

**Archeological Test Excavations at the Mustill House and Store,  
Site 33 Su 274, at Lock 15 of the Ohio and Erie Canal,  
Summit County, Ohio, 1998 and 1999**

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## Abstract

This report documents Midwest Archeological Center fieldwork at the historic Mustill site located at Lock 15 in the Cascade Locks area of the Ohio and Erie Canal in Akron, Ohio. Located in southern Summit County, this area consists of a series of locks that raised the canal's waters over the height of land separating the Lake Erie and Mississippi basins. Historic research indicates that the Mustill family, originally from England, lived and operated a store at the western side of Lock 15 from about 1834 into the early twentieth century. Little is known about the earliest years of their occupation, which is better documented after about 1850.

The archeological fieldwork and subsequent data analysis documented here resulted from a partnership between the National Park Service's Cuyahoga Valley National Recreation Area (now National Park), the Cascade Locks Park Association, the Ohio Department of Transportation, the Metroparks Serving Summit County, and the City of Akron to restore the historic house and store located on two small lots at Lock 15. These are believed to be the oldest frame structures still standing in Akron. The Midwest Archeological Center fieldwork was related only to the proposed actions of a National Park Service restoration team that would result in ground disturbance across the property. Additional development work (trails, restrooms, parking, and other components), conducted by the Ohio Department of Transportation and Metroparks Serving Summit County was archeologically examined by others.

Midwest Archeological Center fieldwork focused on evaluating archeological resources along proposed underground utility routes, where house restoration would impact the terrain, and where reconstruction of the store's historic porch and Meat Market additions was expected to impact the soil around the building. As a result of our fieldwork, conducted in three phases in 1998 and 1999, a large nineteenth-century artifact assemblage was collected, several features were preserved in place, and the original, pre-1853 Mustill residence was tentatively identified. Other contributions of the project include a reassessment of the stratigraphic sequence recorded by previous researchers and the documentation of considerably more depth than previously supposed. Little of significance was found near the Mustill House, but significant features and artifact deposits were investigated along all façades of the Mustill Store.



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## Introduction

This report documents Midwest Archeological Center (MWAC) fieldwork at the historic Mustill House and Store located at the addresses of 234 and 248 Ferndale Street, Akron, Ohio (Figures 1–3). However, Ferndale Street no longer passes in front of the structures. This historic property, owned by the City of Akron, was listed on the National Register of Historic Places in 1992. Beginning in 1998, the National Park Service staff of Cuyahoga Valley National Recreation Area (now Cuyahoga Valley National Park) joined with the local Cascade Locks Park Association, the City of Akron, and Metroparks Serving Summit County to restore the structures and develop the site for visitor use. Situated at Lock 15 within the historic Cascade Locks area of Akron, the property is now linked to numerous other historic properties along the towpath of the Ohio and Erie Canal, restored as a multi-purpose hiking and cycling trail. The trail currently links the cities of Cleveland and Akron, with a major 22-mile portion passing through the National Park Service’s Cuyahoga Valley National Park (CUVA).

The multi-phased National Park Service fieldwork at the property in 1998 and 1999 was the fifth and sixth archeological projects to occur at this small site since 1991. Results of previous investigations are summarized in the next chapter, Historical and Archeological Background. The purpose of Midwest Archeological Center fieldwork was to investigate areas of the property where restoration actions funded and undertaken by the National Park Service (NPS) would result in varying amounts of ground disturbance. Similar ground-disturbing activities such as trail work, restroom installation, and landscaping were conducted by other project partners and were the focus of archeological activities by others, primarily the archeological staff of the Ohio Department of Transportation.

Several components of the NPS restoration plan involved ground-disturbing activities, which were anticipated early on (Myers 1994). Each component was the subject of field investigations by MWAC teams. Numerous minor and a few major alterations in project plans were made as the project progressed, necessitating considerable flexibility by the archeological teams. Some of these changes occurred while fieldwork was underway, causing the MWAC teams to modify field methods quickly. Archeological work was accomplished at the Mustill House and at the Mustill Store. Since very little was found near the house, most effort was related to actions occurring around and within the store. The primary ground disturbing actions requiring archeological investigations were:

- (1) foundation replacement and crawl space excavation at the house;
- (2) installation of gas, electric, water, phone, and sewer lines to both structures;
- (3) placement of underground perimeter drains at both structures; and
- (4) reconstruction of the former Meat Market and porch at the store.

Every attempt was made to limit the scope of ground disturbance for each of these actions, and wherever possible, archeological features and deposits were left in situ. For example, innovative solutions allowed complete preservation of the original fabric of the store’s porch foundation and wasteway wall, and that of the Meat Market foundation.

This report documents MWAC fieldwork at the site in May 1998, July 1998, and on various dates from June through early August 1999. The May 1998 project was directed by former NPS Archeologist Bret Ruby and MWAC Manager Mark Lynott due to illness of the author of this report. The author directed all subsequent MWAC field efforts at the site.

Fieldwork at the Mustill House yielded a limited artifact assemblage and a single significant subsurface feature — a cistern. The cistern was discovered next to the south façade of the west addition to the building. This addition was demolished, a new foundation was constructed, and the addition was reconstructed in 1998. Despite being marked and fenced, the cistern was slightly damaged during the excavation for the new foundation and utility access crawl space. However, most of the feature remains intact at the now-restored structure.

Excavations at the store yielded a large artifact assemblage (over 7,000 artifacts from the 1999 field season), almost all of which is related to nineteenth-century activities. This contrasts with earlier excavations, which yielded large assemblages that mostly postdate the nineteenth century and in many cases are unrelated to historic-era activities at the store or any other historic buildings at Lock 15 (Marwitt 1991; Bush 1996b, 1997; Pacheco 1998).

The features examined during the MWAC projects include a cistern, the porch foundation and wasteway wall, the Meat Market foundation, a brick walkway, brick alignments under the store's drip lines, a former wooden structure south of the store, a stone outbuilding foundation element, tile drainage lines, wasteway water-control structures, and builder's trenches. In addition, stratigraphic profiles were examined in several areas and rather deeply buried nineteenth-century deposits were discovered and studied north and east of the store. The 1998 and 1999 MWAC projects redefined what constitutes fills versus culturally sterile subsoil strata and revised previous stratigraphic and historical interpretations made on the basis of fieldwork conducted in 1991 (Marwitt 1991), 1995 (Bush 1996b), and 1996 (Bush 1997).

At the completion of NPS structural restoration activities, the entire store cistern, all of the porch foundation and wasteway wall, the entire wasteway and its bridge remnants and water-control features, all of the Meat Market foundation, most of the brick walkway, a large portion of the area of the former wooden structure south of the store, and extensive nineteenth-century artifact-bearing deposits were left intact. This is in keeping with the explicit NPS goal of preserving as much of a site as possible, while assuring that project impact areas are fully investigated. Subsequent landscaping actions conducted by other project partners may have impacted portions of the wasteway and its associated features north of the store, but that is not known with certainty.

The 1998 and 1999 artifact collections and copies of associated project records are owned by the City of Akron and are housed at the University of Akron. All original field records are curated at the Midwest Archeological Center under accessions 747a (May 1998 fieldwork), 747b (July 1998 fieldwork), and 863 (all 1999 fieldwork). The Mustill House and Store constitute site 33 Su 274 as assigned by the Ohio State Historic Preservation Office using the Smithsonian Trinomial System for identifying archeological sites.

## Historical and Archeological Background

Prior to MWAC fieldwork at the Mustill property in 1998 and 1999, considerable historical and archeological research had already been completed at the site. All of this work postdates 1990. The historical research places the archeological work reported here within rather firm temporal and functional parameters. The four previous archeological projects all contributed information that was highly pertinent to MWAC's efforts by indicating the nature of the strata that would be encountered and by suggesting questions that could be addressed through additional fieldwork.

### *Brief History of the Mustill Property*

Despite rather extensive research, the history of development and occupation at Lock 15 in the first 15 to 20 years after the 1827 opening of the Akron to Cleveland section of Ohio and Erie Canal is poorly known. After the 1840s, historical documentation is more detailed and complete. This situation is typical for the Western Reserve area where the information for developments that occurred on the original, large lots is often sketchy, with more complete data available for the years after many of these lots were subdivided and resold. The Mustill House and Store occupy a small portion of what was formerly an 82-acre tract owned in the 1830s and 1840s by the Portage Canal & Manufacturing Company (Miller 1994:1). Prominent Akron investors planned to build a manufacturing town, to be known as Summit City, by harnessing the power of the Cuyahoga River. This project failed after 1844 and the company was unable to continue the mortgage payments on their land holdings. Accordingly, the court ordered the land and "tenements" to be surveyed, appraised, and sold in separate parcels (Miller 1994:1). The Frederick Mustill Store occupies Lot 42 (formerly subplot 13) as surveyed in 1850 as a result of this court order. The nearby Mustill House occupies Lot 43. These and other lots were sold on June 13, 1850. Frederick Mustill purchased Lot 42, containing 0.656 acre, for \$300 while his father Joseph purchased the 0.671-acre Lot 43 for \$131 (Miller 1994:1). These deeds were recorded in 1851. Lots 42 and 43 were subdivided from an 82-acre parcel in the southwest corner of Western Reserve Township 2, Range 11.

According to Miller's (1994) careful and thorough historical research, little is known about Frederick Mustill, despite considerable property holdings and a long residence in Akron. His obituary indicates that he was born in Over, Cambridgeshire, England on December 1, 1822. He came to the United States with his parents in 1833. This obituary also states that his father Joseph Mustill opened a grocery at Lock 15 in 1834 and that Frederick worked for his father at that location until 1851 when his father moved to a farm. Frederick continued a successful business at the lock until 1888 when ill health forced him to discontinue (Miller 1994:2). Unfortunately, Miller was able to find no confirmation of a store being opened at the lock in 1834, although store ledgers spanning 1839–1854 have survived. However, they make no mention of the store's location. The "Musten [*sic*] & Co." grocery is listed in the Akron business directory for 1841, but no location is given. The 1840 census lists the Joseph Mustle [*sic*] family in north Akron, while the 1850 census lists Joseph, 52, along with son Frederick, then 27 years old, as grocers in Akron.

Despite these uncertainties, there is clear evidence that the Mustills occupied the parcel at Lock 15 well before they purchased the surveyed and subdivided land in 1850. By the mid-1840s, tax records indicate the presence of houses on the 82-acre Portage Canal & Manufacturing Company parcel. Only two are mentioned in 1844, but seventeen are documented in 1848 (Miller 1994:3). Miller very reasonably surmises that these are the tenements listed in the court order leading to the 1850 land and property sale. An agreement between the company and Joseph Mustill dated September 27, 1842, acknowledges receipt of payment of \$50 as partial payment for land "on which the said Mustill now resides being sixty-five feet front on Lock fifteen on the Ohio and Erie Canal" (Miller 1994:3). However, this document makes no mention of a grocery store or other business. It does however demonstrate that the Mustills were living at Lock 15 by 1842 and suggests that theirs is one of the two houses mentioned in the 1844 tax records for the 82-acre parcel. Tax records for 1846, 1849, and 1850 list a frame house for Joseph (or J.) Mustill on subplot 13, that would later be resurveyed as Lot 42, the location of the present Mustill Store. In those

years, the property was valued for tax purposes at \$150–160. In 1852 Joseph sold the south half of Lot 43 to William Flower, and the following year the north half (0.33 acre) to his son Frederick.

Frederick Mustill's Lot 42 was valued at \$400 in 1852, with \$300 of that amount accounted for by a house. His north half of adjacent Lot 43 is valued only at \$100 in that year (Miller 1994:4). The following year, the tax value of Lot 42 dropped to \$100. Miller (1994:4) attributes this decline in value to removal of the house noted the previous year, but this would not appear to account for the drastic drop in value of his portion of Lot 43 to only \$10. Values for both lots increase dramatically in 1854 (\$372 and \$893). Miller interprets this huge increase as strong evidence that both the current Mustill House and Store were built in 1853. The value of Lot 42, the location of the current store, increases again in 1856 and 1860 while the value of Lot 43 remains constant or declines over those years. She interprets this as evidence for the construction of the Meat Market and veranda, known from historic photographs, or of construction of other unknown ancillary buildings on Lot 42. Miller is careful to point out that her hypothesized sequence of construction (and house removal) does not contradict the obituary's statement that Joseph Mustill operated a grocery at Lock 15 beginning in 1834. Instead, she indicates that it strongly suggests that if this business was indeed present in that year it must have occupied a building other than the one that stands on Lot 42 today (Miller 1994:5).

Frederick Mustill owned the store on Lot 42 at Lock 15 for over 35 years. Miller used store ledgers, tax records, city directories, maps, and personal reminiscences to document its history (Miller 1994:5). Ledger entries depict the kinds of items sold at the store. Mustill sold groceries of all kinds, beer, liquor, ice, and various supplies. Competing stores were located near each other at Locks 14, 16, and 19. From 1859 through 1887, the Mustill grocery is listed in every extant Akron business directory (Miller 1994:6). The store was strategically positioned where the towpath switched from the east to the west side of the canal via a footbridge, causing all traffic to pass directly in front of the store. Travelers were drawn to the store as they waited for their boats to be locked through. A circa-1866 photo of the store depicts the front façade of the store, and the bustle of activity suggests the store was an important part of the local economy. It was located near mills, a commercial area on nearby Howard Street, and a residential neighborhood when a bird's-eye view was published in 1870 (University of Akron Archives). The Meat Market and large porch are clearly depicted on that view, in keeping with Miller's interpretation of the addition of those features to the core of the store by the 1860s. An 1882 bird's-eye view depicts the store and house little changed from the 1870 view (Rogers n.d.; 1996).

A plan view of the area, thought to date to about 1855, but otherwise undocumented (Rogers n.d., reproduced as Figure 4 of this report), depicts the Mustill House and Store on Lots 42 and 43. The store is labeled "Mustill Grocer &c." Although the store is not depicted with precisely the same footprint as on later maps (Figures 5 and 6), its shape could be interpreted to indicate that the Meat Market was present at this rather early date. Certainly, a separate structure is present immediately south of the store. This structure is not equivalent to either of the outbuildings depicted along the store's south façade on 1904 and 1916 maps of the Lock 15 area (Rogers n.d., and Figures 7 and 8 of this report). Based upon the historic record and archeological data presented later in this report, it is likely that this structure is the first Mustill residence. The structure is known with certainty to have been present at Lock 15 by 1842 and might date to about 1834.

The circa-1855 map also depicts the path of the lock wasteway, which passes directly under the front porch of the store (Figure 4). The Silliman map of 1911 depicts the store, the wasteway, and other local canal-related features in considerable detail. That map shows the store with the Meat Market addition, the precise route of the wasteway, a wood bridge over the wasteway near the north façade of the store, a dam on the wasteway, and three L-shaped concrete water-control features for the wasteway (Figure 6). Subsequent archeological research clearly confirmed that this wasteway passed under the store's extensive front porch (Bush 1997). Other research revealed that elements of the bridge are still extant below surface (Pacheco 1998), and that at least two sets of L-shaped concrete water-control features are also buried in the wasteway area under recent fill, as described in this report.

