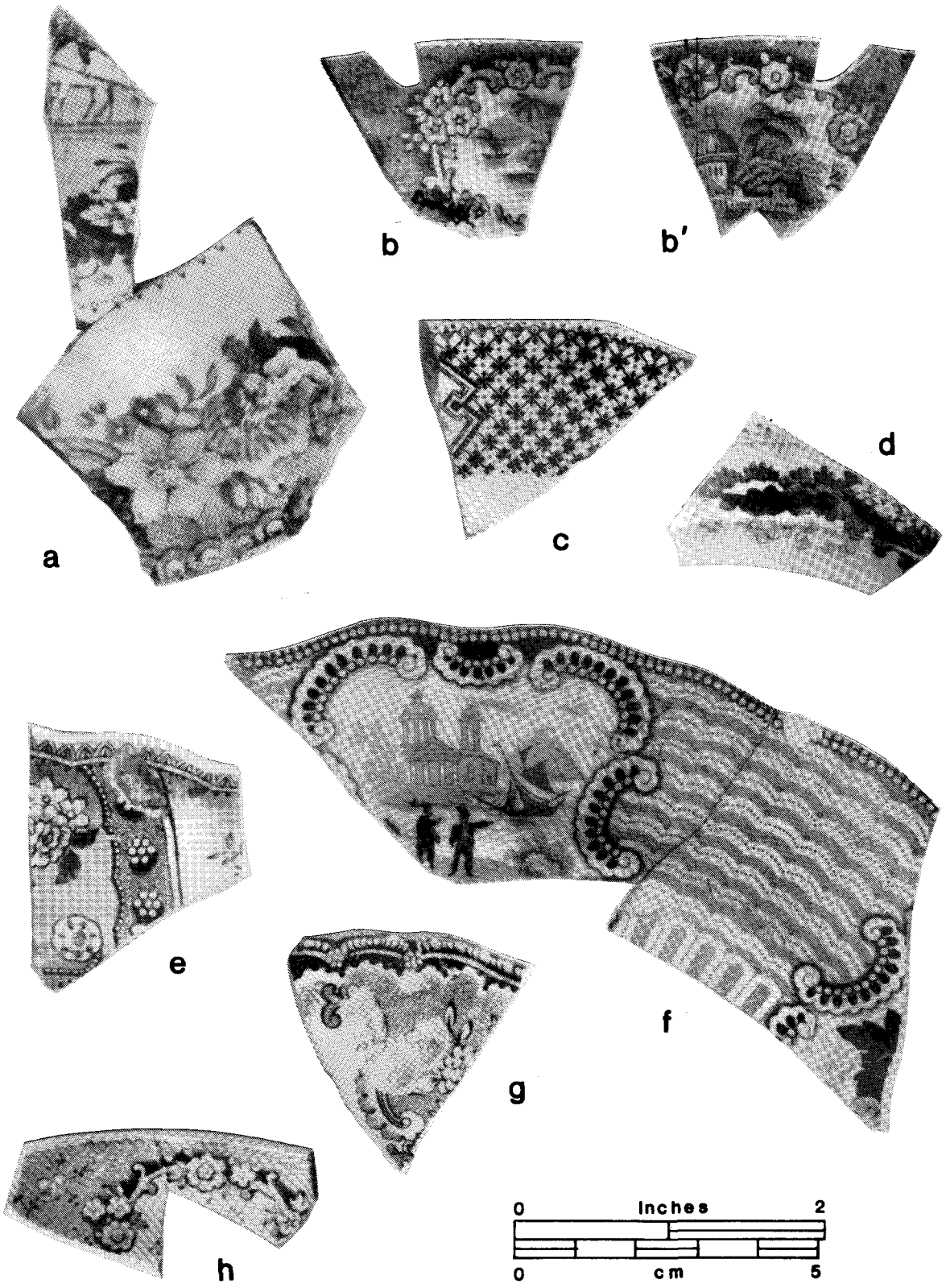


Figure 35. Red transfer print patterns.

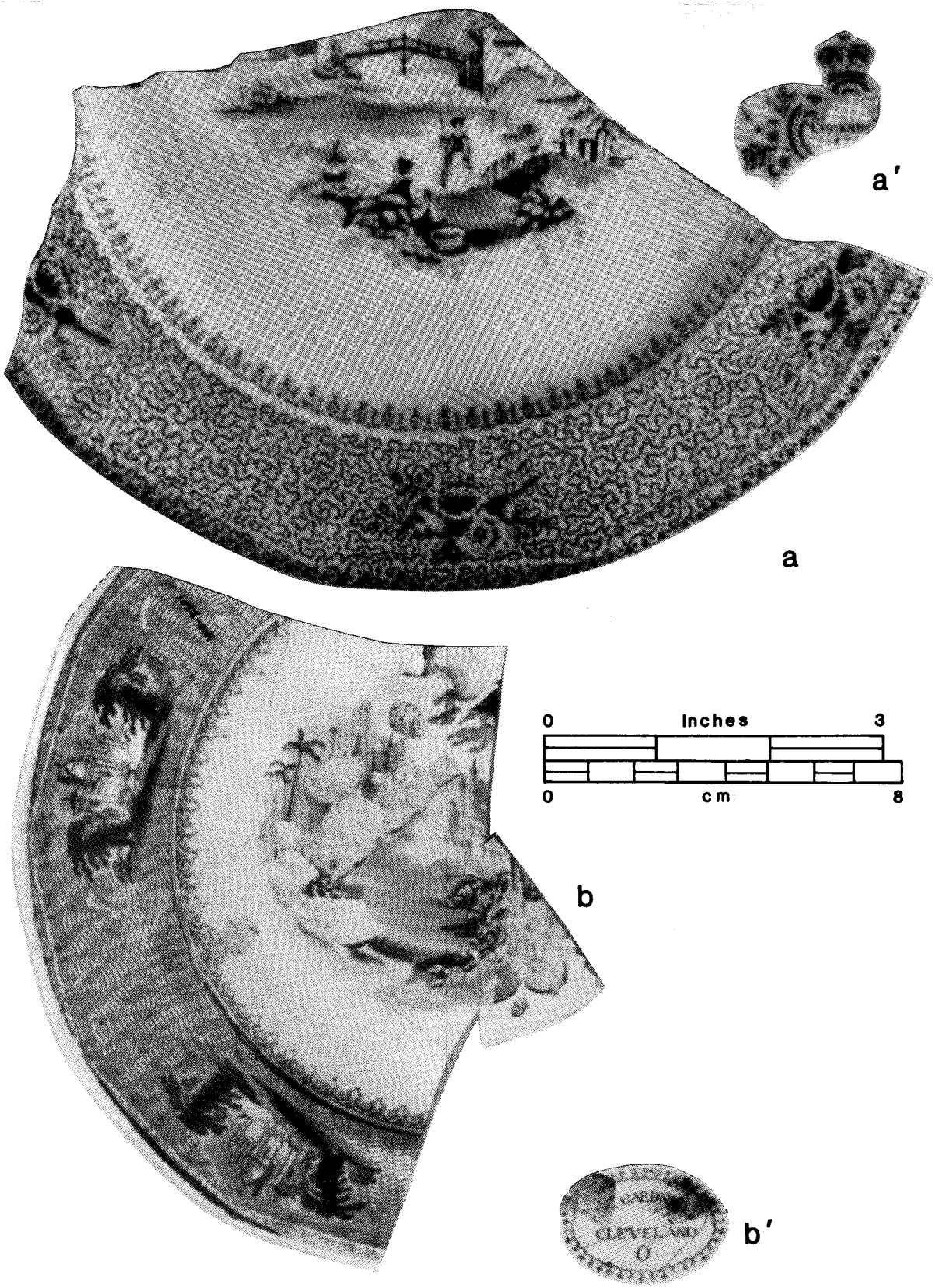


Figure 36. Blue transfer print patterns.

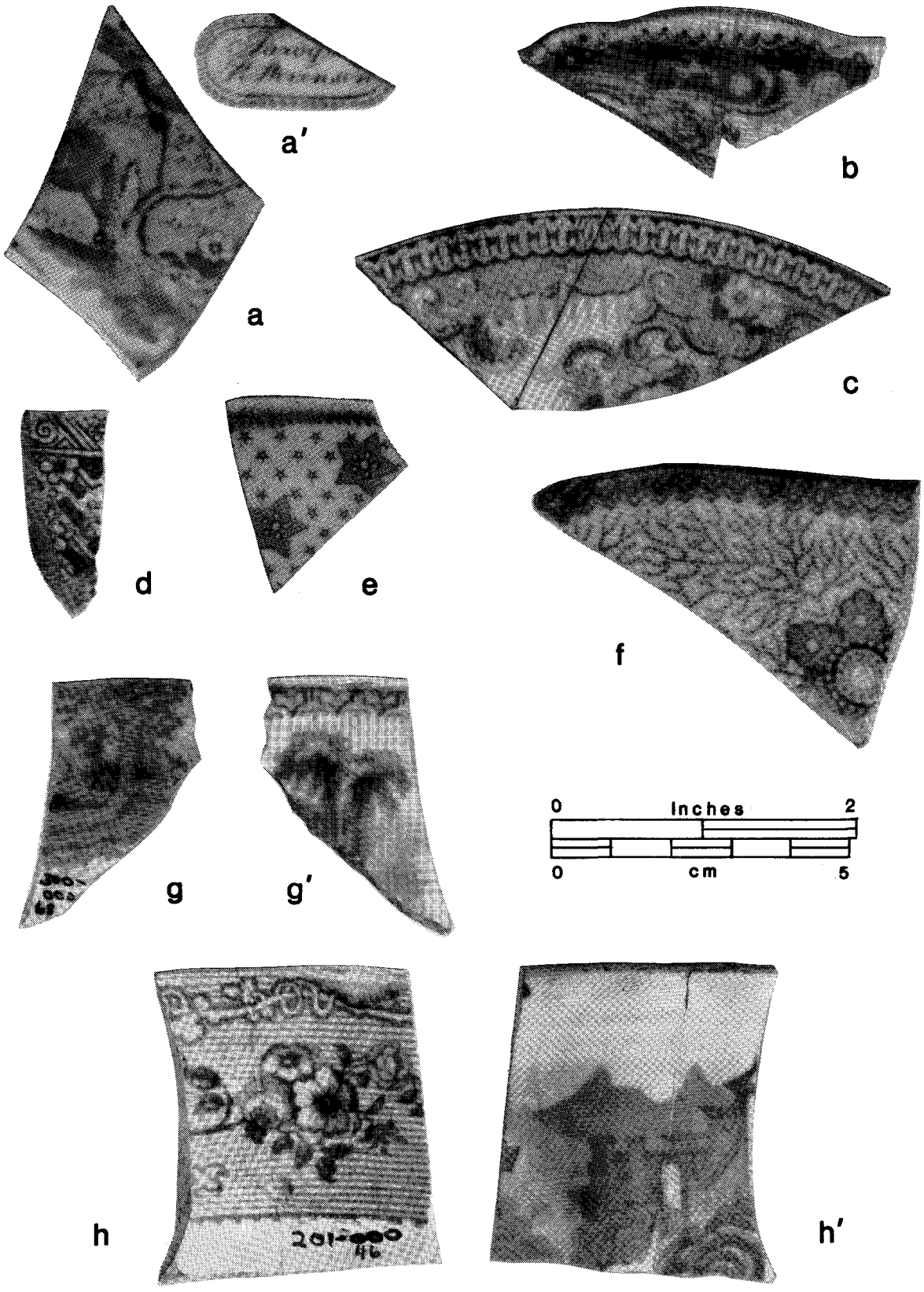


Figure 37. Blue transfer print patterns.