Miller was unable to find documentation for the store between 1889 and 1902, and by 1904 the structure was serving a residential, rather than commercial, function. However, a one-story carpenter shop had been added to the structure by that time. This shop was no longer extant by 1916, based upon depictions of the store on Sanborn insurance maps. By 1888, the Mustills had moved from the house on Lot 43, and in 1900 Frederick Mustill died. After 1903, the former store was occupied by a series of tenants and continued to serve as a residence through the 1950s. Sometime before 1940, the Meat Market addition and the large front porch had been removed. Frederick's widow, Emma, apparently returned to the house on Lot 43 by 1903 and continued to live there with her son Frank until he was married in 1904. Emma remained until her death in 1911. However, both the house and former store remained in Mustill family ownership until 1940. The long Mustill ownership was followed by three other owners, the last of which, the Ramnytz family, resided there from 1955 until 1989 when the City of Akron purchased the property (Miller 1994:9).

An interview with Pete Ramnytz (Sheppe 1990) adds some details for the later history of the property, but raises more questions that it answers regarding the early years of Mustill family occupation. Ramnytz reported that the store was likely built about 1828 and that it initially functioned as a cigar box factory. He further suggested that a wheel powered with water carried in a wooden trough was present at the front façade of the building at that time. Ramnytz believed that Mustill purchased the building about 1830 at which time it was converted to the store function. However, there is no confirming evidence for these recollections, and it is clear that at least some of his chronology must be incorrect, since the Mustills did not even come to the United States until 1833. Perhaps it is no coincidence that Miller reports that Frederick Mustill's son (Frank) occasionally worked at a cigar box factory (Miller 1994:8). Perhaps this fact became confused through retelling of stories or faded memories to attribute the cigar box function to the building at Lock 15. More importantly, according to Miller, there is no evidence to suggest that the current store building was present prior to about 1853. However, since the early years of the property are poorly known, one cannot be completely certain what activities occurred at the lock in the 1830s era. Ramnytz also recalled that the Mustill House was built in 1845, a date that also conflicts with Miller's reconstruction of the local construction history.

### ***Previous Archeological Research***

The first reported archeological investigation at the Mustill property was a University of Akron field school (Marwitt 1991). Although a report of this work is available, all attempts to locate the project base map and related field records have been unsuccessful (Metzger, personal communication 1999). The most unfortunate aspect of this gap in project documentation is the inability to re-create the grid used to record the locations of the 1991 test excavation units. With one exception, the locations of the 1991 test excavation units remain unknown. One trench was placed along the west façade of the store, near the corner. However, information is insufficient to precisely plot that test unit. The test unit was excavated to a very shallow depth, removing only a small amount of fill over a brick feature.

Since the University of Akron project predated Miller's historical research, Marwitt (1991:1) was operating with limited data regarding the age of the store. He noted that most of the artifacts recovered in 1991 were much more recent than the then-commonly held circa-1830 age of the store. He points out that while it is conceivable that the store could date to 1828, others placed its construction date to the 1830s or 1840s (Marwitt 1991:4). Marwitt was more comfortable with a date of about 1845 for the store, based upon its balloon frame construction and certain datable hardware elements (1991:4). This is very close to the date later interpreted from historic tax records by Miller (1994).

It now appears that the reported dominance of late-nineteenth and early-twentieth-century artifacts in the assemblage may be as much a function of the shallowness of the 1991 excavations as a result of any mistakenly early age assignments for the store. Marwitt (1991:6) reports that all artifacts were confined to the upper 20–40 cm of the soil and that the site exhibited no cultural stratigraphy. Subsequent research provides a considerably different view of the site. In many areas of the site, excavations to depths of 20 to 40 cm would not penetrate the extensive twentieth-century fills unrelated to historic activities at the store.

Marwitt defines Feature 4, a brown silty loam occasionally containing pockets of gravel and rounded cobbles, as sterile subsoil underlying cultural deposits at the site. This is contradicted by the results of MWAC excavations in 1998 and 1999 that revealed the presence of artifacts in that deposit. Furthermore, near the west and south façades of the store, the loam is a fill overlying an earlier surface that also contains artifacts. The artifacts described from the 1991 project also include numerous transfer-printed, edge-decorated, hand-painted, and sponge-decorated ceramic whitewares that provide tangible evidence of the early years (pre-1860s) of site occupation that Marwitt believed to be missing in the site assemblage.

The finding of the 1991 University of Akron project most pertinent to the current project was a brick alignment along the west façade of the store. It was accurately interpreted as a recent walkway (Marwitt 1991:8). It was further surmised that this feature might extend around the entire store. This supposition was partially supported when more of the feature was exposed during 1999 Midwest Archeological Center fieldwork. Despite its recent age, efforts were made to preserve the feature during the extensive structural repair and restoration actions requiring ground disturbance that were undertaken by the CUVA restoration team in 1999.

The Center for Cultural Resource Research (CCRR) at the University of Pittsburgh initiated fieldwork at the site in 1995 (Bush 1996a, 1996b). The consulting firm of Schmidt, Copeland, Parker, Stevens of Cleveland sponsored this fieldwork. The CCRR team established a new excavation grid that has been used by all subsequent researchers. The objectives of the project were clearly specified (Bush 1996b:6). In fact, all aspects of the project are very succinctly defined and reported. Objectives of the CCRR fieldwork were to:

- (1) locate the footprint of the carpenter shop formerly located north of the store;
- (2) locate the footprint of the missing store porch and Meat Market;
- (3) locate other outbuildings and features;
- (4) locate fence lines;
- (5) determine the integrity of the wasteway;
- (6) locate landscape features;
- (7) recover artifacts associated with features; and
- (8) assess the interpretive value of cultural features and artifacts recovered during the project.

All of these goals were addressed through varying excavation strategies and most were met through discoveries made during fieldwork. Close interval shovel testing was conducted near the Mustill House (Figure 9). Nineteen tests yielded few artifacts. Thirteen 1-x-1-m test units were excavated near the store. These were often grouped into trenches of varying lengths (Bush 1996b:7). Most of this work was focused on the north side of the store. Bush identified two natural strata at the site. These are Stratum I, a very dark gray sandy silt topsoil containing only post-1950 artifacts, and Stratum II, a dark yellowish brown sandy silt that he identified as culturally sterile subsoil (Bush 1996b:11). He briefly notes that a gray clay horizon was encountered at the base of the stratigraphic profile in a wetland area to the north. The MWAC team determined in 1998 that this same clay underlies the area around the store and is in fact the sterile subsoil in that area of the site, since all deposits above it have been found to contain artifacts.

The 1995 CCRR project was highly successful and exposed several features. No features were found near the Mustill House. However, Bush's team recorded the footprint of the carpenter shop (Feature 8), part of the sandstone Meat Market foundation (Feature 9), the floor of a structure south of the store (Features 3, 4, 5, and 10), a cinder layer tentatively identified as the remains of Walnut Street (Feature 7), and a brick cistern (Feature 6, Bush 1996b:12–19). In addition, a very large artifact assemblage consisting of nearly 12,000 artifacts was collected, processed, and analyzed (Bush 1996b:19–31). While much of the artifact presentation is well supported and accurate, one must question the assertion that most of the site's white clay ceramic tobacco pipes were made in the United States (Bush 1996b:23). It is much more likely that the majority of these pipes, along with the pre-1860s ceramic vessels, were made in England as indicated by the single pipe stem marked "Bristol." Furthermore, there is no reason to assume that the white

clay pipes are products of the local Mogadore factories that are instead known to have produced glazed stoneware, reed-stemmed style pipes after about 1847. His suggestion that yellowware ceramic vessels were not available in quantity until about 1900 is not supported by available evidence. Yellowware was in large-scale production in Ohio and other nearby states after the 1840–1850s era. However, these and other concerns about specific artifact dating and place of manufacture impact only minimally on Bush’s conclusions and recommendations for further work.

Of the features found by Bush’s team, the cistern, the Meat Market foundation, and the “outbuilding” south of the store are of particular interest. Each of these features was either re-exposed or further excavated in 1998 and 1999 by the Midwest Archeological Center team. At the conclusion of the report on the 1995 field efforts, Bush makes a series of recommendations for further work. He was able to realize most of his recommendations when CCRR conducted additional fieldwork under the sponsorship of Schmidt, Copeland, Parker, Stevens at the store in 1996.

CCRR’s 1996 fieldwork was fairly large scale, with 46 1-x-1-m test units excavated near the store. As in the smaller-scale excavations of 1995, these test units were grouped into trenches and blocks to expose extensive portions of several features (Figure 9). The goals for the 1996 field season were to:

- (1) locate the footprint of the general store’s porch;
- (2) locate the footprint of the Meat Market and excavate associated fill;
- (3) determine the archaeological integrity of the wasteway;
- (4) assess the interpretive value of cultural features and artifacts;
- (5) excavate other areas as time and money permit; and
- (6) formulate a research design for future research.

As in the 1995 work, all of these goals were addressed through specific field efforts and most were fully accomplished. Emphasis was placed upon the canal wasteway, the store’s former Meat Market, and the front porch. Although Bush (1997:viii) reports that “no evidence of a porch which was attached to the front of the general store and meat market was discovered during the 1996 field investigations” it is apparent that the sandstone wasteway retaining wall he exposed served as the porch’s primary foundation.

Extensive excavation (26 m<sup>2</sup>) was completed at the Meat Market, where all three walls were at least partially exposed. The fourth wall was formed by the store’s foundation. Fill within the feature was excavated to depths ranging from 10 to 50 cm below surface (Bush 1997:9). Bush notes that the foundation has a flush surface on the exterior and an irregular interior surface. Although he does not mention why this would be the case, it seems likely that a part, if not most, of the exterior of the foundation was originally exposed to view and would have been “faced” accordingly. Since the inside would not be exposed to view, since it would have been covered with a floor, no such care in masonry treatment was necessary. This irregular interior surface also suggests to me that no cellar was present under the small Meat Market, whose dimensions are about 11' by 14'. Excavations confirmed that the Meat Market was an addition to the store since the sandstone foundation was found to abut the store foundation, rather than bonding or being integral with it (Bush 1997:9).

Bush recorded four strata within the Meat Market. Stratum III is the recent leaf litter and organic layer (Bush 1997:12). Underlying that thin zone is Stratum IV, a silty sand that Bush believed was deposited after the Meat Market was razed. Under that zone is Stratum V, a yellowish-brown sandy silt similar to the Stratum II sandy silt that Bush identified as sterile subsoil in 1995. Since the excavations within the Meat Market were generally very shallow, the artifact-bearing Stratum V was exposed in only 2 m<sup>2</sup> of the 26 m<sup>2</sup> area examined (Bush 1997:12). This deposit contained artifacts, including whitewares, leading Bush (1997:26) to suggest that the Stratum V deposit “may be representative of use of the meat market during the canal era.” He does not suggest how these materials would have accumulated beneath the floor of the Meat Market. An alternate explanation for the presence of these materials is that they were deposited prior to construction of the Meat Market, or even conceivably prior to the construction of the store.

Bush notes in his discussion of the Meat Market's juncture with the store's foundation that the store's wooden superstructure was built upon a poured-concrete footer wall. Underneath this concrete was a sandstone block foundation. Some clarification of this sequence is in order. The concrete is not a foundation footer, but instead is a floor poured by the Ramnytz family. Mr. Ramnytz details how this was accomplished through jacking of the structure and sequential pouring activities until a full floor was established. After this concrete floor and sill were finished, the wooden structure was lowered onto it. This process served to level the structure, which had settled irregularly over the years.

The 1996 CCRR team excavated seven test units to search for evidence of the former porch that spanned the store and Meat Market addition. According to Bush (1997:13) "No evidence of the porch was identified during the 1996 excavations." However, ample evidence of the porch's primary foundation was found in the form of what the CCRR team recorded as the wasteway retaining wall (Bush 1997:14–17), which was constructed of mortared sandstone blocks of varying size. Wasteways along the canal are typically soil (perhaps clay-lined) channels that have no stone walls. Stone features within the wasteways are typically limited to spillways, dams, and similar water-control structures. Since historic maps clearly indicate that the store's porch spanned the wasteway (Figures 4–7), it was probably necessary to have a more substantial foundation than would normally be required for a structure that usually bears little weight. The sandstone wall served a dual function — to support the porch's outer edge and to retain flowing water. Therefore, this wall should be described simultaneously as a wasteway retaining wall, as described by Bush, and the primary porch foundation. This feature extended well below surface to a depth of nearly 175 cm.

Bush (1997:30) was aware that the excavations within the Meat Market feature failed to expose sterile deposits in all but two test units, based upon his identification of Stratum II as sterile. Based upon my experience, those excavations did not reach a culturally sterile stratum. We determined this when we followed Bush's recommendation to extend excavations to sterile deposits in a minimum of two units near the center of the Meat Market (Bush 1997:30). This was accomplished in 1998 (Ruby 1998).

The 1996 excavations at the wasteway revealed very deep fills, with most relating to activities dating from 1913 or later. However, at the base of the deep profile, two thin layers were recorded that relate to the active use of the canal and wasteway (Bush 1997:16, Figures 5 and 6).

Over 35,500 artifacts were recovered during the 1996 excavations. The majority of these items relate to activities postdating use of the structure as a store. Moreover, most of those twentieth-century artifacts probably resulted from dumping and fill episodes and are not discards from the occupants of the Mustill property. However, many nineteenth-century artifacts were also recovered. The strengths and weaknesses of artifact analysis and interpretation already noted for the 1995 collection also apply to the 1996 assemblage.

The final archeological investigation of the project area prior to the 1998–1999 Midwest Archeological Center project was a component of a broader University of Akron study funded by a grant from the University's Ohio Urban University Program. Excavations within the immediate project area in 1997 included four areas near the Mustill Store (Pacheco 1998). Part of this work was conducted north of the store at the Bitola House (Pacheco 1998:5). Since this is north of the current project area, those excavations will not be summarized here. A single test unit was excavated north of the store to expose the roadbed of the former Walnut Street. A cinder layer at 70 cm below surface appears to mark the earliest evidence for that road (Pacheco 1998:6).

More extensive work was accomplished in the area where maps depict a wooden bridge across the wasteway a short distance north of the store. Test Units 5 through 11 were excavated there (Pacheco 1998:7–8). An important interpretation made by Pacheco (1998:7) on the basis of the stratigraphy and artifact yields in these test units is that the upper 90 cm of deposit in this area probably represents landfill activities. Excavation within the wasteway in this area revealed a second artifact concentration at about 160–170 cm below surface. However, these materials also postdated the canal era, leading Pacheco to suggest that excavations would need to penetrate deeper than 2 m to expose the bottom of the wasteway.

The excavation of Test Units 5 through 11 exposed numerous wooden elements that Pacheco identified as beams and supports for the former wooden bridge. Two of these beams in Test Unit 11 were recorded at 120–140 cm below surface, clearly indicating the large amount of post-canal-era fill in this area. The excavations confirmed the presence of the bridge and yielded a surprising amount of preserved wooden fabric from the bridge's support system.

An additional excavation was undertaken to search for the wasteway water-control structure northwest of the store, known from historic maps including Silliman's canal survey of 1911. Although sandstone blocks were found, the possible relationship of these items to the water-control structure could not be determined (Pacheco 1998:9).

### *Summary*

From the summary presented above regarding previous historical and archeological research at the former Mustill property, it is obvious that the Midwest Archeological Center's team had considerable data available to assist in interpreting the findings of 1998 and 1999 archeological fieldwork activities. The strata, features, and materials encountered in our efforts could be readily contrasted and compared with the results of earlier work. Perhaps the most important finding was Pacheco's identification of the deep, recent fills present north of the store. This allowed us to focus our efforts on canal-era strata, and to minimize screening within later deposits unrelated to activities at the store. All the projects provided very useful data on the distribution of features and soil strata near the store. We used that information to further sample the features through additional test excavations and to recommend methods for in situ preservation of the features during subsequent ground disturbing activities related to restoration of the store.



## Field Methods

Field methods for the 1998 and 1999 Midwest Archeological Center efforts at the Mustill House and Store consisted primarily of evaluative test excavations. This work occurred within project areas where NPS restoration actions were anticipated to result in varying amounts of ground disturbance, or where more information was needed for planning select aspects of the restoration program. With a few exceptions, test units measured 1 m by 1 m, following the 1995–1997 fieldwork methods of Bush (1996b, 1997) and Pacheco (1998). As in previous projects, test units were occasionally combined to form larger blocks. This was deemed necessary to expose certain structural features and to safely intersect the occasionally deeply buried early- and middle-nineteenth-century grades around the property. While most excavations followed arbitrary 10-cm levels, natural or cultural strata served as vertical excavation proveniences in some instances. Excavated soil was routinely screened through ¼-inch hardware cloth. Exceptions occurred in certain areas near the store where recent landfill zones contained cultural materials unrelated to activities conducted at the house or store. These fills, which reach 90 cm or more in depth based upon the findings of Pacheco (1998), were removed without screening in areas near the former store's front porch. All excavations were documented through standard forms, plan and profile drawings, narrative field notes, and photography. The resulting collections are owned by the City of Akron and were loaned to the Midwest Archeological Center for the duration of the project.

All MWAC fieldwork was conducted with the overarching goal of preserving site features and artifact deposits in situ. Accordingly, information from test excavations was provided to NPS project planners as work progressed so that the data could be utilized in the project development phases. Through this process, it proved possible to both study and preserve many important aspects of the site's archeological record. All of the potentially significant site features examined in 1998 and 1999 were left completely or largely intact for potential future study. This is despite the fact that some of these features were slated for major alteration, or even removal, in initial designs of the site development plan. In order to protect archeological resources, I made several recommendations for alterations of the plan. The ultimate preservation of numerous archeological features resulted from careful planning by NPS project Historical Architects Michael Scott and Mark Slater, the acceptance of my recommendations by NPS management (particularly Management Assistant Dennis Hamm) and the multi-partner team that restored the property, and the excellent application of the plans by the NPS restoration team. This process was complex and not easily accomplished, but the net result is that the historic property was restored and the associated archeological record is largely preserved in place.

### *1998 Fieldwork*

Just prior to the May 1998 fieldwork, the author of this report became ill and was not able to direct the project. Fieldwork plans had been made and a Work Plan written before this occurred. On very short notice, NPS Archeologist Bret Ruby, then with Hopewell Culture National Historic Site in Chillicothe, Ohio, and Mark Lynott, Manager of the Midwest Archeological Center, substituted for Archeologist Richner. Fieldwork in May focused upon the following restoration actions scheduled by the NPS restoration team in 1998:

- (1) placing a new foundation under the west wing or addition to the Mustill House;
- (2) placing a new foundation under the bay window at the Mustill House;
- (3) digging a crawl space for utility installation under the house addition;
- (4) removing a small, non-historic addition from the west façade of the Mustill House;
- (5) re-creating the Meat Market on its former footprint at the Mustill Store; and
- (6) re-creating the front porch on its former footprint at the Mustill Store.

These project components were examined through archeological test excavations at each location. The amount of excavation varied considerably depending upon the nature of anticipated ground disturbance and the yield of artifacts and features as test excavations were initiated.

### **Test Excavations at the Mustill House, May 1998**

Despite the fact that considerable ground disturbance was anticipated at the Mustill House in 1998, test excavations were of limited scope because very little was found around and under the west wing of the house where most disturbance would occur. This result matched the findings of the 1995 CCRR project. Bush's (1996) excavations near the house yielded very minimal and extremely shallow artifact deposits. Bush had found that artifacts, most of which were recent, were confined to a shallow, disturbed humus zone. Similar results were obtained from MWAC test excavations in 1998.

Nine test excavation units were placed around and within the house in 1998 (Figure 10). Test Units 1 through 8 were 1 m by 1 m in extent, while Test Unit 9 measured 0.5 by 1 m. Test units were placed on each side of the west addition slated for extensive renovation, adjacent to the small modern addition that would be removed, and within both of the additions. Test Units 1 and 4 were positioned along the north façade of the addition, Test Unit 2 along the west façade, and Test Units 3, 5, and 6 along the addition's south façade. The eastern side of the addition forms its connection with the core of the house. With the exception of Test Units 3, 5, and 6 where a brick cistern was discovered, all of these exterior test excavation units exposed a very shallow and mixed soil with very minimal artifact yields. Test Unit 8, placed within the small addition, and Test Unit 9 placed within the larger west addition, yielded similar, disappointing results. Workmen removed floorboards within the additions, and excavation was accomplished between the floor joists. The joists were raised above the ground surface a short distance, making the excavation at least practical, but not highly convenient. Minimal soil depth was recorded and artifacts were essentially absent in these two units.

Given the paucity of cultural materials recovered from the 1998 test excavations at the Mustill House, work there focused solely upon mapping and documenting the cistern discovered along the south wall of the main addition, just west of the small, modern addition (Figure 10). The interior of the feature was not excavated, since the maintenance team believed that it would be practical to preserve the feature in situ, despite the extensive ground disturbance anticipated to occur near it. At the completion of fieldwork at the house, the location of the cistern was carefully marked, and project personnel were appraised of its location and the need to protect it during upcoming major restoration efforts at the house.

Midwest Archeological Center personnel also monitored the Mustill House restoration project later in 1998. This work was sporadic in nature and revealed no discoveries of additional features or artifact accumulations. The cistern was not disturbed during removal of the modern addition near it, nor was it impacted by repairs initiated after the west foundation wall of the main portion of the house collapsed unexpectedly. A small portion of the upper northern side of the feature was damaged by excavation of the new crawl space under the west addition. Numerous bricks were displaced, but the contents of the cistern, and its primary extent below ground do not seem to have been compromised. No other formal hand excavations were undertaken at the Mustill House as part of the Midwest Archeological Center project at the site, although mechanical trenching was used in 1999 to examine the proposed routes of various utility routes where they would approach and connect to the house. These efforts are discussed under 1999 fieldwork methods below.

### **Test Excavations at the Mustill Store, May, June, and July 1998**

Archeological test excavations at the store in 1998 focused on the former Meat Market and front porch areas, since the NPS restoration team planned to reconstruct those features as important initial aspects of the building's restoration (Figure 11). Drawings for this work had been developed prior to NPS involvement in the project, and they called for the installation of completely new foundations for both the porch and Meat Market. I pointed out to the NPS team and the project partners that this plan would result in a complete loss of original foundation fabric for both non-extant structural features. Also, extensive associated ground disturbance would have adverse impacts upon archeological deposits adjacent to the foundations. Bush's (1996b, 1997) test excavations revealed that the sandstone foundations for the wasteway (which he did not identify as a porch foundation, but which certainly served that function) and the Meat Market were extensive and appeared to be in good condition. Accordingly, I suggested to project

planners, especially CUVA Civil Engineer Rob Bobel, that the planning team work to find a method of preserving the foundations, if possible. He suggested that we partially expose them so that their integrity could be further evaluated, and that was the primary focus of MWAC fieldwork at the store in 1998.

In 1996, Bush's team exposed portions of a sandstone wasteway retaining wall near the northeastern and southeastern corners of the Mustill Store (Bush 1997). We reopened his previous test excavation units and connected them through excavation of a new, linear trench (Figure 11). The result was an I-shaped excavation trench with 1-x-1.4-m test units at either end, connected by an 80-cm wide, 6-m-long trench. This test trench extended from 101N to 109N on the excavation grid and was centered within 115E to 116.5E on the grid. A continuous sandstone foundation was exposed in this trench. Excavation was difficult and involved removal of cinder and gravel-rich compacted fill overlying and adjacent to the sandstone feature. Since Bush's and Pacheco's excavations along this feature and to the north along another portion of the wasteway revealed deep, recent fills unrelated to activities at the store, the soil removed by the MWAC team along the porch foundation and wasteway wall in May 1998 was not screened. Excavation continued to about 55 cm below surface from 101N to 104.5N, and to an average of 30 cm below surface from 104.5N to 109N. This depth was sufficient to fully expose the top course of blocks for the porch foundation and wasteway wall. The upper surface of the wall was at variable elevations, but averaged about 829.5' amsl.

Two meters farther to the north, a 1-x-1-m test unit was placed at grid coordinates 111-112N 115.5-116.5E in line with, but several meters north of, the northern extent of the wasteway retaining wall recorded by Bush's CRR teams (Figure 11). It was hoped that this location might yield clear evidence for the foundation of the northernmost edge of the porch that formerly spanned the east (canal, towpath) façades of the core of the store and its attached Meat Market. Here, as in the 1998 excavation trench, the sandstone foundation wall feature was recorded. The blocks were somewhat more deeply buried at this location, with the highest surface buried about 30 cm below the contemporary surface. The surface of other stones were as deep as 53 cm below surface. While at least two blocks seemed to be knocked out of original position, the northern extent of the feature seems to occur within this excavation unit.

The portion of the porch foundation and wasteway wall exposed in this trench and 1-x-1-m test unit was photographed and drawn to scale in May 1998. The test unit was left open at the conclusion of fieldwork and was enclosed with plastic mesh fencing on metal posts. This allowed the project partners to examine and carefully consider the feature. I continued to argue for its preservation and for rejection of the original, pre-NPS plan that would have resulted in its removal and replacement with a massive, poured-concrete foundation. Since the foundation would only have to partially support a new wooden porch, I believed that replacement was not necessary and would lead to additional project costs through foundation replacement and extensive, deep archeological excavations that would be recommended should the original plan be implemented.

Project planners, under the leadership of CUVA Civil Engineer Rob Bobel, devised a solution that enabled the entire existing foundation to be saved. Sandstone was added to the existing upper course of the feature to bring its surface up to the grade necessary for the porch. Since the store's doorsill was at an elevation of about 830.75' amsl, little had to be added to the foundation to meet grade requirements. In order to meet structural and loading concerns, Bobel devised a set of cylindrical concrete tubes that were poured vertically inside (to the west of) the sandstone foundation. These were installed by removing soil with augers and pouring concrete within cardboard tubes placed in the excavated holes. The porch joists are actually supported by these concrete supports as the porch cantilevers slightly over the supports and ends near the center of the sandstone wall. In this design, the stone foundation is the only feature visible, and it appears to carry the weight of the porch. However, it bears little, if any, load with the true supporting structure hidden under the porch deck. Since the new concrete supports were excavated only into deep, post-1913 fills within the former canal wasteway that passes under the porch, no archeological work was recommended to accompany porch reconstruction. The result is that the original sandstone feature is completely preserved along with historic-era fills at or near the base of the wasteway, yet the porch is secure with a new foundation. This is an excellent example of the kinds of feedback between archeology

and project design that occurred throughout several phases of the Mustill project. It resulted in preservation, rather than excavation and removal, of historic archeological features and deposits.

In addition to the store's porch foundation excavation, a portion of the former Meat Market was also subject to limited test excavation in May 1998. Following Bush's recommendation to excavate a portion of the interior of the Meat Market to ensure that sterile soils were indeed reached during 1995 and 1996 excavations there, the MWAC team opened two adjacent 1-x-1-m test units at grid 108-110N 110-111E and one unit at 110-111N 112-113E. The southernmost of the two contiguous test units was expanded slightly to the south, since the 110N grid line is 0.25 m north of the store's foundation. It was not practical to leave a 25-cm-wide balk along the foundation, and I wanted to examine the store's foundation to resolve questions remaining from Bush's description of that feature. Accordingly, the final excavation spanned 107.75 to 110N, 110 to 111E. This small test unit was within an area excavated by Bush in 1996. His reports left some uncertainty as to the depth of excavation in these units, but he believed that sterile subsoil was encountered in all excavation units within the former Meat Market. We discovered black plastic along the excavation floor of one area that indicated Test Unit 109-110N 110-111E had been excavated to a depth of just less than 50 cm below surface, while the other test unit was excavated to less than 30 cm below surface. In May 1998, the MWAC team excavated these test units to a maximum depth of 120 cm below surface; we were certain that we were still working within cultural fills at that depth. Artifacts, occasionally in high density, were recovered from all of the deposits below the previous CCRR excavations. Early historic ceramic sherds were especially numerous from about 70 to 100+ cm below surface. For safety reasons, excavations were terminated in the southern half of the test unit at about 120 cm below surface and in the northern portion of the test unit at about 105 cm below surface. However, a single shovel test was excavated into the floor of the southern part of the test unit in an attempt to reach sterile soil. Dense, impermeable clay, typically gray in color but containing lighter orange pockets, was encountered at about 170 cm below surface. Ruby (1998) interpreted this deposit as the sterile subsoil, well over 1 m below the level Bush identified as sterile subsoil.

Ruby's discovery of deeply buried nineteenth-century artifacts and his associated interpretation of site stratigraphy at the Meat Market was perhaps the most important result from the May 1998 MWAC fieldwork at the site. This caused a complete reconsideration of Bush's identification of the sandy Stratum II as sterile subsoil and guided all subsequent excavations at the store. The results of the May 1998 excavation are more fully detailed in a later section of the report.

Limited additional excavation was accomplished at the Meat Market later in 1998 by a second MWAC team under the author's direction. At that time a backhoe was used to reopen the 1-x-2.25-m trench excavated by Ruby's team in May 1998. In addition, a second trench was opened north of the Meat Market to expose the complete depth of its foundation so that additional data could be collected relative to plans to replace the foundation when the Meat Market was reconstructed. As much as was possible, the trench inside the Meat Market followed the borders of the test unit excavated in May 1998. However, the nature of the equipment and a nearby tree that hindered the operator caused the backhoe test unit to be somewhat wider than the original, hand-excavated unit, and it extended farther to the north as well. This excavation confirmed Ruby's identification of fill zones versus original grade and revealed numerous pieces of preserved wood, along with other artifacts, at the surface of the deeply buried, impermeable clay horizon.

The trench outside the Meat Market was placed at 111.6-114.6N 108-109E. This trench was extended only to a depth necessary to expose the base of the foundation. This excavation occurred primarily in fills and would seem to match the findings of Pacheco relative to landfills north of the store very well. The primary result of this excavation was the determination that the foundation is about 36" high. Given the presence of extensive middle- and/or early-nineteenth-century artifacts from the limited MWAC excavation within the Meat Market and the new interpretation of fill depths, it was apparent that the original plan for removal and replacement of the sandstone foundation with a poured-concrete foundation would have adverse impacts on potentially significant archeological deposits over a large area of the Meat Market. I recommended that every attempt be made to preserve the existing foundation and re-use it when the

Meat Market was reconstructed. As at the front porch, this would serve to preserve original fabric and archeological deposits, as well as greatly reducing the scope for archeological fieldwork, and therefore the costs, of the project. Project planners were able to make minor repairs to the foundation and to utilize it in the final design for the Meat Market. This entailed excavating around the perimeter of the feature and effecting repairs, occasionally by adding sandstone where required. Since the excavation did not penetrate below recent fills, no additional archeological excavations were undertaken in association with this work. While the restoration team had the foundation exposed, they also placed a perimeter drain along its exterior base. Later, in 1999, this drain was extended around the entire structure.