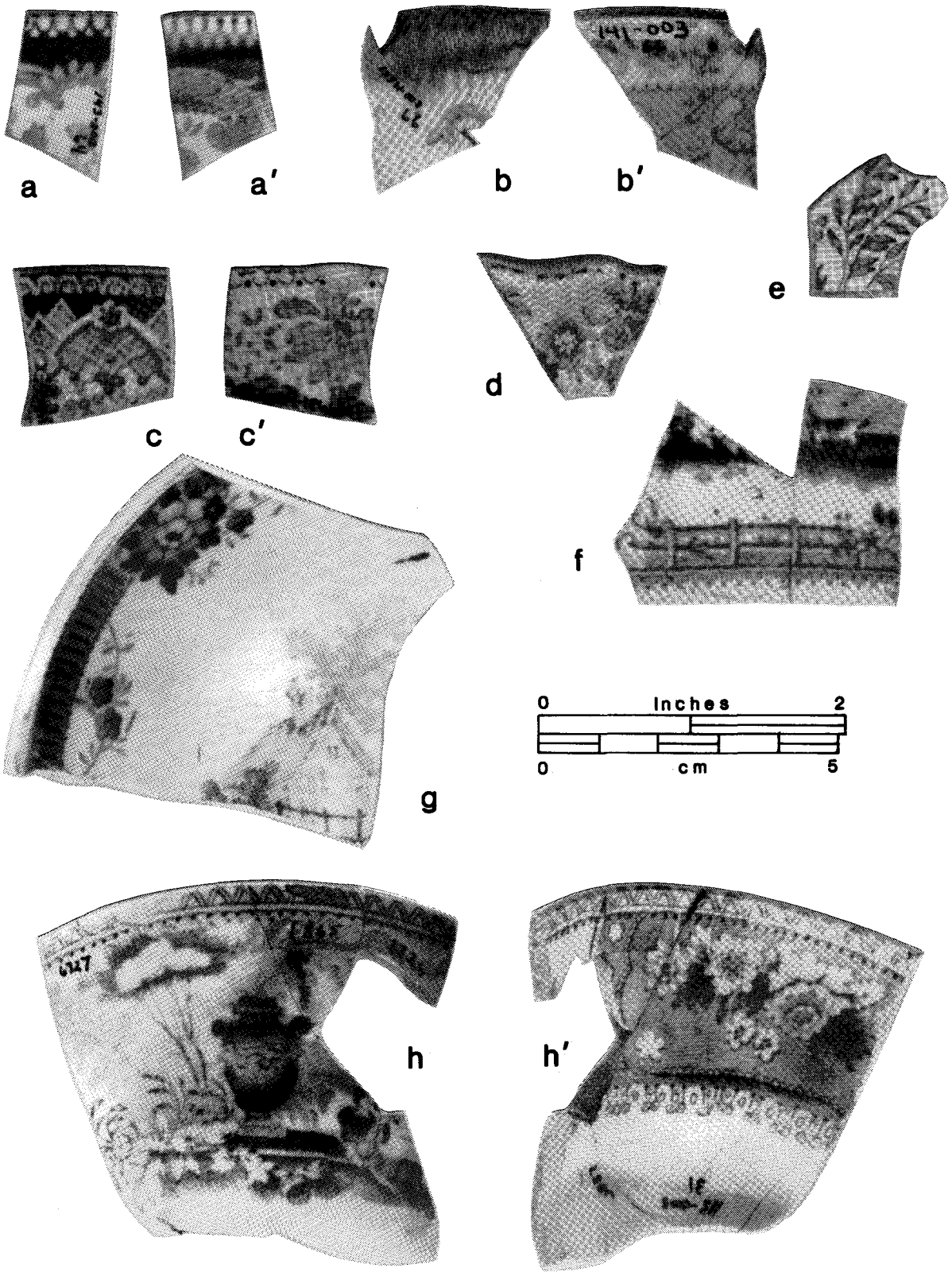


Figure 38. Blue transfer print patterns.

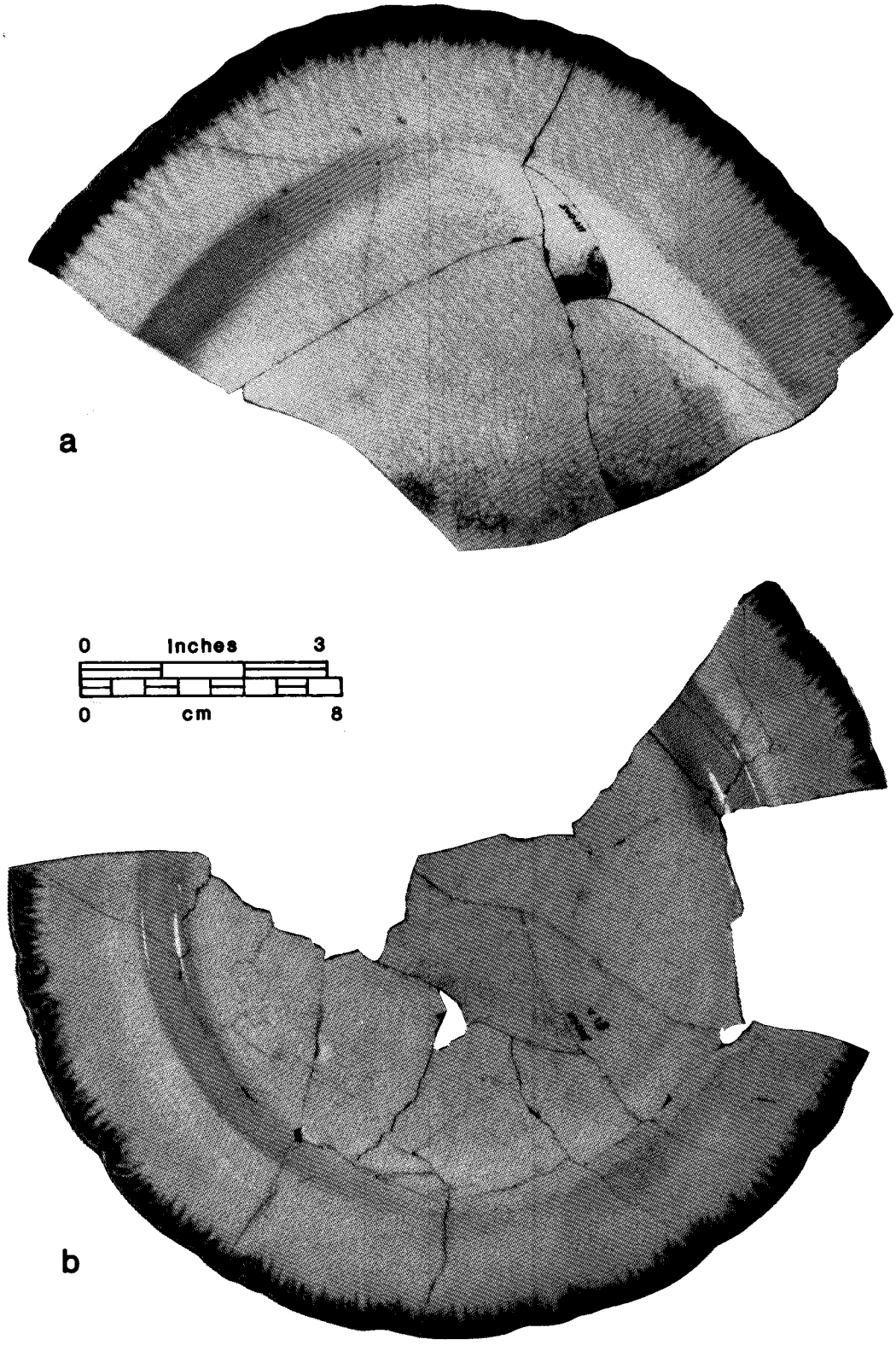


Figure 39. Edge decorated patterns.

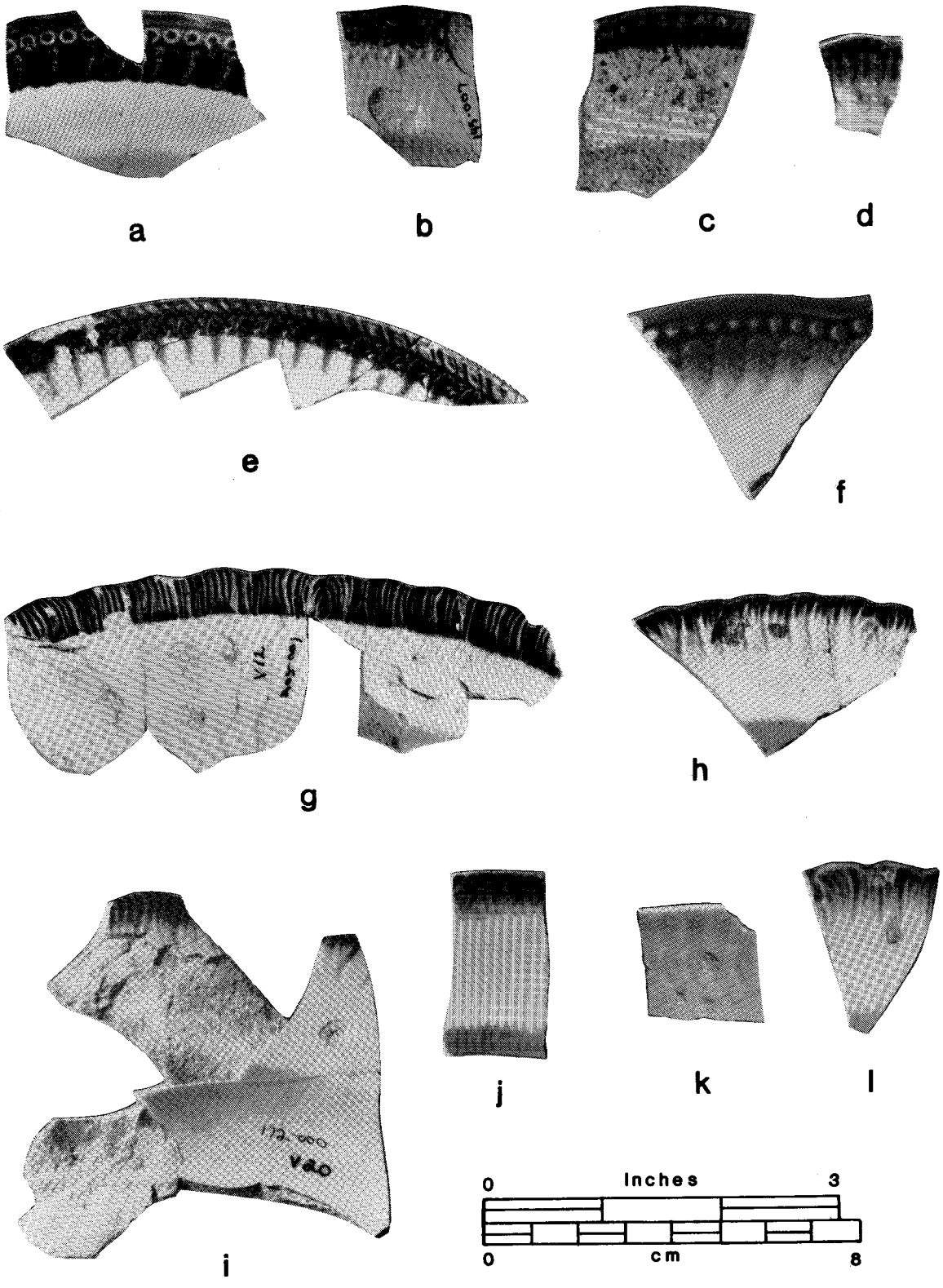


Figure 40. Edge decorated patterns.