### **Test Excavations at Wasteway Water-Control Structures in 1998**

Limited excavations to expose concrete wasteway water-control structures were also accomplished in both of the MWAC 1998 field efforts. This was accomplished at the request of Bruce Norton of the Cascade Locks Association. Using data scaled from historic drawings, he projected where he thought these features might occur on the contemporary landscape (see Pacheco 1998). In May 1998, Bret Ruby's team used these data to successfully re-expose a portion of a concrete water-control structure at the east edge of the towpath through hand excavation. The feature was found to be in an excellent state of preservation, and like other features at the site, buried under surprisingly deep, recent fills.

Later in 1998, Richner's team utilized a backhoe to relocate a second water-control feature north of the store. Previous excavations failed to discover this feature. Norton's efforts in scaling from the historic drawings proved to be highly successful in predicting the location of both features. The northernmost of the two features was covered with a thick zone of recent fill containing huge numbers of twentieth-century artifacts. This deposit is a landfill and dump previously identified and recorded during Pacheco's search for the wooden bridge that formerly spanned the wasteway north of the store. Both wasteway features were left partially exposed through the course of the project so that they would not be inadvertently disturbed during extensive work on transforming the towpath into a modern, multi-purpose trail.

### ***1999 Archeological Fieldwork***

All MWAC fieldwork at the Mustill property in 1999 was conducted to examine areas within proposed utility and drainage corridors. While some of the lines were installed in routes depicted on the initial drawings, other utility line routes underwent multiple revisions before (and during) installation. This required considerable flexibility on the part of the NPS restoration and archeological teams. For example, modifications were made in the final water and sewer line routes as the systems were actually being installed. The archeological work for this aspect of the overall restoration program was a combination of test excavation, mapping, and making recommendations for avoidance of archeological resources, where necessary. Most of the lines intersected only recent fill zones, although some nineteenth-century deposits were exposed in portions of the perimeter drain at the store and where the sewer line intersected the store's south façade. These components of the project received the most archeological attention. A combination of mechanical and hand test excavation procedures were used to investigate the utility line routes. Most of these lines traversed the sloping area between the house and the store. The routes of the utility lines, as built, are shown in Figure 12. The depths of the lines were quite variable, with the sewer and water line requiring deep excavations in some areas.

Midwest Archeological Center team members were present during all excavations for utility work and recorded the process through mapping, profiles, photography, and where appropriate, hand excavations and/or collection of exposed artifacts. Recommendations were made through the planning and installation process for limiting impacts to archeological deposits, and it proved possible to incorporate many of these recommendations in the final design. One recommendation made by both the MWAC and restoration teams was to delete the perimeter drain from the final design at the store. From an archeological perspective, we hoped this could be deleted, since we anticipated that test excavations would be difficult due to expectations for deep fill and the presence of recent gravels and other materials that would have to be excavated by hand. The possibility of deleting this project component was considered but rejected. The project partners opted to keep the perimeter drain, since they determined that if it were not

installed, gutters and downspouts would be needed, and those were thought to inappropriate since they would compromise the visual integrity of the building's exterior, given the time period represented by the restoration.

Archeological test excavations to examine the areas proposed for the installation of a perimeter drain for the store constituted the primary component of site test excavations in 1999 (Figure 13). A total of about 17 m<sup>2</sup> was excavated immediately adjacent to the store's north, west, and south foundation walls. Some of these tests were taken to considerable depth, since the perimeter drain was eventually installed at the base of the store's sandstone foundation, and in some areas very deep fills occur abutting the foundation. Excavations extended to the depth of the footer in some areas, while at many areas, excavation was terminated where undisturbed, sterile subsoil clays were encountered. No excavations were conducted along the east façade, since the perimeter drain was not placed at the foot of the foundation in that area, but was instead placed within the recent fill of the wasteway. Its function there was to connect the lines from the other façades and carry them to a storm drain installed farther to the north.

Figure 11 depicts all of the test units placed to investigate the area to be impacted by installation of the perimeter drains, and an area where sewer and other utility lines connected to the building. The excavation of these test units provided considerable additional data for understanding the fill sequences around the building, and for defining the general topography in the area prior to construction of the store. For example, it was determined that very little fill is present at the northwest corner of the store, while rather deep fill occurs only a few meters to the south at the southwest corner of the structure. The results of the investigation of the routes are described in detail in a later section of the report.

### ***Laboratory Methods***

All of the materials collected during the 1998 and 1999 MWAC projects at the Mustill property were returned to Lincoln where they were cleaned, repackaged, and analyzed. All items were sorted by provenience and media (i.e., ceramic versus glass) and placed in zipper-seal plastic bags. Acid-free 4" by 4" provenience cards were placed within each container. These cards list all pertinent provenience and excavation data, including test unit location, level, excavator, date, accession number, and other related information. The materials are the property of the City of Akron and were loaned to MWAC for the course of the analysis project. The materials are curated at the University of Akron, where the collections from previous Mustill projects are held.

Artifact analysis procedures differed according to the analytical potential of the artifact classes. The materials from this project are considerably different from those from previous projects, since the bulk of the 1998 and 1999 materials are of nineteenth-century age, while most of the earlier collections are of more recent vintage. In fact, much of the assemblage from the 1995 and 1996 CCRR excavations are from landfill deposits that contain materials unrelated to artifact discard from the Mustill House and Store. More, but certainly not all, of the 1998 and 1999 materials are directly related to activities occurring at the house, store, or earlier structures at Lock 15.

All artifacts were tabulated and placed in the Microsoft computer database Access. For materials with limited analytical potential, no further analysis was completed. For other material, such as ceramic sherds, several other procedures were employed. All sherds, with the exception of very small specimens, were labeled and laid out on trays by excavated provenience. These materials were then sorted within levels and test units into decorative types. Then, attempts were made to mend individual specimens. Initial attempts were made within levels, then across levels of individual horizontal proveniences. Next, attempts were made to mend specimens across adjacent or nearby horizontal proveniences, and finally, across all excavated proveniences. Subsequently, individual vessels were identified where possible based upon unique design type or vessel form. Ware (paste) and decorative type were tabulated for all sherds. Where feasible, decorative patterns were further identified. In some cases, patterns could be identified (e.g., Canova) and likely makers determined. For all materials that could be identified or associated with specific vessels, an additional form was completed that summarized all proveniences represented, decorative type and pattern, number of sherds, maker (where known), and other variables. An example of this form is

shown in the Appendix. The sherds were then repackaged by provenience, or in the case of identified vessels, by vessel identification number.

Clay tobacco pipes and a few other artifact types are treated similarly in this report to the ceramics, but most objects were tabulated without further detailed analysis. A few unique items were researched in detail through comparison with published reports, period trade catalogs, and other sources. One item that we were not able to identify was illustrated on the Midwest Archeological Center's web site<sup>1</sup> and presented as a "mystery object" with an invitation to the public to help identify it. Responses ranged from ingenious to absurd, but two respondents correctly identified the item as a fishhook disgorger (remover). We confirmed this identification through comparison with illustrated examples in historic trade catalogs. Notably, the first person to identify it correctly works at the Ohio Department of Transportation, an agency that was one of the archeological participants in the overall restoration project.

In this report, I emphasize refinement of site depositional sequences and expansion of our knowledge about select site features occurring adjacent to the store. Where possible, many of the artifact presentations are handled through tabulations and lists rather than within lengthy narrative discussions. Certain artifact classes, however, are considered in detail in discussions of interpretation and significance.

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<sup>1</sup> The "mystery object" is no longer featured on our web site. However, many other features, news items, recent reports, and archives, as well as a directory of MWAC employess and links to related sites, are maintained at the Midwest Archeological Center's web site at <<http://www.mwac.nps.gov/>>.



## Site Stratigraphy

The initial Midwest Archeological Center fieldwork conducted at the Mustill property in May 1998 (Ruby 1998) revealed that one important interpretation of the stratigraphic sequence defined for the site by the CCRR team (Bush 1996b) would need to be revised. While the test excavations conducted at the Mustill House in 1998 provided stratigraphic data that rather precisely matched Bush's findings of sterile soil directly underneath a very shallow cultural zone, results from work at the Mustill Store did not support Bush's interpretations of the depositional sequence adjacent to the store. Small-scale MWAC test excavations at the Meat Market in 1998 revealed that cultural deposits there were much deeper than reported by Bush. Subsequent hand and mechanical excavations in the front yard of the Mustill House and flanking the Mustill Store in 1999 confirmed the basic sequence exposed in the limited 1998 excavation at the store's Meat Market. As noted by Bush (1996b:9, 11), several man-made strata are present, and the sequence is not identical in all areas of the site. However, it is necessary to review the details of Bush's stratigraphic interpretations before presenting data from the Midwest Archeological Center excavations.

### *Stratigraphic Interpretations, Center for Cultural Resource Research*

Bush identified two natural strata and several man-made ones (Bush 1997:9–11). His Stratum I constitutes the modern topsoil at the site. It is a very dark gray (5YR3/1) sandy silt. Profiles from our 1998 and 1999 excavations confirm Bush's identification of this stratum, but they do not fully support his observation that artifacts within this zone are limited to the post-1950 era.

Bush (1997:11) defined Stratum II as the culturally sterile subsoil occurring across the entire project area. This sandy silt is a dark yellowish brown (10YR4/6). Bush noted that a gray clay formed the base of the soil profile in the floodplain near the stream. He did not record this clay in the main project area near the house and store. MWAC excavations in 1998 and 1999 revised Bush's sequence, since the clay was found to be present under Bush's Stratum II throughout most of the project area. Furthermore, we determined that Stratum II is not culturally sterile.

Bush identified Strata III, IV, and V in his excavations at the store's Meat Market addition (Bush 1997:12–13, 25–26). Stratum III was the uppermost layer and consisted of leaf litter, humus, and silt. Other than its color (2.5Y2/0) it appears to be similar to Bush's Stratum I, since it contains modern materials and occurs as a thin surficial deposit. Bush's Stratum IV is the primary deposit the CCRR team recorded at the Meat Market. Of variable thickness (10–40 cm) and color, Bush characterized it as a purposeful fill placed to level the area "during or after the meat market was razed" (Bush 1997:12). Artifacts spanning the entire history of site occupation were recorded in this stratum.

Bush recorded Stratum V below Stratum IV on the basis of very limited exposure in two excavation units. He commented that it appeared similar to Stratum II, but differed in that it contained some artifacts. This (dark) yellowish brown sandy silt (10YR4/6 to 10YR5/6) was reported to contain materials from the canal era (Bush 1997:26). Under Stratum V, Bush recorded Stratum II, a zone that he interpreted as a culturally sterile deposit identical in color and description to his Stratum V. Only a very small portion of this stratum was exposed at Bush's horizontally extensive Meat Market excavations.

### *Stratigraphic Interpretations, Midwest Archeological Center*

A reinterpretation of certain aspects of the site's stratigraphic sequence is a primary result of the 1998 and 1999 MWAC fieldwork at the Mustill site. Excavation revealed that Bush's Stratum II was not the basal deposit at the site, nor was it culturally sterile. Instead, most, if not all, of Stratum II was found to be a cultural fill zone, and it contains nineteenth-century artifacts. The gray clay mentioned by Bush in the nearby floodplain was found to underlie Bush's Stratum II on three sides of the store and in other areas of the site. The clay is certainly present on the store's east side as well, but excavations in 1998 were not of sufficient depth to expose it there. This clay deposit, not Bush's Stratum II, is the culturally sterile subsoil at the site. This interpretation is based upon excavations along all sides of the store and in the front

yard of the house. This site depositional sequence was first noticed in May 1998 in limited MWAC excavations at the Meat Market and was confirmed by mechanical excavation at that location in late July 1998.

In 1998 Midwest Archeological Center teams conducted limited re-excavation of units within the Meat Market originally excavated in 1996 by CRR. Our excavations revealed that rather extensive middle-nineteenth-century deposits are present below the lowest deposits excavated by the CRR team, which Bush reported as sterile. These materials were initially found in three excavation units conjoined to form a 1-x-2.25 m test excavation unit (107.75-110N 110-111E) at a depth from about 60 to 125+ cm below surface (Ruby 1998) and in a subsequent backhoe trench placed at the same grid location. The mechanical trench was excavated on July 29, 1998, to more safely expose the lower portions of the deep stratigraphic profile recorded by Ruby's team in May 1998.

Truly sterile deposits were not reached in these excavation units until very strongly laminated, compact gray and brown clays were encountered below the sandy silt zone (Stratum II) identified by Bush. Dense gray clay is present under the laminated zone. The laminated clays were exposed at a depth of about 155 cm below surface and the gray clay at about 170 cm below surface in a shovel test at the base of Ruby's May 1998 Test Unit 108-109N 110-111E and the July 1998 backhoe trench. This clay zone is designated Stratum VI and can be considered a horizon, since it appears to underlie the entire site. Numerous perishable items, including milled wood scraps, leather, and a well-preserved oak handle from a tool such as a pan scraper or plow were exposed on the wet clay surface in the backhoe trench. A few of these items were collected. These artifacts probably date to the era of initial construction at the lock. The hand and machine excavation at the Meat Market in 1998 clearly revealed that Stratum II was not a culturally sterile subsoil, but instead is a fill episode that overlies an earlier historic grade.

The clay horizon was first encountered more than 100 cm below CRR's deepest reported excavations within the Meat Market. Although Bush reports that 75 percent of the fill within the Meat Market was excavated, the actual fill zone was much deeper than the CRR team had thought, and their sampling of the deposit was accordingly much more limited than he had calculated. In fact, the CRR team sampled little, if any, of the extensive underlying nineteenth-century artifact-bearing deposits within the Meat Market footprint.

A second small backhoe trench excavated outside the Meat Market in 1998 (111.6-114.6N 108-109E) cut through a thick zone of Stratum II, but exposed few artifacts (Table 1). However, the presence of sizeable chunks of industrial glass slag scattered through this stratum clearly indicates that the deposit is a historic fill zone. In that trench, the actual basal deposit at the site, a gray clay (2.5YR6/0) with pockets of light olive brown clay (2.5YR5/4) was exposed at a depth of about 145 cm below surface.

At the southwest corner of the store in Test Units 100-101N 100-101E and 100-101N 101-102E, an area considerably higher in elevation than the Meat Market area, Bush's Stratum II extended only to a maximum depth of about 60 cm below surface where it abruptly terminated at a distinct black buried humus (5Y2/1; Figure 14). Below the thin band of humus was a zone of dark brown (7.5YR3/4) sandy clay loam containing numerous bands of sandy clay laminations, several of which are a strong reddish color (2.5YR4/8). Some of these laminated deposits are highly cemented and are very difficult to penetrate with hand tools. Although dense gray clay was not exposed in these excavation units, other nearby excavations revealed the presence of that clay under the laminated brown clay loam. While the distinct paleosol seen at the southwest corner of the store was not recorded in all the other units excavated around the store, the laminated clays and/or the dense gray clay were exposed in those excavations carried to sufficient depth to encounter that deposit. Near the northwest corner of the store, the laminated clays are not too deeply buried, while in the front yard of the Mustill House, the clays are covered by a deep fill zone. Despite fluctuations in depth across the site, it appears quite certain that the laminated brown clay and compact gray clay zone marks the actual sterile subsoil at the site, with varying amounts of fill deposited over it in the long history of site use.