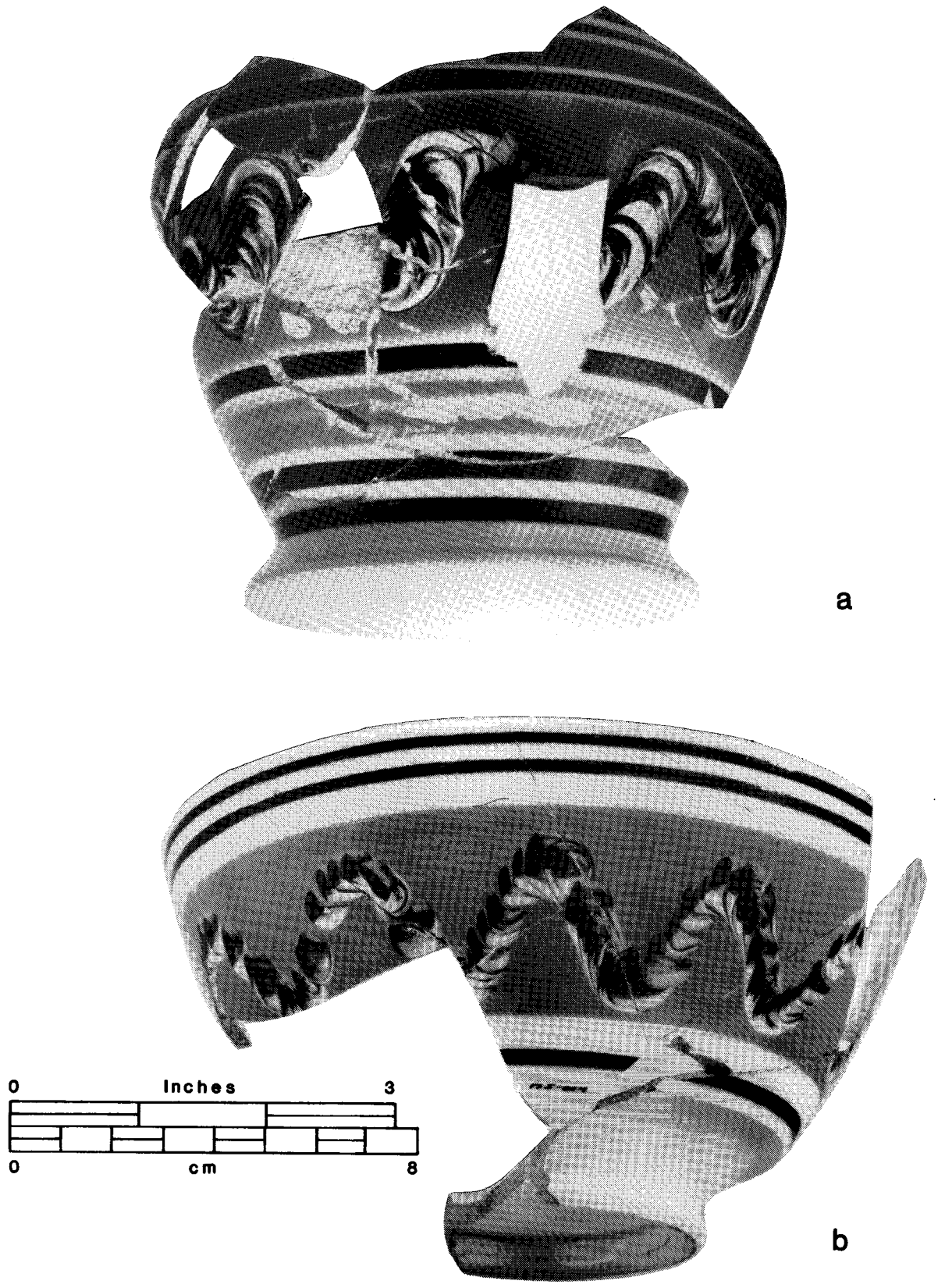


Figure 41. Annular decorated patterns.

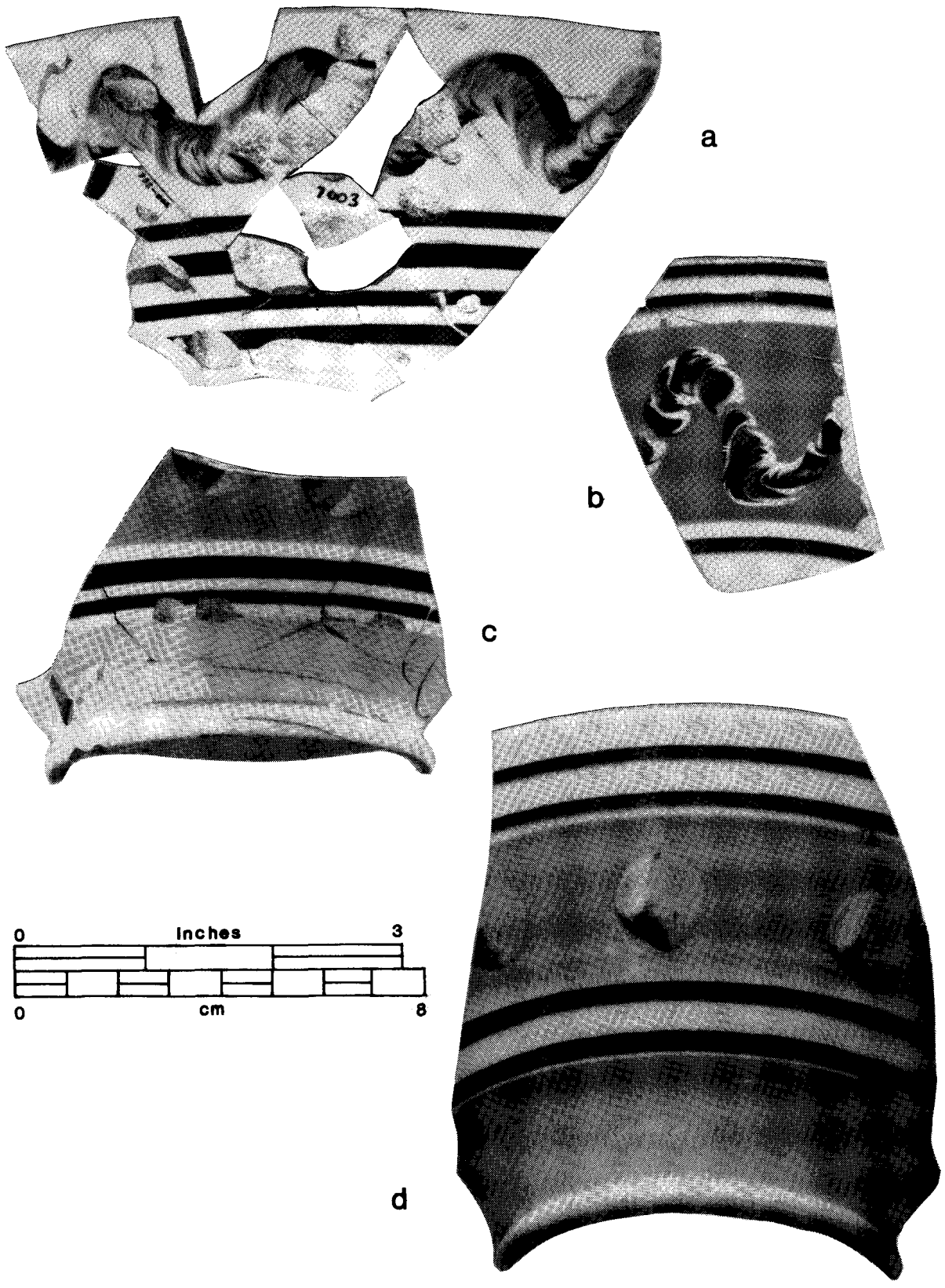


Figure 42. Annular decorated patterns.

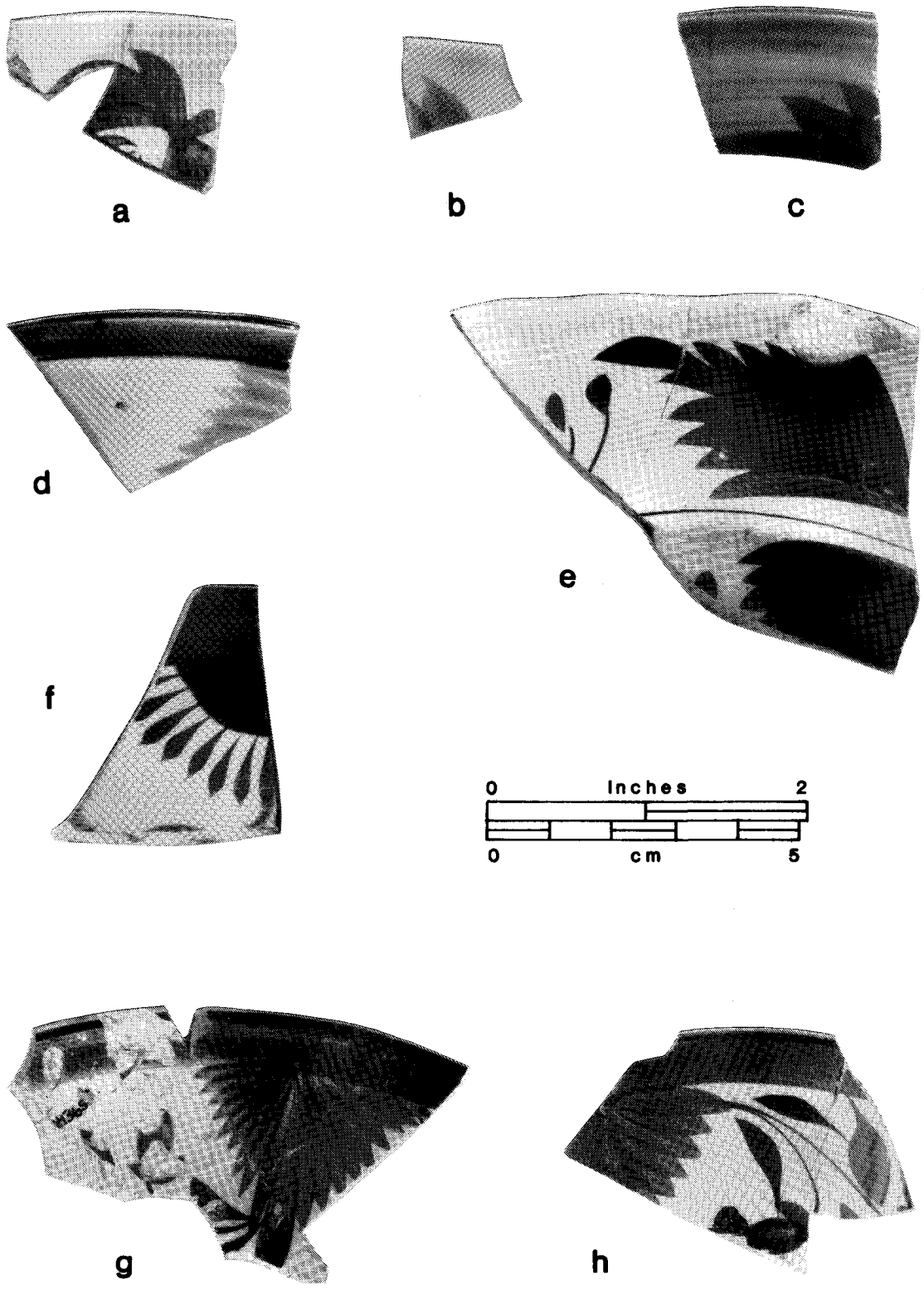


Figure 43. Hand painted patterns.