The thin paleosol humus zone recorded in profiles near the southwest corner of the store was not observed in all areas where the laminated or gray clays were encountered. For example, no distinct paleosol

was noted in the limited excavations conducted at the Meat Market, nor at the more extensive excavations along the store's south façade. It appears that this surface may have been truncated or otherwise obliterated across much of the project area as a result of early nineteenth-century construction activities. The construction of two water wasteways (one in front of and one behind the store), the lock, the first Mustill residence, the later Mustill House, the Mustill Store, and all the associated features such as cisterns and outbuildings, must have resulted in considerable alteration of the landscape before and after the extensive Stratum II fills were deposited.

In terms of a basic sequence of events, the gray clay and its overlying dark brown laminated sandy clay loam appear to have formed the ground surface when the site was initially developed. Certainly the sandy clay loam was exposed long enough for a distinct humus zone to form on its surface as indicated by profiles at the store's southwest corner. In attempting to maintain the strata designations of Dr. Bush's work at the site, I have designated the basal clay zone as Stratum VI. This deposit is somewhat variable, consisting of very dense pure gray clay as well as laminated zones of gray and other colored clays and sandy clay loams. I have designated the gray clay as Stratum VIc, the more loamy laminated clays as Stratum VIb, and the organically stained surface of that zone, the buried humus, as Stratum VIa. As indicated above, the thin paleosol Stratum VIa is not preserved across major areas of the site.

In my opinion, Bush's distinction between Strata II and V was not fully justified, since subsequent MWAC excavations have shown that Stratum II, thought to be sterile by Bush, does contain artifacts. The presence or absence of artifacts was the single factor that Bush used to separate and define Stratum V from Stratum II. In 1999, we found small pieces of nineteenth-century whiteware in contiguous 1-m<sup>2</sup> test units at 102-103N 100-101E and 103-104N 100-101E scattered in small quantities through the primary fill zone, a brown sandy loam (10YR4/6; Figure 15). This deposit appears to be equivalent to Bush's Stratum II, although we encountered pea gravel and cobbles that were not mentioned by Bush. The same deposit occurs across the entire site, and it typically contains only small quantities of fragmentary white-ware sherds and other cultural materials. However, for the most part, it is clearly identified as fill because it contained glass slag and small numbers of artifacts wherever we exposed and screened it. Accordingly, while I have maintained the Stratum II designation, I reinterpret it to be a nineteenth-century fill containing artifacts.

Bush's Strata I and III also appear to be equivalent, or at least very similar, in that they form the current surface over most of the area and are very darkly stained. I have used the designation Stratum I for this deposit in the current report. I am not certain if we encountered Bush's Stratum IV and have not used that designation here.

### ***Summary***

Over most of the site there is a fairly consistent stratigraphic profile, although the thickness of some of the deposits is quite variable. An organically stained silty loam (Stratum I) occurs at the surface, overlying the Stratum II fill of variable, and often considerable, depth. Under this fill is a zone of laminated brown and gray and/or dense gray clay (Stratum VI). Midden deposits occur in select areas on the surface of Stratum VI and within, or above, Stratum II in other areas around the store.

Extending to various depths from the current surface is a dark, black (10YR2/1) zone of fine sandy loam. Bush originally defined this as Stratum I, a designation retained in this report. Near the house, this deposit is very thin, typically only about 10 cm thick. Near the store, the deposit is usually much thicker, often about 25 cm thick and sometimes more (Figure 16). The depth of this deposit appears to increase along the south façade of the store as one moves east and downslope toward the lock. In Test Unit 100-101N 112-113E near the southeast corner of the store, the black Stratum I loam extends to about 70 cm below surface. Bush indicated that Stratum I was fully modern in age, postdating about 1950. Perhaps I have defined this stratum more broadly than Bush, but I note that the black loam also contains some early twentieth-century materials that appear to be in original context as well as even earlier materials that probably originated in older strata but were redeposited in Stratum I. Within Stratum I are various twentieth-century features, including brick walkways, drip line "splash blocks," and drainage tiles.

Most of the fill deposit that we encountered in 1998 and 1999 appears to match Bush's Stratum II (and V). The fill is typically a brown (7.5YR6/4) loam, although variations in color and texture occur across the project area (Figures 14–16). The deposit is usually a sandy loam, but in some areas is more of a silt loam. The deposit contains considerable amounts of pea gravel and often larger pebbles and cobbles. This deposit is of variable depth, ranging from just under 30 cm to as much as 100 cm across the project area. The source of this fill is undetermined, although in some areas it contains glass slag that would appear to derive from industrial activities. For example, similar slag is known to result from melting of silica sand in the process of removal of impurities during pig iron smelting (Richner 1992b:126). The slag from Stratum II is of varying color, often shades of gray, and, although of irregular shape, has a very fine-grained interior texture comparable to glass or obsidian.

While not culturally rich, the Stratum II fill consistently contains artifacts. Typically, these artifacts are scarce and highly fragmentary. In some areas, such as in front of the Mustill House, this fill contains little cultural material. In contrast, in other areas, such as near the Mustill Store, there are many ceramic sherds, glass slag fragments, and various other materials. Diagnostic materials suggest that the fill is of middle-nineteenth-century age. This general dating is supported by the age of artifact concentrations and midden deposits under, within, and above Stratum II. One of the most notable and impressive of these deposits was found within the Meat Market, although similar deposits were also recorded near the southwest corner of the store and along the store's south façade at Feature 7. This horizontally discontinuous nineteenth-century midden deposit is designated Stratum IIa.

Under this sometimes very extensive Stratum II fill is a zone of laminated silts and dense, compact clays. It appears that the surface of the clay zone formed the ground surface when the site was originally occupied, and that the fills were primarily deposited over the clay as occupation continued through the nineteenth century. North of the store, massive filling continued into the twentieth century. Early-twentieth-century fills are also present along the lock and canal where a former basin and associated wasteways were filled after 1913.

## Site Features

### *Features Re-Examined or Discovered in 1998*

University of Akron or CCRR field teams originally discovered many of the site occupational features examined in 1998 and 1999 by MWAC teams. However, a few new features were exposed in 1998 and 1999. Attempts were made to preserve all site features known from previous and current work, and this goal was met in nearly every case.

#### **Mustill House Feature 1, Cistern**

Limited test excavations at the Mustill House in 1998 exposed a cistern along the south façade of the primary west addition to the original core of the house. The cistern was initially encountered in Test Unit 3. Adding adjacent Test Units 5 and 6 to the south of the original test unit subsequently expanded this from a 1-m<sup>2</sup> to a 3-m<sup>2</sup> excavation. These test units were opened to better expose the extent of the cistern. The upper surface of the cistern was initially exposed in the southern portion of Test Unit 3 within the 10–20 cm level. In addition to the obvious structural component that formed a gradually curving arc across the south end of the unit, a clear soil differentiation was noted inside versus outside the feature. The interior contained black soil with pea gravel (Stratum I), while the exterior was a brown mottled sand with pea gravel (Stratum II). The upper portion of the feature flared inward sharply. The exterior of the feature was surrounded by a thin concrete “wall” ranging from 2 to 4 cm thick. This was positioned about 18 cm from the outside edge of the bricks that form the feature’s core. The function of this element is not obvious, but it may have formed a kind of catchment or spill basin.

The cistern was constructed of a variety of bricks, mostly consisting of hard red, but also including older, recycled, soft, orange specimens. Once the outline of the cistern was established through limited excavation, typically to a depth of only 20 cm below surface, excavations were ceased and the feature was documented through drawings and photography. Only a small sample of fill from inside the feature was recovered via probing with a hollow core probe. Fill in the upper part of the feature is rich in coal cinders, likely from a coal-fired furnace.

The outline of the cistern was exposed in Test Units 3, 5, and 6 (Figure 17). The maximum inside diameter of the feature is about 127 cm at the top course of bricks. However, since the upper courses of bricks slope steeply inward (about 50°), this measurement certainly does not mark the greatest diameter of the feature. In Test Unit 3, the upper three courses were exposed to view, at a depth of about 30 cm below surface, while in Test Units 5 and 6 only the upper one or two courses were exposed. From this limited exposure, it was determined that the exposed upper courses were sloping inward, apparently forming a dome. It is probable that the uppermost part of the feature is missing, since most dome-shaped cisterns arc inward even farther, ending in a clearly finished rim with a rather small opening where a hand pump was typically installed. When we found the cistern in 1998, the upper portion was not finished in any obvious manner, suggesting that some upper courses of bricks are missing, having been previously removed.

At the completion of documentation of the uppermost portion of the feature, excavation was terminated and the contiguous Test Units 3, 5, and 6 were backfilled. A plan view and three profiles of the 1-x-3-m excavation was completed prior to backfilling. Excavation was terminated at this shallow depth since project planners and the restoration team determined that the feature could be preserved in place while still meeting the project goals of creating a new crawl space under the western house wing and removing a more recent addition from the west façade of the house core. After backfilling, the location of the feature was marked with stakes and its location was pointed out to the NPS restoration team so that it could be avoided as restoration of the house continued.

Unfortunately, later in 1998 during the excavation for a new crawl space under the western wing of the house by the restoration team, the northern edge of the feature was damaged to some undetermined degree. Several bricks were dislodged, and a portion of the dark stained soil from inside the feature was also removed. The archeological team noted this damage in the summer of 1998 when we returned to the

Mustill property to conduct limited additional work at the store. Loose bricks and an area of dark soil were exposed in profile at the south side of the crawl space excavation at that time. Due to other project assignments, we did not have time to expose the feature to determine the full extent of damage. However, we noted some quite recent materials, such as wire, along with coal cinders in the exposed cistern fill, suggesting that at least the upper portion of the feature was filled in the recent past. We subsequently reminded the restoration team about the cistern and re-marked its location. Based upon the nature of the exposure of the feature, I assume that most of the feature remains intact. Certainly, no further damage occurred since the new foundation for the western wing was poured and the exterior of the wall backfilled with no additional excavation.

### **Mustill House Feature 2, Roof Drip Line**

Test Unit 4 was excavated along the outside edge of the west addition of the Mustill House in 1998 (Figure 10). It was necessary to remove two large sandstone sidewalk slabs to provide access to the soil in order to excavate this 1-x-1-m test unit. The stones are about 7 cm thick, and they were numbered and replaced in their original positions at the end of the restoration project. As the test unit was cleaned and excavated to 10 cm below surface, a dark band was visible across the south portion of the floor adjacent to the west wing foundation wall. The excavators identified this band as a builder's trench that was characterized as a black, gravel-rich loam. Similar soil occurred at the surface of the remainder of the test unit, but quickly gave way to orange sand. When first exposed, the feature was clearly demarcated from the remainder of the excavated floor. However, the black stained area extended only to about 15 cm below surface, while the foundation continued considerably below that depth. Furthermore, profiles and photographs of the test unit provided no indication of a vertical cut in the profile 30 cm out from the building's foundation. In fact, the builder's trench is visible neither in these photographs nor in the drawings. Accordingly, I believe a more reasonable interpretation for the feature is that it resulted from the filling of a low area along the foundation, possibly formed through water runoff from the roof, with organic material and silt. In the area near the foundation, this dark zone is slightly deeper than elsewhere around the building, but it does not fill a builder's trench. Instead, it merely fills a shallow depression that most likely resulted from roof runoff.

### **Mustill House Feature 3, Sandstone Foundation, West Addition**

The excavators assigned Feature 3 to the sandstone foundation of the west addition to the Mustill House as it was exposed in May 1998. Excavation along the foundation in Test Unit 4 extended to 50 cm below the surface of the sandstone walkway that flanked the building. The foundation is unremarkable in its structure. It was replaced later in 1998 by a deeper, poured-concrete foundation.

### **Mustill Store Porch Foundation and Wasteway Wall**

This feature consists of a substantial, linear sandstone wall. Originally discovered by Dr. Bush's 1996 CCRR team, and identified as a retaining wall for the wasteway that formerly flowed under the porch (Bush 1997:14), this feature was re-examined by an MWAC team in May 1998. Although Bush excavated seven test units along the canal and towpath façade of the store in 1996, he indicates that he found no evidence of the large porch depicted in a well-known historic photograph and in select historical drawings of the store (Bush 1997:13). In fact, he concluded: "The lack of subsurface evidence for a porch is not surprising since many porches are not supported by subsurface foundations which would have been preserved" (Bush 1997:13). In contrast to his suggestion, we found obvious and substantial porch foundations at the few commercial properties that we have examined archeologically within CUVA. At the Boston Store, extensive sandstone foundations and supports were recorded for the porch of that circa-1835 property (Richner 1996, 1997; Richner and Volf 2001). Bush also recommended that replacement of the porch proceed without need for further excavations. However, given the extensive amount of ground disturbance that would result from constructing a deep, poured-concrete foundation to support the new porch, I elected to re-expose a portion of the wasteway wall found by Bush and to extend that excavation to the intervening area between his 1996 excavations and to the north. There I hoped to find the northern edge of the porch, despite his view that such structures are ephemeral.

It also appeared to us that Bush overlooked an obvious connection between the former porch and the wasteway. Since the wasteway was known to have passed under the porch, the porch must have extended east toward the canal at least as far as the wasteway retaining wall discovered by Bush. However, Bush had conducted no excavations beyond the wasteway retaining wall; instead, he looked for evidence of the porch inside the wall in an area that, from his own excavations, was shown to be a very deep wasteway channel. One would not expect any piers or supports to occur within that channel. The wasteway would have been an open void partially filled with water until the 1913 flood destroyed the viability of the canal system. After we had exposed an 8-m-long segment of the wasteway retaining wall, we found that its outer edge was somewhat irregular, but averaged following Bush's grid at about 116E, or about 2.8 m (about 9.2') from the front façade of the store (Figures 11 and 18). The inside of the wall, while also somewhat irregular in shape, was typically about 7.9' from the store's façade. If the wasteway wall had also served as the porch's main foundation, this would provide for a porch with a maximum width of 9', and an absolute minimum of 8'. Assuming that it may have rested somewhere near the center of the stones, a porch width (without any overhang considered) of 2.6 m, or 8'6" is suggested, assuming that the wasteway wall is also the porch's foundation.

The original store restoration plan prepared for the Cascade Locks Park Association by Schmidt, Copeland, Parker, Stevens (issued for drawing review and preliminary pricing in 1995) called for an 8-ft-wide porch. It is my understanding that this was based upon estimates of the original size of the porch from historic photographs and information regarding typical mid-nineteenth-century construction styles and techniques. Although perhaps only a "best guess" size, it is remarkably close to the size indicated by the position of the sandstone wall.