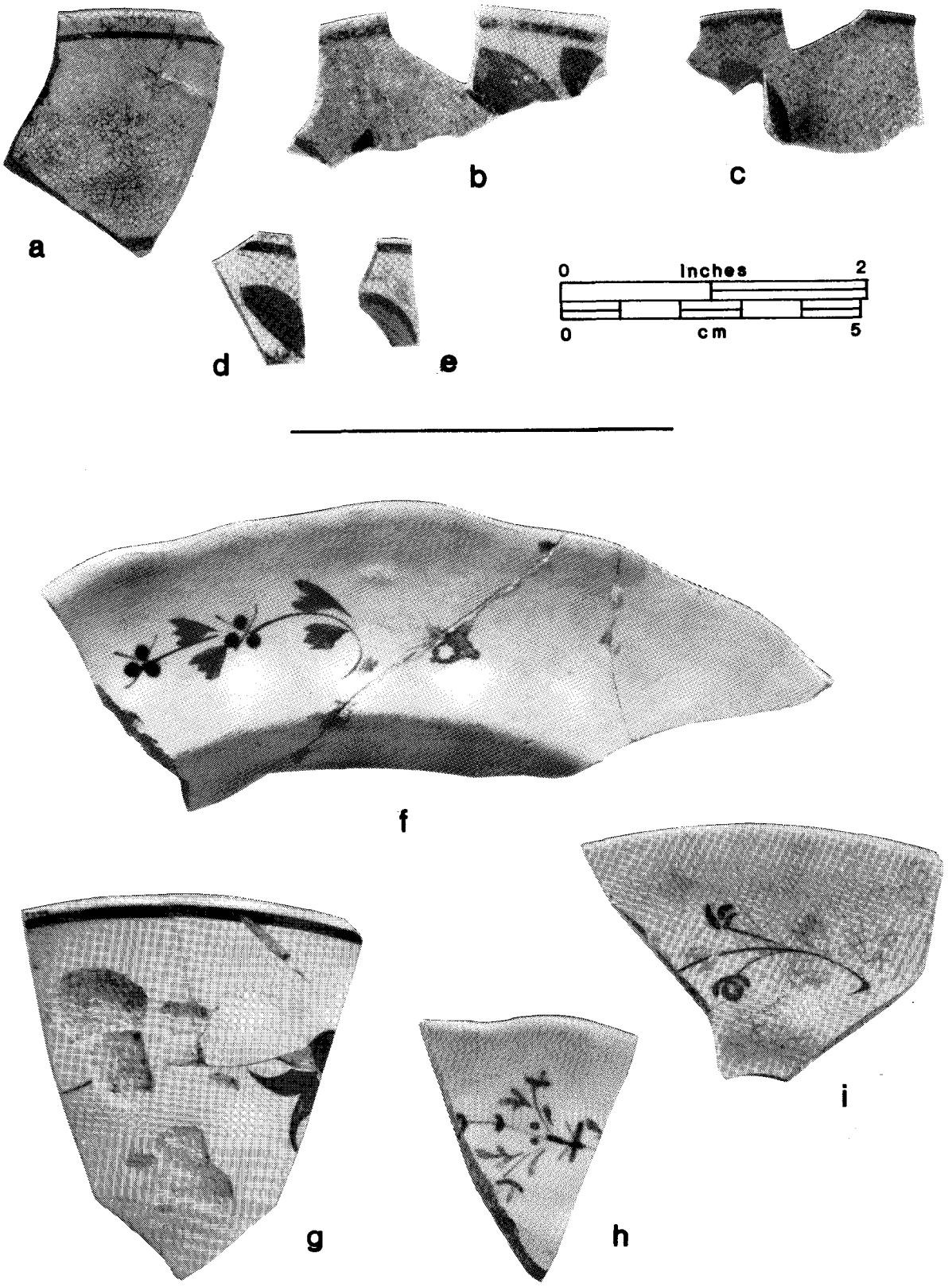


Figure 44. Hand painted patterns.

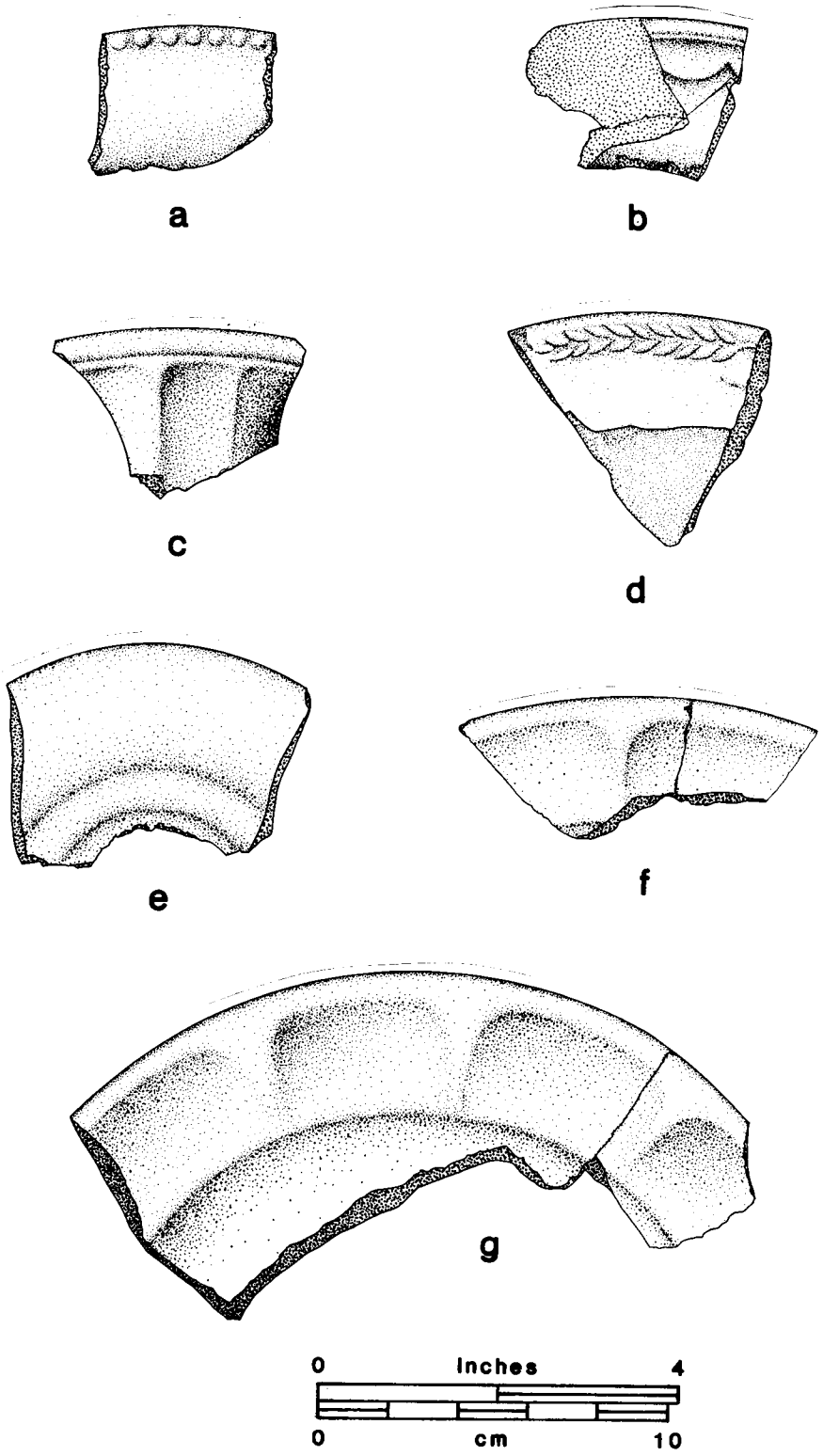


Figure 45. Plain and molded whiteware patterns.

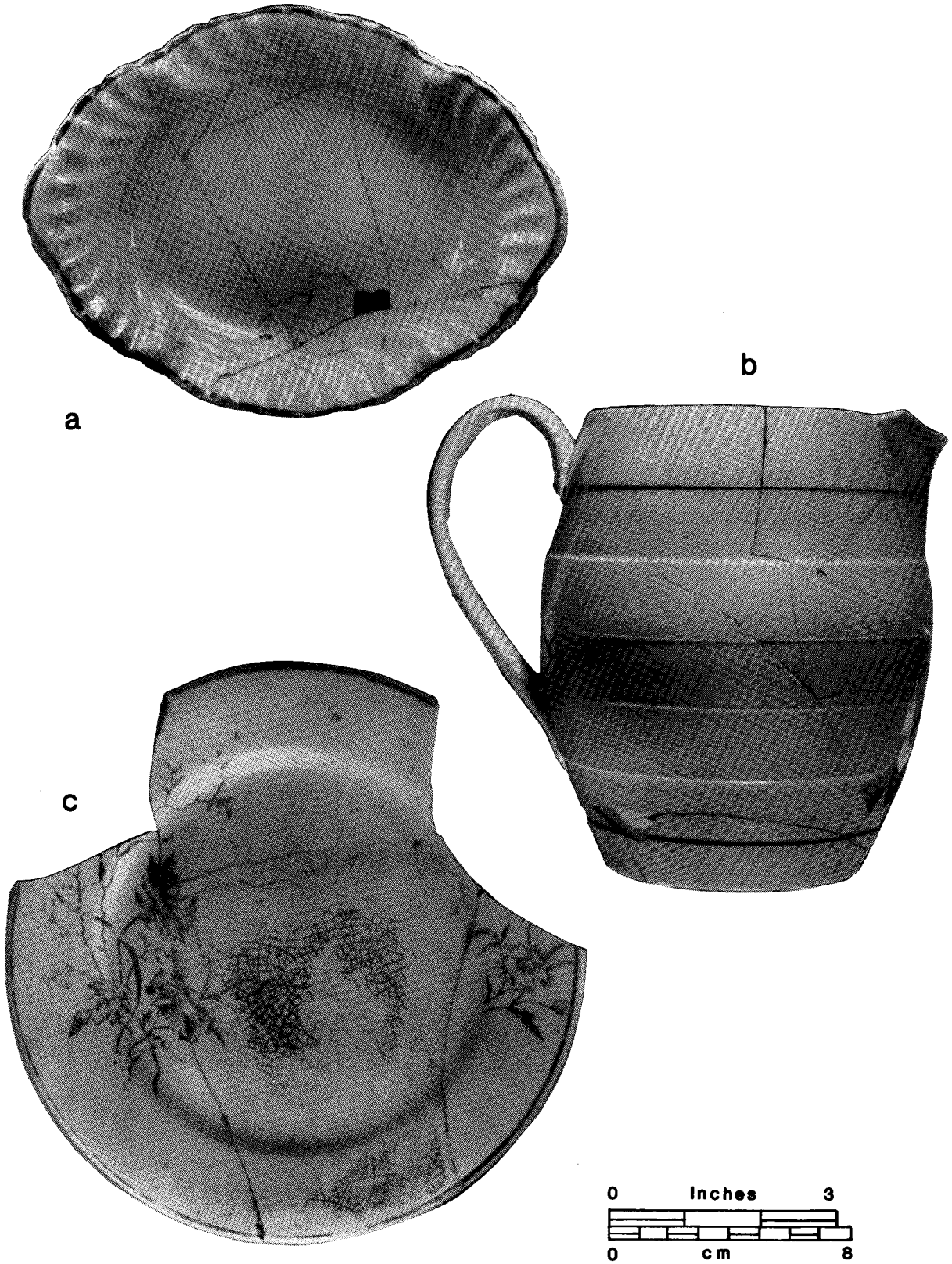


Figure 46. Gilt-edge, pearlware, and decal patterns.