In examining available records for the wasteways along the numerous locks on the Ohio and Erie Canal, there is no indication that retaining walls were routinely, if ever, constructed. Instead, the wasteways had sloping soil banks, although they were occasionally lined with clay to better retain and channel the water. Furthermore, there is no evidence of a sandstone wall in any portion of the wasteway at Lock 15 at the Mustill property except within the zone precisely matching the length of the front façade of the store. Photographs depict water passing through the wasteway north of the store, with no evidence of a sandstone wall present. In addition, Pacheco found no evidence of a wall in his examination of the remnants of the bridge that formerly spanned the wasteway a short distance north of the store. The only reason for a wall at this location was to serve as a foundation for the porch.

There is also a reasonably good match in the grades of the front door sill of the store and the top of the sandstone blocks of the porch foundation and wasteway wall. The highest elevation recorded on any of the blocks exposed in 1998 is 829.57', while the door sill is at an elevation ranging from 830.71 to 830.75'. All of these values were derived from a brass monument located on the nearby lock wall. The slightly greater than 1-ft drop from the sill to the top of the highest blocks seems quite reasonable to accommodate a porch structure with some kind of wooden supports and/or joists, and a deck on top of the blocks. Considering that the Ramnyt family leveled and raised at least the north end of the store when a concrete floor was poured inside the building (and under the building's wooden north sill), the elevation match between the sill and top of the blocks may have been even closer before that action occurred.

As described in the Field Methods chapter, project planners, particularly CUVA Civil Engineer Rob Bobel, designed a porch support system that allowed for the preservation of the entire historic sandstone wall. Concrete supports were poured in tubes within the wasteway that served to support the weight of the reconstructed porch. Newly shaped Berea sandstone blocks were added to the uppermost existing course of the historic wall as required, minor mortaring repairs were made to the wall, and the new porch was created mirroring the original. Comparison of the current porch to photographs of the original indicate that this effort was very successful. From an archeological perspective, this approach had the advantage of preserving the sandstone wall and avoiding extensive disturbance that would have occurred by following the original plan, which called for a massive reinforced-concrete foundation. Placement of that concrete would have destroyed the historic wall and altered the archeological deposits in and adjacent to the wasteway all along the front of the store.

The sandstone wall is depicted in Figure 18. Bush's earlier drawings of the feature were somewhat idealized, as can be seen in comparison with the 1998 plan view. Although excavations in 1998 extended to a maximum of about 55 cm below surface along portions of the wall, it is known from Bush's excavations that the wall extends to considerable depth, extending to the base of the former wasteway channel. Bush's Figure 5 (1997:17) indicates that the wall extends to 183 cm below surface near grid point 107N 116E. At that location, the top of the wall was encountered at about 11 cm below surface, making the wall 172 cm high at that location. Although the full width of the wall is not known, the uppermost blocks exposed in 1998 are typically about 40 to 45 cm wide.

### **Mustill Store Meat Market Foundation**

In 1995 and 1996, Dr. Bush's CCRR teams excavated a large block of 26 conjoined 1-x-1-m test units covering more than the entire footprint of the former Meat Market addition to the Mustill Store (Bush 1996b, 1997). The horizontal extent of this excavation is shown in Figure 9. Since Bush identified what he interpreted as a culturally sterile stratum at a very shallow depth within and adjacent to the Meat Market sandstone foundation, many of the test units were excavated to a correspondingly shallow depth. Final depth of excavation varied from 10 to 50 cm below surface, with most units excavated to the shallower end of this range. Despite the shallowness of excavation, Bush considered that most of the fill zones (with the exception of the lower fill, Stratum V) had been excavated, and on this basis he described both the Meat Market foundation and the store foundation from these excavations.

Based upon his excavations, he states that the "maximum preserved height of the foundation wall is 50 cm (19.7 in) along what would have been the front of the meat market building" (Bush 1997:9). He also observed that the Meat Market foundation was not integral to the store's foundation and would have been built as a later addition to the store (Bush 1997:9). This observation meets expectations from study of the building's wooden fabric as well. Prior to our 1998 excavations, I had questions about whether Stratum II was actually sterile subsoil. For these reasons, and since Bush recommended limited additional excavations within the Meat Market to confirm his stratigraphic interpretations, small-scale excavation was accomplished at the Meat Market in 1998. As described in the Field Methods chapter, three test units were excavated within the Meat Market and one small backhoe trench was placed perpendicular to the outside of the north wall. While Test Unit 110-111N 112-113E was positioned near the northern Meat Market foundation wall, it did not adequately expose the Meat Market foundation. However, excavation in that test unit to 100 cm below surface did reveal that artifacts continued to a depth at least 90 cm below surface in what the excavators assumed to be Bush's Stratum II. This suggested that the fill sequence was more complex than identified by Bush, and that Stratum II was not truly sterile.

After I became aware that sterile grade had not been intersected at the Meat Market in 1995 and 1996 as originally reported, I realized that the Meat Market foundation replacement plans would result in the complete removal of the historic Meat Market foundation. Therefore, we conducted a second brief archeological study there later in 1998. The results of excavation within the footprint of the market are described in the Site Stratigraphy and Material Culture chapters and do not add to our knowledge of the Meat Market's foundation. However, a 1-x-3-m test trench was placed outside the Meat Market foundation to examine stratigraphy there and to further examine the foundation; this trench was located at 111.6-114.6N 108.30-109.30E (Figure 11).

The remaining Meat Market foundation was found to match Bush's measurements precisely at 50 cm (19.7") thick. However, it was apparent that at least some of the upper portion of the foundation had been previously removed, probably when the Meat Market was razed. It is very likely that the foundation was originally considerable deeper, perhaps 30" to 36", although that cannot be precisely determined from available information. The base of the foundation was 34" under existing grade at the time of our test excavations, strongly suggesting an original total height of at least 36". This foundation was preserved in a manner similar to the porch foundation and wasteway wall, and it remains intact at the site today. The Meat Market was reconstructed on a poured slab that rests on the stone foundation.

## **Wasteway Water-Control Structures**

Historic maps depict several substantial water-control structures. One is located at the wasteway inlet from the canal prism a short distance upstream from the lock, while another is depicted north of the store. These are shown as “double L-shaped” constructions that served to channel and control wasteway water as it moved around the lock (Figure 6). Cascade Locks Park Association member and researcher Bruce Norton scaled from historic maps to the current landscape and estimated where these features should occur. He believed, given the extensive fills in the area, that the features might be preserved. His scaling efforts were accurate and his optimism was well founded. During May 1998, Bret Ruby’s MWAC team discovered the wasteway water-control feature along the canal, and later in July 1998, a second team under the author’s direction exposed a portion of the northernmost feature. The one closest to the canal was found through hand excavation, while the northernmost one was partially exposed by an NPS backhoe.

The features are essentially identical to each other in form and consist of two L-shaped wings and a lower central connecting area. The wings served to channel the water, while the lower central “deck” served as a dam and spillway, allowing water to enter, or proceed down, the wasteway only after the elevation of the deck portion was exceeded. The features are remarkably well preserved, unlike the concrete seen on many of the locks on the canal. They appear to have been buried during or not long after the closing of the canal in 1913, and this factor may have contributed greatly to their preservation.

The features were not fully exposed, nor were they carefully mapped in 1998, because they were not a specific target for archeological investigation and were only briefly exposed to satisfy the curiosity of Mr. Norton. However, their elevations were recorded and some photographic documentation was completed before the excavations were backfilled. Their relationship to the canal, lock, and wasteway is shown in a historic drawing (Figure 6).

While both features were buried under twentieth-century fill, the fill over the northern feature is perhaps the most interesting in terms of site depositional history. The fill near this feature consists of huge numbers of historic artifacts from a purposeful dumping episode. It appears this area was used as a city dump and landfill for a considerable portion of the early and middle twentieth century. Hundreds, or possibly thousands, of bottles, ceramic vessels, and other materials are present in this fill. Given their recent age and lack of association with the Mustill House and Store, these materials were not collected when they were exposed in July 1998. Instead, they were returned to the excavation when it was backfilled.

## ***Features Re-Examined or Recorded in 1999***

In 1999, the MWAC team re-examined several features initially recorded in previous archeological investigations and partially exposed and recorded several previously unknown or unstudied features. The majority of these features, and all features of nineteenth-century age, were protected during site restoration activities. All of these are still preserved at the site. A few recent features could not be completely preserved, but they were recorded before impacts by development actions occurred.

## **Filled Canal Basin**

Historic drawings indicate that the canal basin south of the lock was considerably wider than it is today. Comparison of historic drawings with the current topography suggests that considerable filling occurred along the west edge of the canal after canal abandonment in 1913. Archeological examination during sewer line installation revealed the extent of filling. The NPS sewer project involved connecting a new line that would serve the store and a new restroom facility (to be constructed by others) to an existing manhole in the gravel roadway adjacent to the canal (Figure 12). The location of the manhole was not accurately plotted on existing project drawings, but it was discovered through probing with a solid steel rod and subsequent removal of limestone gravel on a contemporary road. An area adjacent to the manhole, disturbed during manhole installation at some undetermined time in the past, was opened to a depth of about 2 m. There, a connection was made into the existing sewer line running south toward North Street. From this connection point, a new sewer line route was excavated by backhoe across the front yard of the Mustill House to a point in the old driveway south of the store (Figure 12). The first few meters of this

line exposed very deep contemporary fills and indicate the approximate extent of the former canal basin. Due to federal safety regulations, we were unable to enter the trench unless a protective box was in place. Unfortunately, with the box in place, the walls of the trench would not be visible for inspection. Accordingly, our observations of the trench were limited to shallow depths when it was legally safe to enter the trench, and by examining the walls of the trench from the ground surface outside the trench. This allowed for photographic documentation and simple measuring of strata depths in the trench, but we were not able to draw scale profiles. Despite this limitation, we could clearly see the post-1913 fill in the former canal basin. It consisted of discarded road construction debris and other materials.

#### **Mustill Store Feature 6, Brick Walkway**

The University of Akron team discovered a brick walkway feature in 1991. They exposed a small segment of it along the west façade of the store at its southwest corner. Given its shallow position in the soil profile, the feature was correctly interpreted as recent. Although the precise location of the 1991 excavation test unit that exposed this feature was not known prior to MWAC excavation around the perimeter of the store in 1999, evidence of the older excavation unit was seen in the south wall profile of our Test Unit 102-103N 100-101E. From there, we were able to locate the feature by probing with a steel rod. It appeared that the walkway extended along the entire length of the west (back) façade of the store. We subsequently exposed a 1-m-long segment of the feature in Test Unit 104-105N 99-100E (Figure 19).

The feature is simply constructed of dry-laid bricks in a running bond pattern. The bricks are of multiple kinds and are obviously salvaged and reused from other sources. The bricks primarily include hard red, yellow, and a few older, soft orange examples. Most of the red bricks are 10 by 20 cm, while the yellow ones are slightly larger, 11 by 22 cm. The feature averages 70 cm in width, and the length is about 7 m, assuming it is indeed conterminous with the west store façade. The feature is positioned at the top of Stratum I, below only recent sod and a minimal amount of silt.

The route originally considered for installation of the water line and other utility runs would have caused the complete removal of the brick walkway. Despite the recent age of the feature (middle or late twentieth century), I recommended that the utility line routes be modified to avoid the feature. The NPS restoration team was able to accommodate my request, although it is possible that the northern edge may have been impacted to some degree as the utility lines turned eastward to their connections along the store's north façade. So, while the north edge of the walkway may have been damaged to some minimal degree, the great majority of the feature is present just under the humus at the store.

#### **Mustill Store Feature 1, Drip Line Protection**

Along select portions of the north and south façades of the store, particularly toward the western corners, we recorded what we initially supposed were additional walkways. However, exposure of these very shallow features revealed awkwardly arranged bricks, flat, salvaged concrete fragments, and fragmentary concrete block elements very close to the store's walls. The materials were so near to the store that they could not have served as walkways. I now believe they served as informal "splash blocks" since they are positioned where runoff cascading from the roof would hit the ground. The placement of the bricks and blocks would serve to partially ameliorate the splashing, rutting, and mud caused by this runoff. These materials were certainly added very late in the site's history, since, like the brick walkway, they are quite near the current ground surface, positioned well within the upper portion of Stratum I. It is very likely these informal features and the walkway described above were installed during the Ramnytz occupation. Examples of the "splash blocks" are depicted in Figure 20.

No attempt was made to preserve this hodge-podge of materials in place. We removed much of the fabric to facilitate continued excavations, and any remaining material would have been removed when a perimeter drain was installed near the base of the foundation by the NPS restoration team.

#### **Mustill Store Feature 4, Drainage Pipe**

Along the store's south façade we recorded as Feature 4 a drainage line constructed of terra cotta tile. This material appears to be rather recent in age; it is round in cross section with an expanded bell on one

end in horizontal view. The individual segments fit together via these spigots and bells. The pipe was dry laid. The function of the feature was to channel runoff water from the perimeter of the store to the lower ground near the lock.

When encountered during our excavation, it was apparent that the drainage route had long since failed, since most of the tiles were clogged with silt (and artifacts) and in some cases adjacent individual tiles were no longer articulated. Tiles were encountered in several units within the 100-101N zone along the south façade. The tiles were installed primarily within Stratum I, although in some areas their installation trench cut into Stratum II. Depth was variable and increased toward the canal. The horizontal relationship of the tile route to the store's south façade and Feature 7 is depicted in Figure 21. Those portions of the tile drain not removed during MWAC excavation were removed when the NPS restoration team installed the perimeter drain.

### **Mustill Store Cistern**

The CCRR team discovered a cistern during excavations at the northwest corner of the store (Bush 1996b). Bush's team exposed only the uppermost portion of this large brick feature. The 1999 MWAC team re-exposed the southern edge of the feature in Test Unit 107.7-109N 100-102E. It is apparent that at least a few upper courses of this feature were removed prior to Bush's investigation, since individual bricks are strewn about the area and the feature does not terminate in a uniform, even course of bricks. The 1999 excavations exposed the remaining upper 20 cm of the feature, equating to about three courses. Limited excavation was accomplished within the arc formed by the south edge of the feature, where we only removed Bush's backfill sufficient to re-expose the upper portion of the feature (Figure 11). Outside the feature, we excavated to sterile subsoil, which was closer to the contemporary surface in this area than in any of our other excavation units.

The feature continued into the laminated clays of Stratum VIb at the depth where we terminated our excavations. It is likely that the lower portions of the feature were originally constructed well into the dense gray Stratum VIc clay that typically underlies the laminated clay zone.

At the completion of MWAC excavations, the cistern area was only partially backfilled because I wanted to make certain that its location was clearly known during subsequent restoration actions. This was particularly important since a perimeter drain would be installed adjacent to the cistern, and several utility lines would penetrate the north foundation wall a few meters east of the feature. In addition, water and other utility lines would pass through the narrow area between the south edge of the feature and the store's foundation. NPS restoration team members completed all of those tasks without disturbing any portion of the feature. It remains intact, obscured under shallow fill. Although no significant excavations have been conducted inside the feature, it is very likely that the feature fill contains numerous artifacts dating to the period immediately after its abandonment. It is my experience that abandoned cisterns were often extensively used for trash discard.