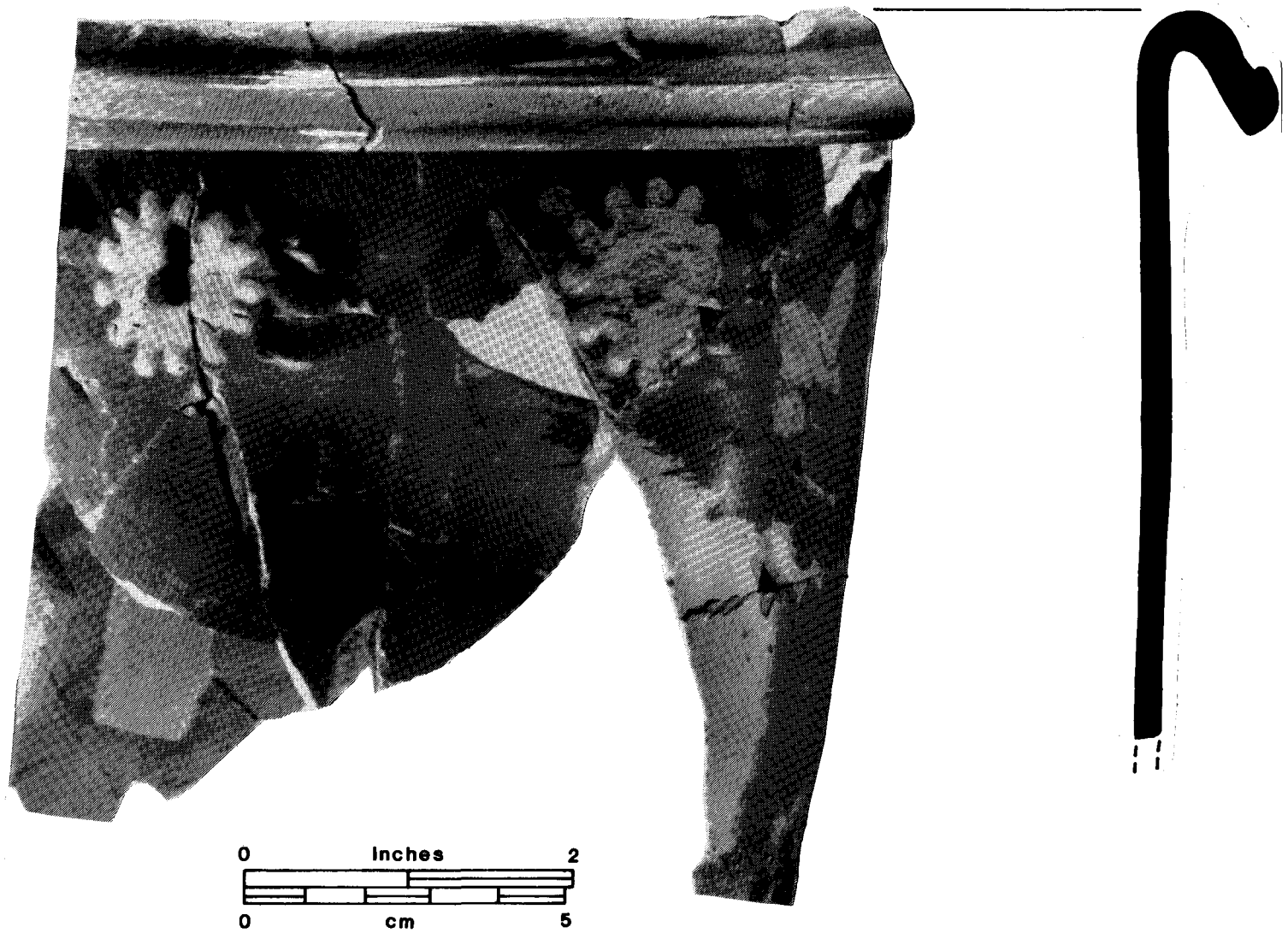


Figure 47. Redware decorated flower pot.

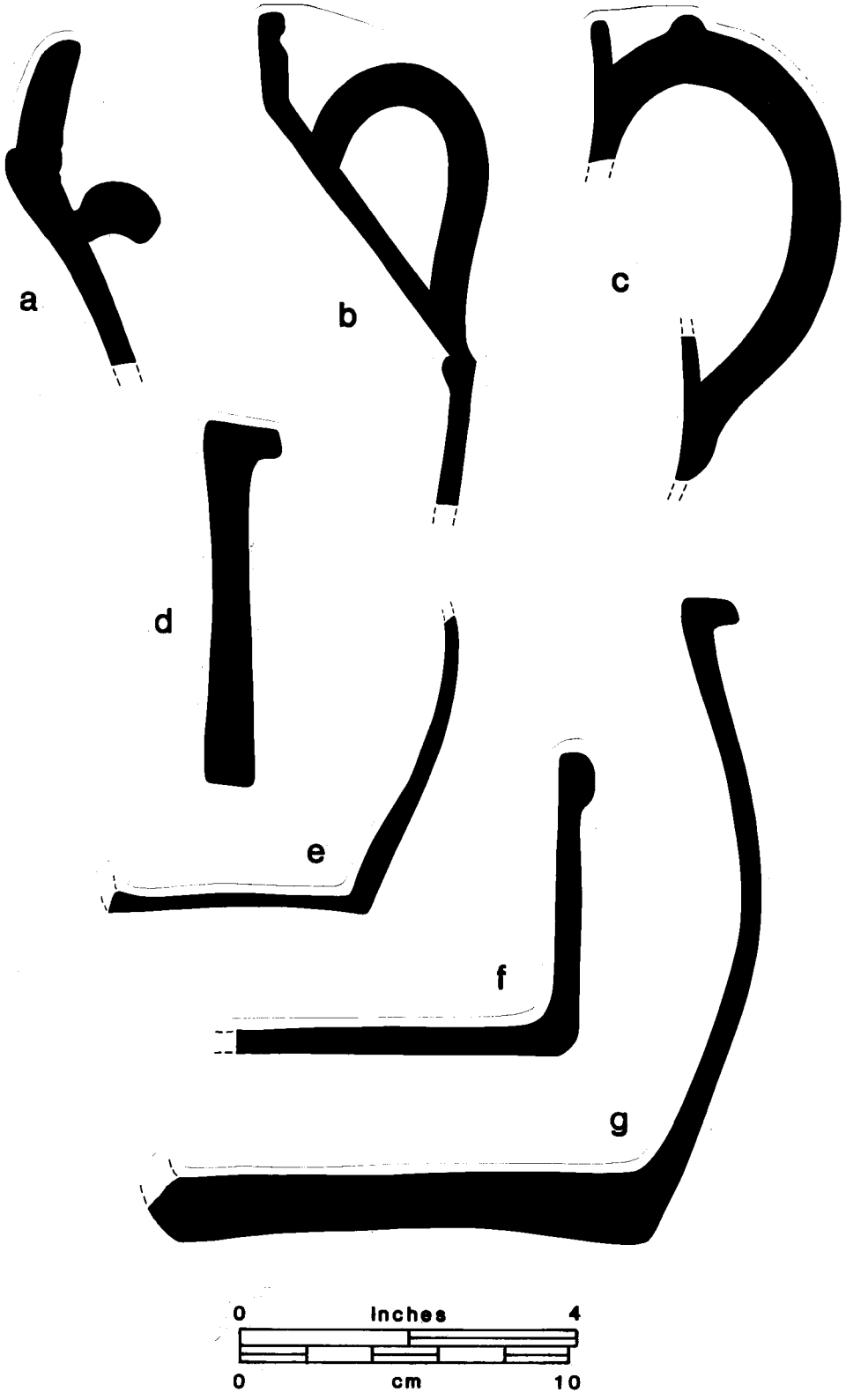


Figure 48. Stoneware profiles.

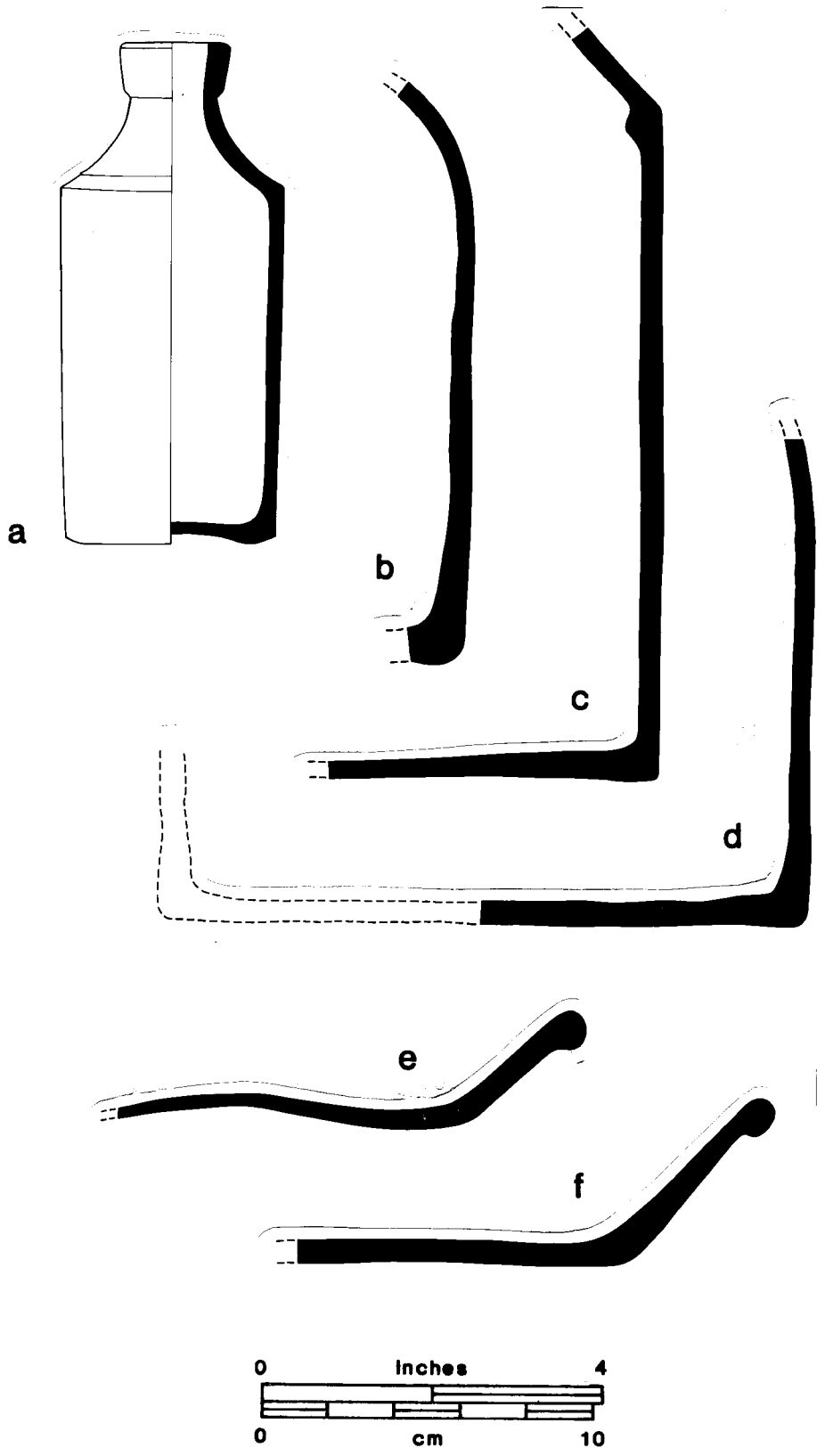


Figure 49. Stoneware profiles.

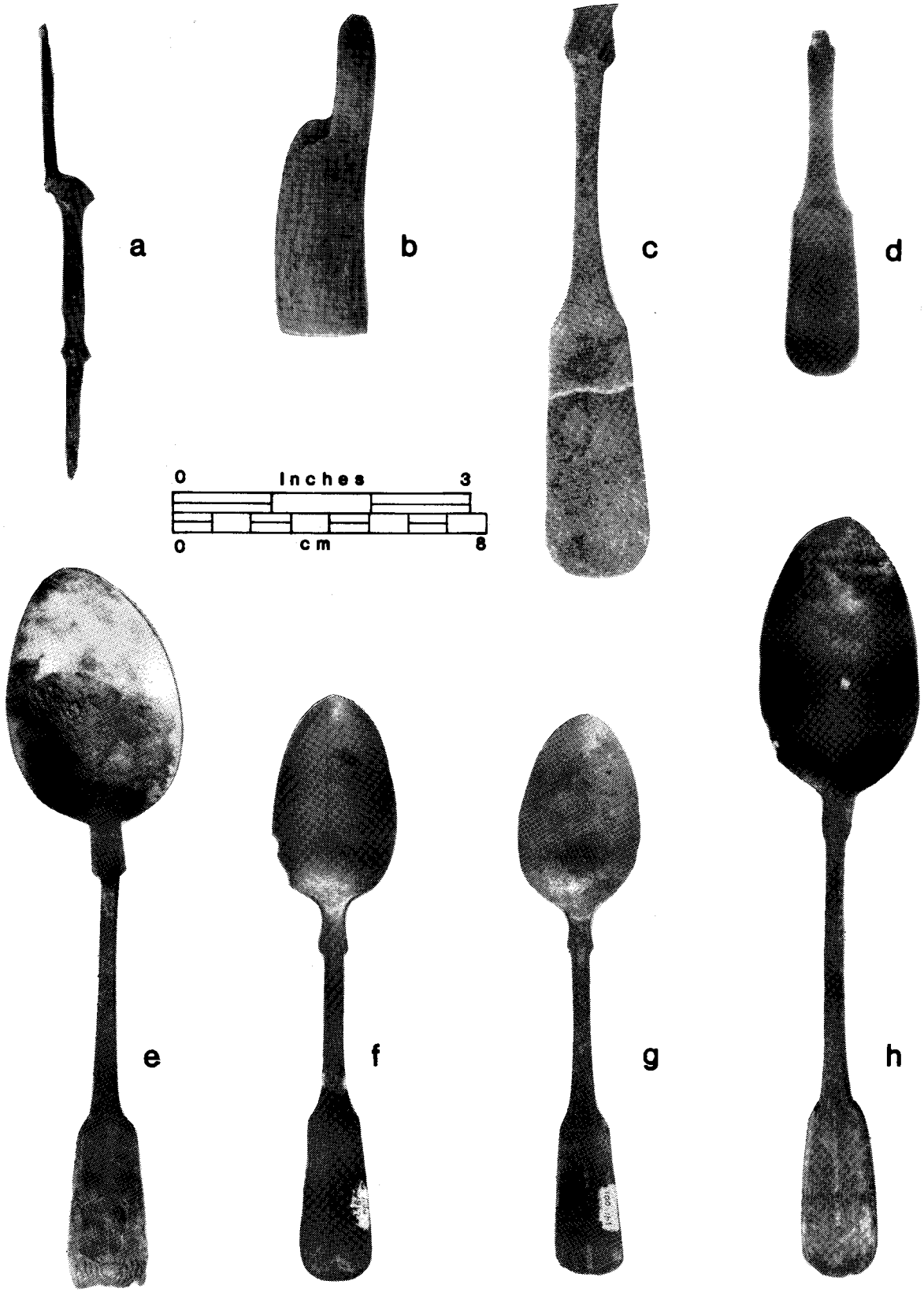


Figure 50. Flatware.

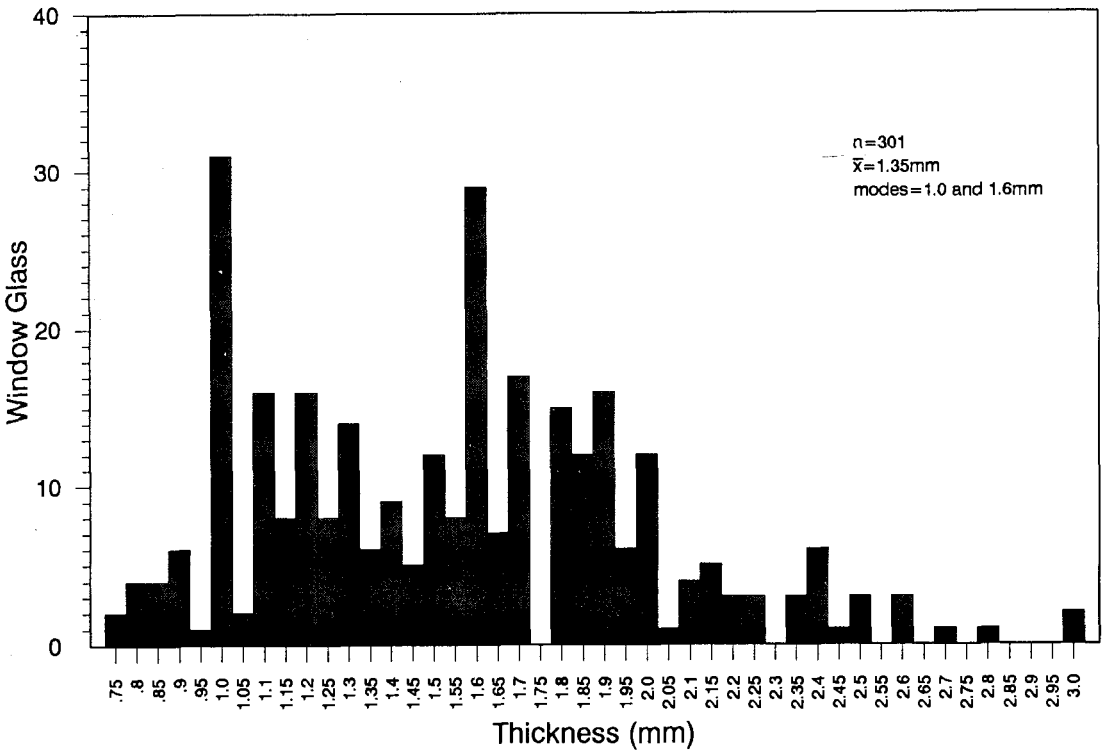


Figure 51. Window glass thickness, Room 003.

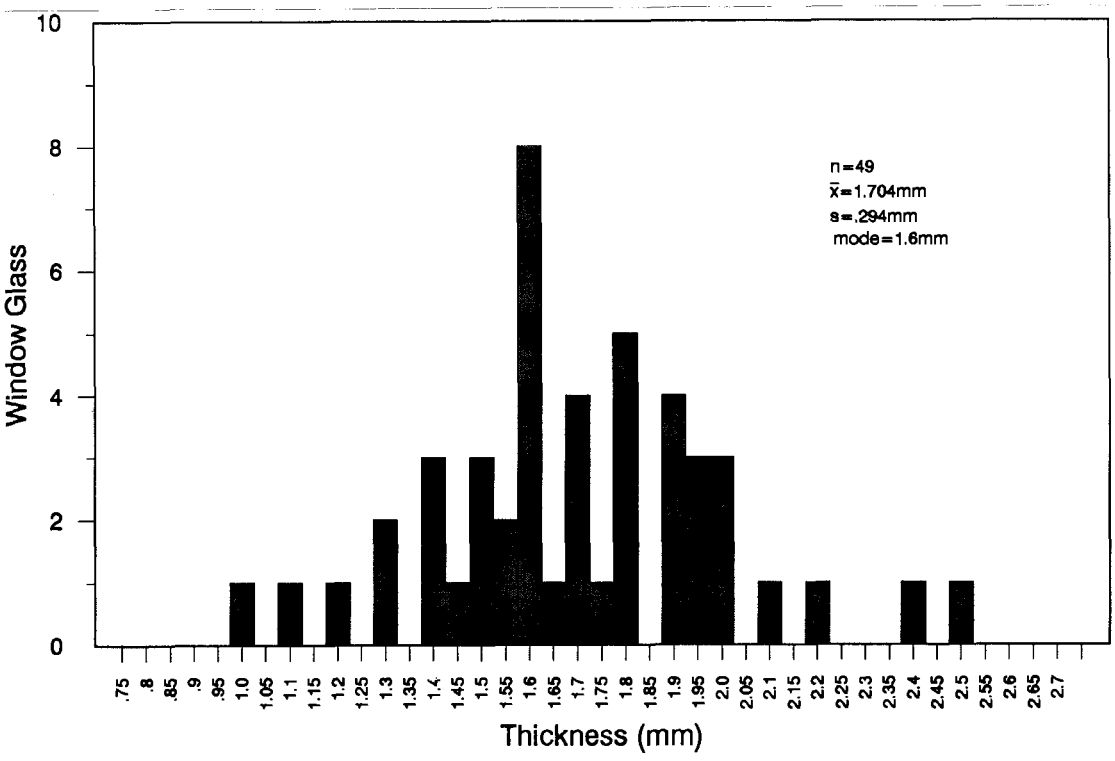


Figure 52. Window glass thickness, Feature 7, Room 003.

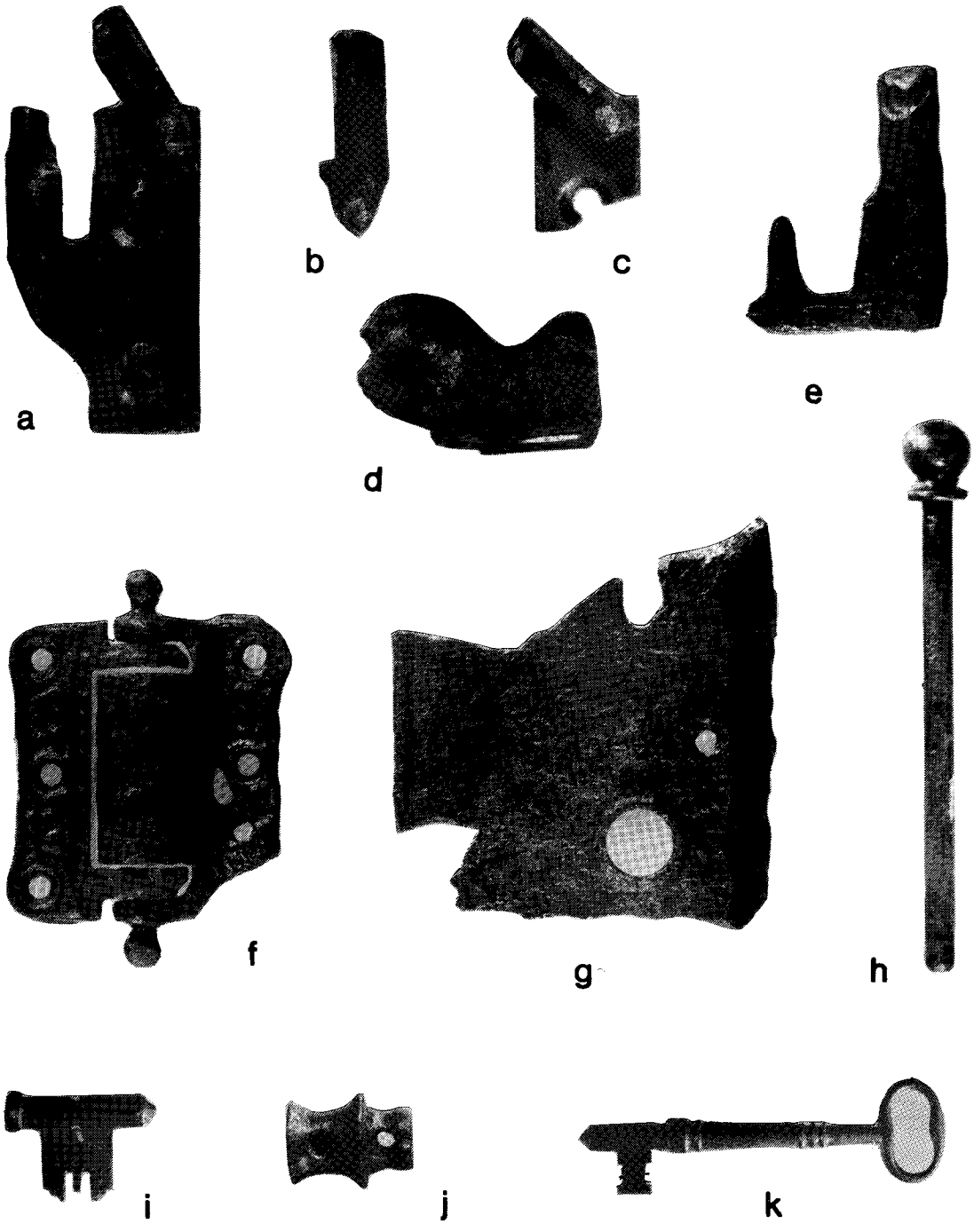


Figure 53. Structural hardware.