### **Mustill Store Foundation Builder's Trench**

Although builder's trenches for the store's foundation were not recorded along all façades, a distinct builder's trench was visible at the southwest and northwest corners and along the west façade of the store. Near the southwest corner of the store, the south wall profile of Test Unit 102-103N 100-101E clearly indicates that the lower courses of sandstone were placed below existing grade in a narrow trench when the foundation was constructed (Figure 15). The upper portion of the profile consists of a dark mixed deposit that appears to represent backfill from the University of Akron 1991 excavation trench placed immediately to the south at what would later be designated grid location 101-102N 99(?) -101E. Accordingly, the upper 60 cm or so of the profile is disturbed fill from the earlier adjacent unit. This fill is primarily redeposited Stratum I but also contains a mix of Stratum II materials. In part of the profile, a section of the Stratum II fill is preserved. Below this fill is an obvious former stabilized surface and the upper portion of the builder's trench (Figure 15). The builder's trench is not of consistent width, but it averages about 20 cm. The trench cuts through the old, thin humus layer (Stratum VIa) as well as five bands of mottled brown-gray and gray silty clays (Stratum VIb). Excavation was terminated at 252.61 m (828.76')

amsl (more than 1.4 m below surface). This elevation is only 0.5' to 0.75' lower than the top of the waste-way wall, indicating the considerable slope upward to the west. While this is probably near the base of the foundation, the bottom of the builder's trench was not reached in this excavation. In this area of the store, the builder's trench extends a minimum of 71 cm below original grade (the surface of Stratum VIa), and likely several centimeters farther.

As would be expected, a very similar profile was recorded in the north wall of nearby Test Units 100-101N 100-101E and 100-101N 101-102E (Figure 14). The relationship between the builder's trench and the pre- and post-construction grades is clearly delineated in this profile. The builder's trench is clearly seen to have cut through the old, thin humus zone (Stratum VIa) and through the laminated silts and clays (Stratum VIb) under the old humus zone. Similarly, Strata I and II are clearly seen as fill zones capping both the undisturbed original grade and the fill of the builder's trench. The builder's trench does not cut through Strata I and II; instead, they are deposited over the builder's trench and directly abut the store's foundation. Thus, Stratum VI predates the construction of the foundation, while Stratum I and this portion of Stratum II postdate construction of the store foundation. Given the nature and color of most of the fill in the builder's trench, it appears to be essentially identical to Stratum II and may in fact be the same material. This would suggest that Stratum II was added immediately after the foundation was constructed and was used to fill the trench and to cap and level out the grade around the property.

### **Mustill Store Feature 2, Stair Support**

The stair support is tenuously defined from excavations in Test Unit 103-104N 100-101E. Designated Feature 2 in the field, it consists of two red bricks lying on top of a larger sandstone slab, and a second sandstone slab less than a meter from the first (Figure 11). These items were exposed in the uppermost 10 cm of Stratum I. While the only historic evidence for a stairway on the west façade is a depiction on a 1916 map (Figure 8), the position of this feature relative to the store's west doorway in the area where the stair is depicted on the historic map suggests that it may have served to support a pier or similar wooden stair component. This identification is tentative and is based upon the form of the small feature, its location relative to the store's back door, and the historic map depiction of a stair in this area.

### **Mustill Store Feature 5, Outbuilding Foundation Near Southwest Corner of Store**

An amorphous zone of concrete fragments exposed at about 20 cm below surface in Test Unit 99-100N 103-104E and a large sandstone slab exposed at a similar depth in Test Units 100-101N 100-101E and 100-101N 101-102E may represent the foundation components of an outbuilding (Figure 22). The 1916 Sanborn map for the property depicts a large outbuilding parallel with and close to the south façade of the store (Figure 8). Although it is difficult to re-create the scale of the Sanborn map to precisely match the site excavation grid, I made an approximate conversion and plotted the approximate footprint of the 1916 outbuilding onto the site excavation plan. Since this plotting is approximate, it is depicted with a dashed line. The eastern portion of this outbuilding seems to have originally stood alone as a smaller building, since the 1904 Sanborn map depicts a small outbuilding in this location (Figure 7). After scaling the building in the same manner as the larger 1916 version, the earlier outbuilding footprint was also roughly plotted on the site excavation plan (Figure 11). The smaller building registers very well, but not perfectly, with the eastern portion of the 1916 structure. The small error in registration (about 10 to 15 cm north-south and only 1 cm east-west) can certainly be ascribed to errors inherent in scaling off multi-generational copies of the Sanborn maps, each of which depicts a large area with individual structures shown quite small. Line width variations among structural outlines on these maps are sufficient to account for most of the registration error in the interpreted plottings.

In spite of the inherent uncertainty in this process, the concrete fragments align rather well with the interpreted location of the north wall of the larger component of the 1916 outbuilding (Figure 11). The large sandstone slab mentioned above appears to correlate rather well with the northwest corner of the former outbuilding (Figure 22), although excavation in that area was limited, and the area where the actual intersect would occur was not excavated. Still, it is assumed that the slab formed the corner support and/or "stoop" for the 1916 outbuilding.

### **Mustill Store Feature 7, Former Wooden Structure Along the South Façade**

The most interesting and potentially significant feature examined in 1999 consists of a series of dark stains from former wooden structural members from a non-extant building. We designated these associated stains Feature 7 (Figures 23–25). The 1995 CCRR team originally recorded this feature in their test unit at 97-99N 105-106E (Bush 1996b). They recorded four linear stains, each one parallel to the store's south façade. The CCRR excavation test unit and associated feature are depicted in this report's Feature 7 excavation plan (Figure 11). The CCRR team assumed these stains were from the floor of an outbuilding.

In 1999, the MWAC team exposed additional portions of the feature within eight 1-x-1-m test units and a 2.2-m-long segment of a backhoe trench, which were excavated to examine the route of a proposed sewer line. Unfortunately, the store's sewer-line juncture was determined before our 1999 fieldwork, with interior pipes and other plumbing construction well underway before fieldwork started. Accordingly, there was little room for reconsideration of the sewer line route as it approached the store, since the foundation intersect point was already fixed. From inside the structure, the CUVA restoration team had installed a plastic sewer pipe under the lowest course of the store's sandstone foundation, and this served as the connection point when the new sewer line was installed in a trench outside the building. The situation was made more difficult, and somewhat confusing, because the precise connection point was fixed, but the angle at which the new line could approach the building was not. The line would extend from what had been conceived to be a manhole access south of the store in the area where asphalt and gravel driveways existed. However, the exact position of the manhole was the subject of some debate; in fact, its location was not held constant through the early summer as planning continued. Finally, it was determined that this connection, which would also serve as the primary junction for a sewer line flowing downslope from a restroom facility (to be constructed later by the Metropark Serving Summit County partners) would not need to be an actual manhole. Instead, it would be an underground junction of the two lines with a main line extending south to an existing manhole in the former Ferndale Street near the canal basin (Figure 12).

Additional alterations in design were needed because the angle of the line from the junction to the store could not match the one depicted on the drawings. Unlike a connection to a manhole, a Y-shaped junction of the two lines to the main line imposed limitations on the orientation from the junction to the store. Accordingly, the junction was placed near, but not at, the spot originally depicted for the manhole on the project drawings. Since this change was made after archeological work was well underway, it necessitated a change in field strategy. I had assumed that the sewer line would miss most or all of the structural feature, but that assumption proved to be incorrect when the new route was plotted while excavations continued. Instead, it appeared that the sewer line would pass along the westernmost edge of the feature, effectively removing a small portion of it. I altered our excavation plan accordingly and opened a 1-m-wide trench extending 4 m to the south from the store's south façade. An additional length of this trench was excavated by backhoe the day the sewer line was installed. Backhoe excavation was terminated at about 50 cm below surface above the feature, with the remainder of the trench excavated by hand. The feature was drawn in plan view and in profile in this trench, after which mechanical excavation continued to the depth necessary to connect to the sewer line already installed within the store.

As a result of hand and mechanical excavations, the north-south extent (5.65 m or about 18'6") of the feature was fully exposed. The east-west length remains undetermined. The feature consists of a series of parallel and perpendicular soil stains that are very regular in form and layout (Figures 23–25). There can be no doubt that the stains all represent the former locations of wooden structural elements. In that sense they are "molds" like post molds commonly known from prehistoric sites. The difference is that while post molds are typically vertically oriented, the molds of this feature are of horizontal orientation.

All feature elements appear to be cut into the VIb clay soil stratum. The relationship of the stains to the soil is clearly seen in Figure 24. In that profile, a distinct builder's trench for the southwest corner of the feature is apparent where the builders cut well into the laminated clays of Stratum VIb before constructing the building. As the feature stains are first exposed as one excavates down through the deposit, their shape is somewhat amorphous. As excavation continues they quickly take on very sharp, rectilinear outlines. The outermost two stains are considerably wider than the nine inner ones, averaging about 12 cm

wide. The outer stains encircle and form a rectangular frame around the nine inner ones oriented grid east-west. The inner stains are parallel with the northern and southern outer stains and are perpendicular to the western outer stain. While somewhat variable, these nine inner stains are typically 7 or 8 cm wide. According to one of the clearer and more readily interpreted profiles, they are 14 to 16 cm high and are sharply rectangular in form. These dimensions and form suggest the nine parallel stains are from boards measuring about 3" by 6" in cross section, oriented with the larger dimension vertical. In a few areas, highly decomposed wood occurred within these rectilinear stains.

Details of the structural feature are shown in Figures 23–25. Although the feature is very regular in form, the spacing between the former wooden elements is not perfectly consistent. The parallel stains are typically separated by about 55 cm, center to center, but some are closer to 50 cm. This range suggests joists set on conventional 16" centers. The reason for lack of registration between the stains mapped by the CRR team and other portions of the same stains mapped by the 1999 MWAC team is not known. We did not re-expose the CRR excavation test unit to check for a linear match for the stains.

Two vertical post molds are associated with the feature. One very clear square mold is positioned near the southwest edge of the feature, and the other is located farther north (Figure 23). The southern one is 12 by 12 cm, while the northern one is about 3" by 6".

I interpret the outer rectangle of stains to represent the sill of the former structure and the nine parallel stains as former floor joists. The posts likely served as piers or supports of similar function. In terms of function, the structure's size and shape do not correlate well with any of the sheds or outbuildings depicted for the property on early-twentieth-century maps. However, the location and size of Feature 7 registers well with an unlabeled structure on a middle-nineteenth-century drawing (Figure 4). Furthermore, the position of the feature at the base of the deposit, which partially cuts into the laminated clay Stratum VIb, suggests that the feature has considerable antiquity. This is reinforced by the fact that the feature is covered both with a thin but distinct midden and by Strata I and II and recent gravel fills. There are many artifacts directly associated with the feature lying between the soil stains. Many more artifacts are present in a brown band of soil fill immediately overlying the feature. The temporally diagnostic artifacts from these deposits date to the early and middle nineteenth century. These factors suggest that the feature has considerable age. Although it cannot be stated with absolute certainty, I tentatively interpret the feature to represent the earliest Mustill residence, perhaps constructed by about 1834 when the Mustill family is thought to have first occupied the Lock 15 location. It would have been occupied until perhaps 1853, when historic records have been interpreted to indicate that significant construction occurred at the site, including building of the current store and house.

In a previous section of this report, data are presented documenting the presence of a frame house at Lock 15 from at least as early as 1842, and a Mustill obituary places the family's occupation as early as 1834. Land sale and tax records document the frame house in 1844, 1846, 1849, and 1850, and 1852 but do not provide specific details of its size and precise location at the lock. Given the shape and size of Feature 7, the domestic artifacts associated with it, the early- to middle-nineteenth-century age of those artifacts, the documentary record indicating the presence of an early Mustill frame house at Lock 15 from about 1834 though about 1853, and the depiction of a sizable structure at the Feature 7 location in the mid-1850s era, all available evidence indicates that Feature 7 is the remains of the first Mustill home.

### **Mustill Store Ramnytz Repair Bay**

As structural restoration was underway in 1999, the NPS team installed a new floor in the store. While the space was open, a brief archeological investigation was made toward the western end of the store's interior. There, a few large sandstone blocks were exposed in the Stratum I fill. A brief excavation revealed a rectangular feature that was formed with variously sized sandstone blocks and concrete chunks (Figure 26). All of these blocks were of irregular size and are obviously salvaged from multiple sources. Given Mr. Ramnytz's known use of the structure for car repair, and the position of the blocks in the recent Stratum I fill, this crude feature appears to represent some kind of automobile repair access or 'grease pit.' This feature, dubbed "the repair bay," was left intact under the store's new concrete and wood floor.

## Material Culture

Previous archeological projects at the Mustill property have yielded huge artifact assemblages. The second University of Pittsburgh project alone ended with a 35,000-object collection. However, many of the artifacts, especially those from the north side of the store, are from twentieth-century landfill deposits unrelated to activities conducted when the structure was used as a store and later, when it served as a private residence and car workshop. Since so little of the previous collections could be linked to nineteenth-century activities, in this report I have emphasized the analysis of artifacts from 1998 and 1999 associated with nineteenth-century activities at Lock 15. The majority of these materials are from Stratum II and the surface of original grade, Stratum VIa. However, many early- and middle-nineteenth-century artifacts were also recovered from mixed contexts such as Stratum I. Since Stratum II is a fill zone, I cannot be absolutely certain that all those artifacts relate to activities conducted during the historic period of interest at Lock 15. However, the stratum includes high concentrations of artifacts in certain, specific areas, such as under the Meat Market, along the façades of the store, and at the former wooden structure immediately south of the store that are not replicated elsewhere on the site.

I interpret these concentrations, which occasionally form distinct middens, as the results of primary discard activities conducted at the store and the older, original Mustill home, which is known from the historic record to have been situated at the lock. These deposits contain dense accumulations of artifacts dominated by domestic and a few kinds of personal and architectural items. Without exception, they date to the early and middle and nineteenth century and relate to the primary historic period at the site. Accordingly, they are emphasized in the following presentation, while the mixed and more recent materials from Stratum I and other contexts already well represented in previous collections are de-emphasized here.

Material culture remains found around the store associated with Strata II and VIa provide the best information yet obtained for confirming historical information suggesting the Mustill's were living at Lock 15, and perhaps operating a store there, as early as 1834. Many of the artifacts discovered in 1998 under the Meat Market and in 1999 flanking the store on the north, west, and south façades can be firmly dated to the 1830s–1850s era. Several others can be assigned to the 1820s era with certainty. These early materials do not confirm occupation of the site in the 1820s, since materials can be used for several years before breakage, loss, or discard. Instead, they are consistent with an occupation that began no later than the early 1830s. Actually, Marwitt (1991) found such early materials in the first project at Mustill but did not place them in proper temporal perspective at that time. Bush's more extensive excavations produced a sizeable ceramic collection and other items that would have been manufactured well before the assumed age of the store, circa 1853. However, they could not be readily separated from later materials since they either occurred in mixed contexts or were presented in tables according to arbitrary excavation proveniences rather than the site's stratigraphic sequence. The mistaken identification of sterile subsoil as what I determined to be a fill zone also caused Bush to de-emphasize these earlier materials, and, more importantly, to largely miss collecting them in his horizontally extensive but vertically limited excavations at the Meat Market. For these reasons, the current report presents more extensive data on the artifacts related to the lesser-known first two to three decades of Mustill occupation of Lock 15 as compared to reports on previous archeological projects.