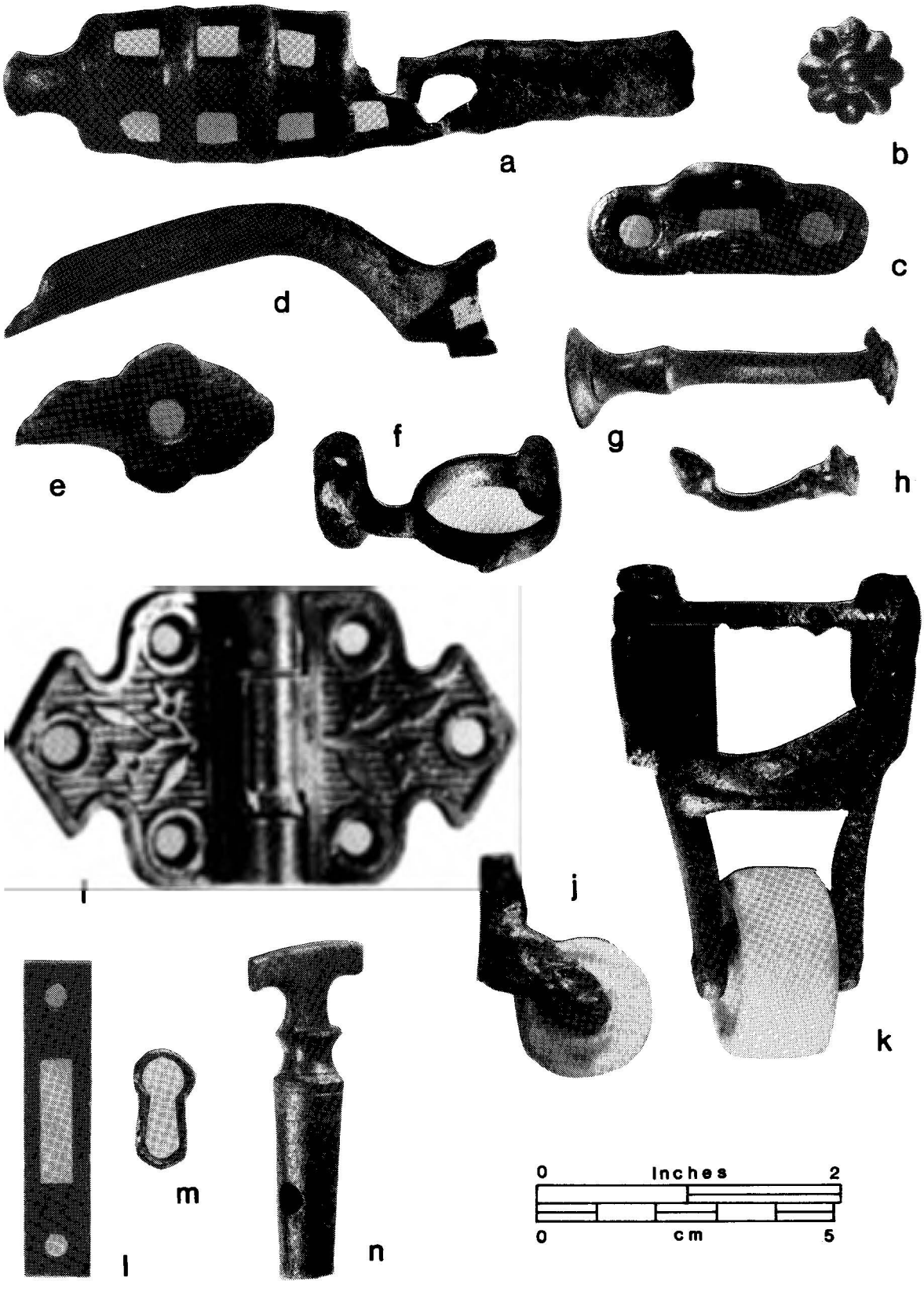


Figure 54. Furniture components.

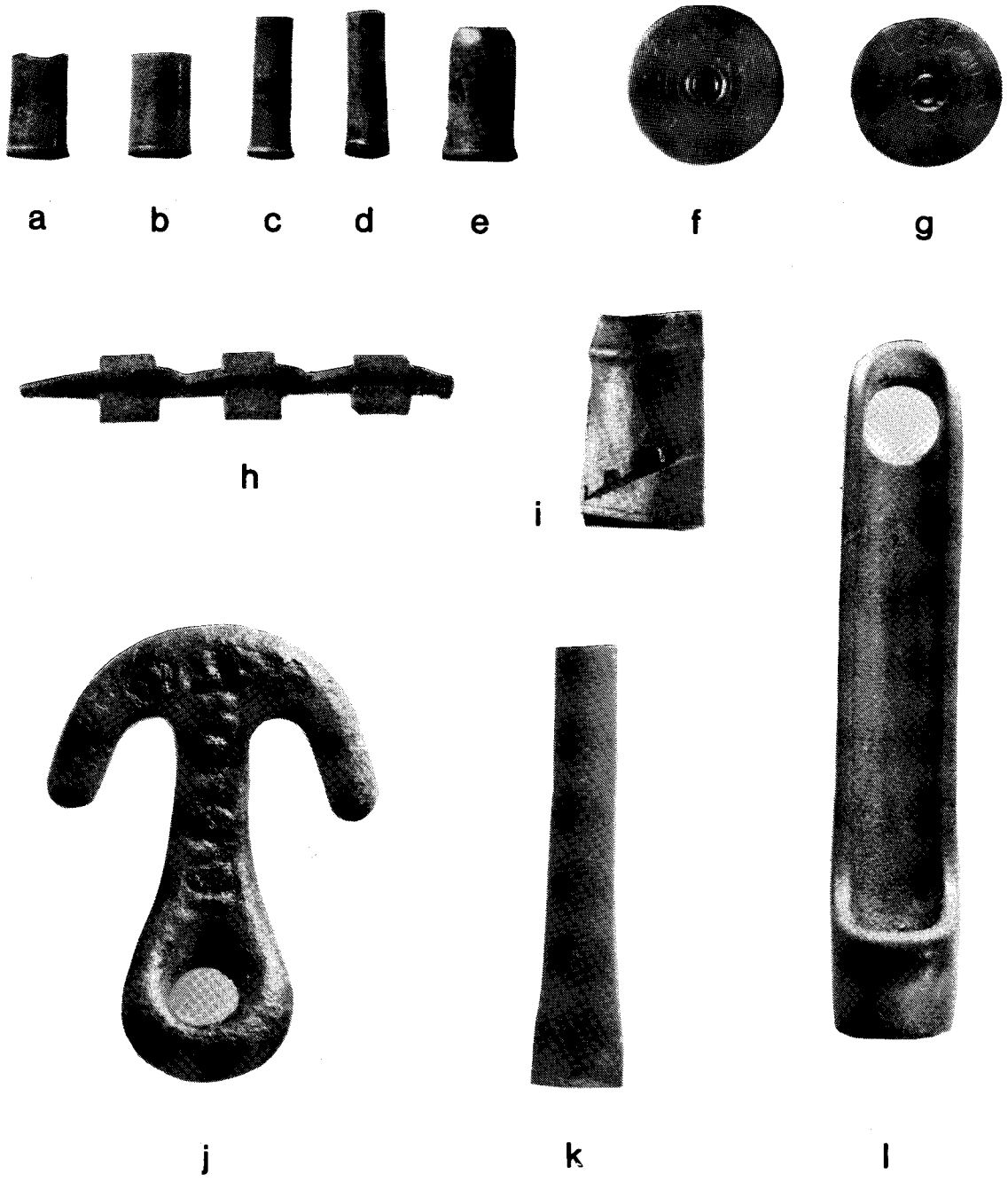


Figure 55. Arms and sporting goods.

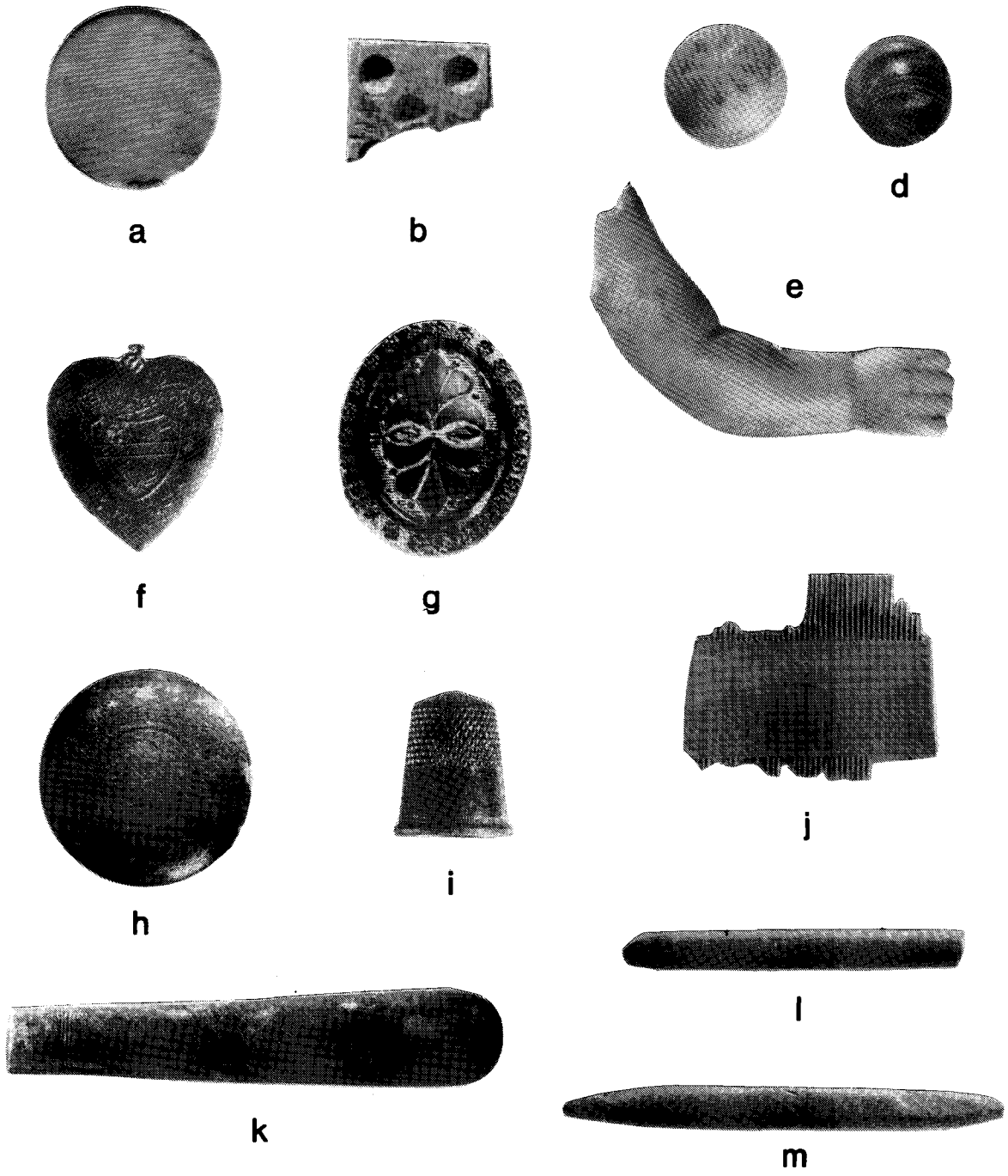


Figure 56. Personal items.

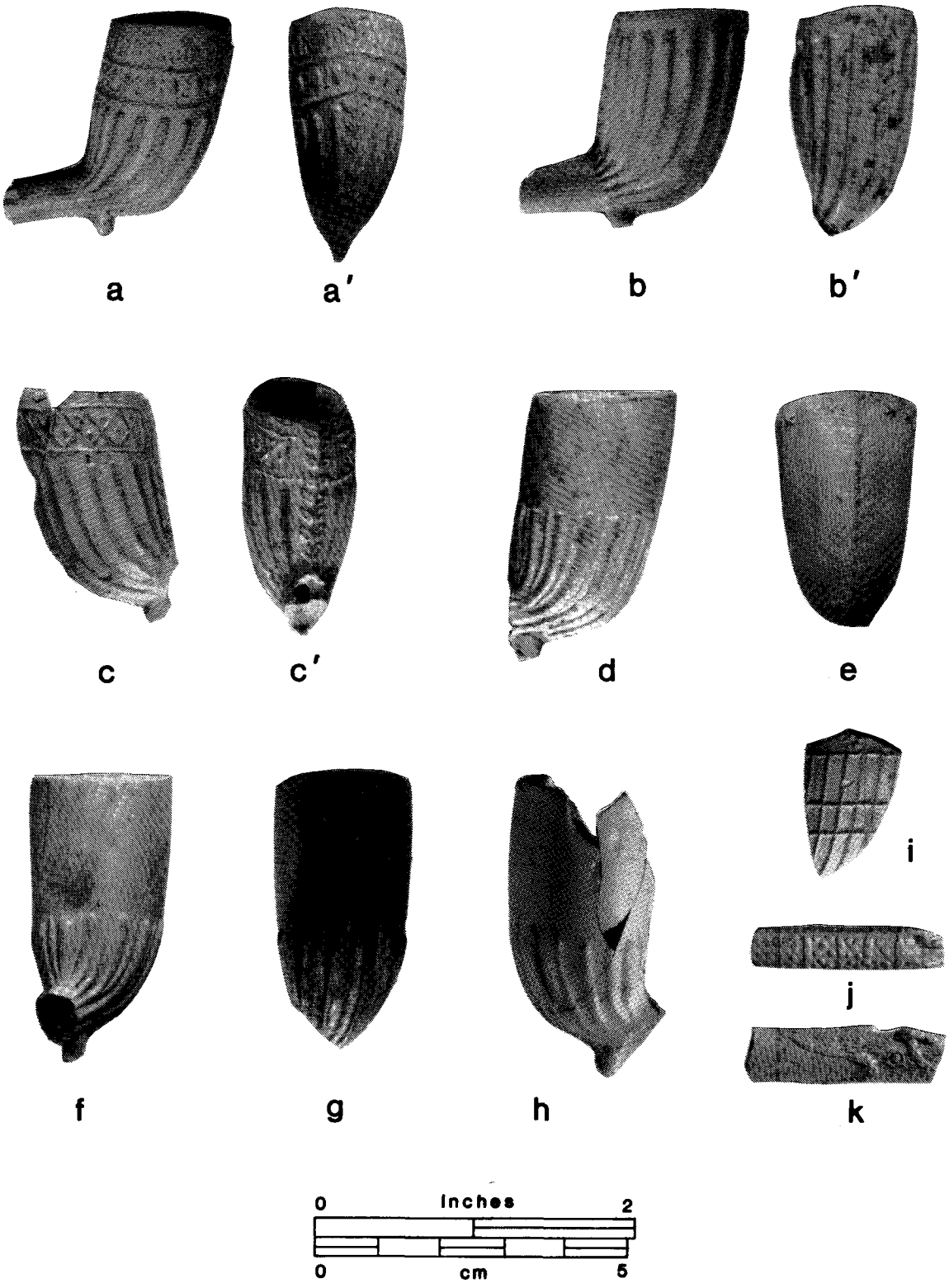


Figure 57. Pipes.

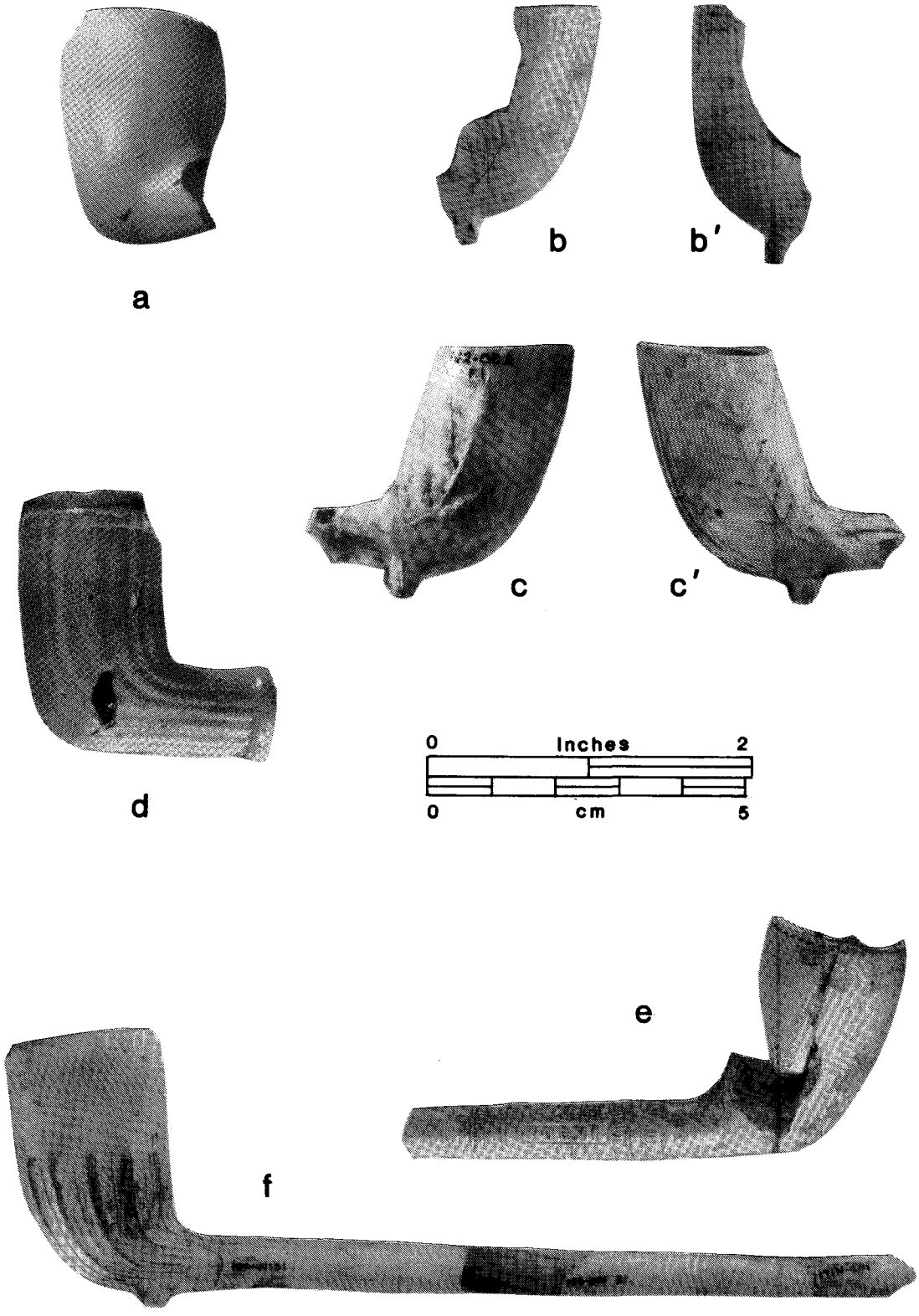


Figure 58. Pipes.

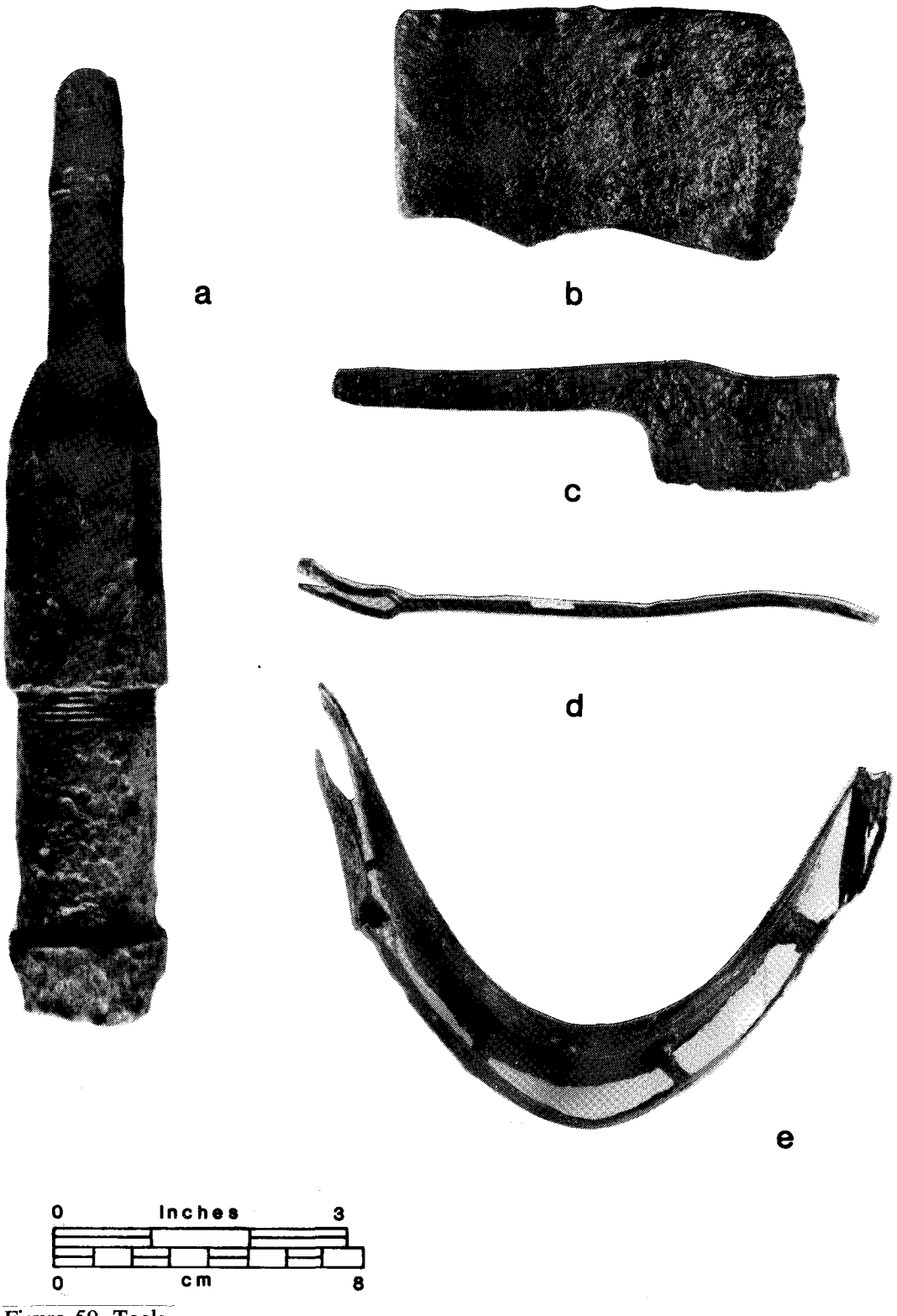


Figure 59. Tools.

REPORT CERTIFICATION

I certify that "Archeological Excavation at Site 33CU314: A Mid-Nineteenth Century Structure on the Ohio and Erie Canal," by Jeffrey J. Richner

has been reviewed against the criteria contained in 43 CFR Part 7 (a)(1) and upon recommendation of the Regional Archeologist has been classified as available.

Regional Director

8/29/91
Date

Classification Key Words:

"Available"--Making the report available to the public meets the criteria of 43 CFR 7.18(a)(1).

"Available (deletions)"--Making the report available with selected information on site locations and/or site characteristics deleted meets the criteria of 43 CFR 7.18 (a)(1). A list of pages, maps, paragraphs, etc. that must be deleted for each report in this category is attached.

"Not Available"--Making the report available does not meet the criteria of 43 CFR (a)(1).