The artifacts collected in 1998 and 1999 are tabulated in two ways, and certain examples of them are analyzed and described in narrative form in the following paragraphs. All artifacts collected in 1998 and 1999 are listed in Tables 1 and 2 by horizontal and vertical excavation proveniences.<sup>2</sup> In a more synthetic presentation, these artifacts are also tabulated according to their general horizontal placement and their occurrence in the strata described earlier in the report (Tables 3–8). Each of these six tables is devoted to a general functional category to provide the reader with a better overview of the activities indicated by the

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<sup>2</sup> The complete tabulation of artifacts by year and provenience is extensive and is omitted from most copies of this report (Tables 1 [1998] and 2 [1999], pp. 51–90). To obtain a copy of Tables 1 and 2, contact the Midwest Archeological Center, Federal Building Room 474, 100 Centennial Mall North, Lincoln NE 68508-3873. Refer to Technical Report No. 79.

collections. These tables show that Stratum II, far from being sterile, contains large numbers of domestic and architectural materials as well as a scattering of other kinds of artifacts.

The following sections contain a summary of some of the more temporally, functionally, and economically diagnostic materials recovered from the site in 1998 and 1999. As indicated above, emphasis is placed on materials that predate the 1860s to fill in some gaps in the historic record, which is fairly sketchy, especially for the years prior to 1853.

### ***Domestic Artifacts***

Domestic-purpose artifacts dominate the 1998 and 1999 collections (Table 3). Assuming that the wooden structure designated Feature 7 just south of the store is, in fact, the first Mustill residence at Lock 15 as I have suggested, many of these domestic items would have been used at that structure between about 1834 and 1853, at which time the newer, extant Mustill House was constructed. I believe this feature represents the first home of the Mustill family in the Lock 15 area. However, even if I have incorrectly identified the feature's function, historic records make it clear that the Mustills were present at Lock 15 several years before the lot was subdivided and sold in 1850. The large numbers of middle- and early-nineteenth-century domestic (and other) materials most likely derive from the Mustill family's early residential activities, even if Feature 7 does not represent the first residential structure built on the small lot.

### **Ceramic Sherds and Vessels**

Ceramic sherds are numerous at the Mustill site. The ceramic assemblage is dominated by white-ware, often decorated, although stoneware, yellowware, redware, and porcelain are also present in significant numbers. The nineteenth-century whiteware ceramics found at Cuyahoga Valley sites are mostly imported from England, while stoneware, redware, and yellowware were locally, or regionally, made.

In the nineteenth century, whiteware typically served tea and table service functions, while yellowware, and in some cases redware, functioned primarily as food preparation vessels. In the early nineteenth century, shallow redware pans were used for separating milk and cream, for bowls, molds, and for other purposes. However, by the time the Mustill Store was occupied, these functions seem to have waned, and the redware from this and other contemporary sites primarily represent their function today — unglazed flower pots. Stoneware had multiple functions, but the most important was probably food storage. The site's porcelain assemblage reflects inexpensive German and other continental manufacture circa 1900, rather than earlier, high-status English items. Most of the sherds seem to derive from decal-decorated or undecorated plates from 1900 or the early years of the twentieth century. The earlier fine porcelains are absent not only at Mustill, but also at all of the other historic sites examined to date in the Cuyahoga Valley at middle-class domestic and commercial sites.

*Whiteware.* The 1998 and 1999 collections include a significant proportion of whiteware ceramics characterized by several well-known decorative treatments. The vessels represented by these sherds were used for tea and table service, or in some cases for mixing bowls and other food preparation functions. All of the Stratum II sherds are from decorated whitewares manufactured in Staffordshire, England, during the early and middle nineteenth century, as are many from mixed contexts at the site.

Previous archeological work at commercial (Richner 1992a, 1996, 1997; Richner and Volf 2001) and domestic (Richner 1993; Noble 1992; Richner et al. 2001) nineteenth-century sites a short distance north of the Mustill property within Cuyahoga Valley National Park documents the presence of these decorated whitewares at several sites of comparable age to the Mustill's occupation of Lock 15. Several of the Mustill examples are exact matches for ceramic sherds from those nearby sites, which not only share common manufacturers, but also individual decorative patterns. Most of the ceramic sherds from Mustill match examples from these other early- to middle-nineteenth-century sites quite well. Significantly, the Mustill collection includes one example of a pattern seldom recorded at CUVA sites.

Ceramic similarities among sites are hardly surprising, since the burgeoning canal trade supplied all of these sites after the opening of the Akron to Cleveland section of the Ohio and Erie Canal in 1827.

From then until local American makers made inroads into the British-dominated world ceramic market during and after the Civil War, generally similar decorated varieties of English ceramic vessels can be expected at all local sites of comparable age. The ratios of decorated types should vary according to precise site age, function, and economic status of the occupants, but the general pattern can be expected to be very similar at all of the sites.

The ceramic assemblage from Mustill is generally highly fragmented, since most of the sherds occur in what were once surface scatters, where they continued to be fragmented after initial discard. While some refitting was accomplished, single or small numbers of small sherds represent most vessels. This fragmentation limited our ability to identify individual vessels from the collection. Accordingly, the numbers of vessels presented within each decorative type is certainly an underestimate of the actual number of vessels represented by the sherds. Despite this limitation, over 180 individual vessels could be confidently identified in the 1999 collection (Table 4).

**Edge-Decorated.** The simplest and least-expensive decorated Staffordshire whiteware items bear edge-only decoration. Since only the rim of the vessel contains decoration in this category, numerous sherds from edge-decorated vessels can be expected to occur without any decorative embellishment and, if they are not mended to decorated rims, cannot be properly identified as edge-decorated specimens. Accordingly, many of the undecorated whiteware sherds from the site likely derive from the center portions of edge-decorated vessels, but are not identified as such. Based primarily upon rim sherds, a minimum of 35 edge-decorated vessels and 232 sherds are classified as edge-decorated whiteware. All of these vessels are plates or platters. Edge-decorated vessels were seldom marked by their manufacturer, and many companies made comparable designs, so the makers of these vessels at the Mustill site remain anonymous.

The examples from Mustill include many known patterns. A few blue “embossed” examples (Vessels 75–78) and 6 green edge-decorated sherds in the so-called “even scalloped shell edge with bud” pattern (Vessels 44 and 45) are diagnostic of pre-1840 manufacture. The 232 edge-decorated sherds from the site include a variety of shell edge patterns, as well as a few of the later “unembossed” varieties. Examples of green and blue edge-decorated sherds from the site are illustrated in Figure 27.

**Sponge-Decorated.** Also known as spatterware, sponge-decorated whiteware is typically poorly represented at canal-related sites along the Cuyahoga River north of Akron. For example, only 12 such sherds were identified in the large ceramic collection from the inn, tavern, and residence at Lock 38 (Richner 1992a). Similarly, sponge-decorated vessels are sparse at most other early- to middle-nineteenth-century sites that have been investigated in the area to date. However, 138 sherds from a minimum of 16 vessels were collected at Mustill. One is a plate; the rest are cups and saucers. One hundred four sherds are blue, 13 are brown, 1 is green, and 1 is red with no additional decoration beyond the sponged or spattered amorphous color application. The remaining 20 have blue or green sponge decoration in addition to hand-painted elements. All the hand-painted designs appear to be the “peafowl” pattern, although many of the sherds are quite small, and identification on some is based upon very little painted evidence.

Like edge decoration, sponge decoration is typically an inexpensive technique through its period of popularity. However, less is known about these sponge-decorated vessels than the other, more common British whitewares. Some of the most useful information I have found is from the somewhat obscure work of Greaser and Greaser (1973), who were writing for the ceramic collector rather than the archeologist. They illustrate numerous sponge-decorated vessels, including several that bear striking similarity to the more complete examples from the Mustill site.

Among the Mustill site sponge-decorated sherds are several that bear portions of an interesting polychrome painted design. While incomplete in each case, they compare favorably to the Greasers’ illustrations, confirming that they are all variants of the “peafowl” design (Figure 28). In this pattern, the typically amorphous blue or green sponged rim and/or base design is combined with a hand-painted peafowl. The examples illustrated by Greaser and Greaser (1973) range from fairly well executed to almost comically amateurish characterizations of the bird. This led the Greasers to suggest an interesting and quite plausible account of this decorative treatment. They attribute the range of variation and occasional crudity

or inaccuracy in the painted designs to painting by school children rather than accomplished artists (Greaser and Greaser 1973:12–15). They suggest that undecorated ware was made by various manufacturers and then supplied to schools for application of the decoration. They view this as a training ground for would-be decorators, with some more talented pupils “graduating” to other, more complex designs. They also believe that some designs were outlined by teachers and filled in with color by pupils. Even if they are incorrect in this identification, there can be no doubt that the ware was produced cheaply by unskilled decorators. Similarly, even if this were accomplished outside the hypothesized school settings, it may well have been a “cottage” industry. The Greasers also note that the peafowl design is the most common of all painted design elements on sponge-decorated vessels and spatterware, and they illustrate about 10 examples (Greaser and Greaser 1973:Figures 6–14, and 16).

Like the makers of edge-decorated wares, the makers (or decorators) of sponge-decorated wares rarely marked their vessels. While the Greasers trace the manufacture of better-made examples of this ware to the eighteenth century, they do not place the peafowl design in a particular temporal perspective. However, they clearly show that spatterware, which they carefully differentiate from ceramics with sponge-applied decorations, was being made through the early and middle nineteenth century, while sponge-decorated examples seem to date to about the 1860s era. I am not certain if their identification of sponge vs. spatter is accurate, or if the examples from Mustill are the former or latter. Given their context and association with other forms at Mustill, I assume that the peafowl examples are contemporary with edge-decorated, transfer-printed, and hand-painted whitewares from the site and would therefore predate about 1860. However, a slightly later age (1860s) for the examples is certainly plausible.

**Annular-Decorated.** Most of the annular-decorated vessels from the Mustill site are highly fragmented and incomplete. However, they compare favorably to the better-preserved collection from 33 Cu 314 (Richner 1992a). Annular-decorated vessels from that and other sites along the Ohio and Erie Canal are almost invariably London-shape mixing bowls. These graceful forms have straight, flaring sides and sharp, distinct shoulders low on the vessel near the base. Often listed as “dipt” ware in nineteenth-century sale lists, annular-decorated ware consists of wide bands of color applied through dipping in glaze, narrow, typically black bands, and unusual decorative elements applied from multi-chambered slip cups with narrow spouts. Designs are named according to collector and archeological literature as cat’s eye, earthworm, dendritic, and other forms (Sussman 1997). Some examples, particularly the earlier ones from the 1820s–1830s era, occasionally include rouletted or machine-turned green color bands near the rim. Examples from Mustill include this decorative treatment. While the London shape has traditionally been dated from about 1820 to about 1850, Sussman suggests that annular-decorated bowls and other forms were produced a decade or more after that date. Most of the examples I have seen from sites at CUVA appear to date before 1860, with most dating to the 1820–1850 span suggested by Miller and others.

A total of 255 sherds from a minimum of 13 vessels are present in the 1998 and 1999 Mustill collection. Eleven of these vessels are the typical bowl form, while 2 have evidence of the former attachment of handles, indicating that they are fragmentary pitchers. A few of the larger annular-decorated whiteware sherds from the Mustill site are illustrated in Figure 29.

**Hand-Painted.** Painting vessels by hand required more decorating skill than the other decorative techniques summarized above. Accordingly, hand-painted whitewares were more expensive than the others. While these attractive vessels have not received the attention collectors and archeologists have given to the better-known transfer-printed vessels, there are at least three groups or variants that can be identified in existing collections from the Cuyahoga Valley. While all are floral in character, there is considerable variability within that broad classification. The earliest examples often exhibit very broad painted designs in rich earth tones of cobalt blue, deep green, mustard yellow, and similar colors. Many are polychrome, and monochrome cobalt blue is common. While there is no firm chronology for these pieces, they seem to represent the earliest hand-painted examples from local sites and probably date before and up to 1830. They typically exhibit a pearlware glaze, which has a blue tint from cobalt oxide, and which was commonly used before about 1830 and seldom seen after 1840. Several broad line examples are present at the Mustill site (Figure 30).

There are also a variety of fine line examples that seem to date to the 1840s–1850s period (Figures 30 and 31). Again, this is a rough estimate, since absolute chronology for these items is lacking. Earth tones still dominate, although the early mustard and similar hues are absent. Brick red, dark blue, black, and dark green are common colors on fine line painted vessels. Later, a much brighter, nearly garish, color was used. These appear to be essentially absent from the Mustill assemblage.

Toward the end of hand-painted popularity, the *sprig* design element dominates. These design elements are quite small and repeat infrequently across large, open, undecorated areas of the vessels. The sprig-decorated vessels contrast dramatically with early broad line hand-painted whitewares, on which color was applied to nearly the entire surface of the vessel. The London shape observed for some sprig vessels suggests that they may also predate 1860, if one accepts the London shape traditional chronology.

While the earliest locally known broad line examples (circa 1800–1820?) are absent from the Mustill collection, broad line examples likely dating to the 1820–1840 era are present (Figure 30). The later fine line and sprig patterns are well represented in the collection (Figures 30 and 31). A total of 244 hand-painted sherds and a minimum of 30 vessels are identified in the Mustill collection. A single broad line bowl and 3 broad line cups are present. The remaining 4 broad line vessels are saucers. A minimum of 5 fine line cups and 6 saucers are present. This pattern continues with 7 sprig cups and 4 sprig saucers. The dominance of cups in the London shape with 4"-diameter rims and deep, 6"-diameter saucers in the Mustill collection continues a trend in hand-painted vessels known at several other Cuyahoga Valley sites. At 33 Cu 314 (the inn and tavern at Lock 38), 33 Cu 341 (Frazee House), 33 Su 270 (Boston Store), and several other locations, the hand-painted examples are overwhelmingly represented by 4"-diameter London-shape cups and the related deep, 6"-diameter saucers. Hand-painted plates are present but rare at the sites. Since hand-painted vessels at these sites are almost always limited to cups and saucers, it is apparent that these forms were used with other decorated types to compose complete table settings.

Transfer Printed. Transfer-printed sherds and vessels are more common at the site than suggested by previous fieldwork. Although transfer-printed vessels are still made today, their prime period of popularity was from the late 1700s through about 1860. The great majority of sherds and vessels in the Mustill collection can be confidently dated to about the middle 1820s through the late 1850s, although some later nineteenth-century geometric styles (especially in dark brown) and turn-of-the-twentieth-century flow blue examples are also well represented. For most of the primary era of production, transfer-printed pearlwares and whitewares were among the most popular and costly of the decorated types available to American consumers. The source for these vessels, like the decorated whitewares discussed above, was the Staffordshire district of England, where dozens of companies produced perhaps as many as a thousand distinct patterns for worldwide consumption. Detailed discussions of the stylistic and economic trends of this and other decorated whitewares in the Cuyahoga Valley are provided for 33 Cu 314 (Richner 1992a), 33 Cu 341 (Richner 1993), and 33 Su 270 (Richner 1996, 1997; Richner and Volf 2001) and need not be repeated here. The Ohio and Erie Canal's peak use era (1827–1850s) corresponds well to the peak use of transfer-printed ware, as well as the annular, edge-decorated, hand-painted, and other wares discussed above. These wares were shipped in enormous quantities to east coast ports such as New York and Boston and quickly found their way to the Akron and Cleveland areas via the developing canal and lake transportation system of the early and middle nineteenth century. Local consumers had ready access to the most up-to-date styles, not only for transfer-printed vessels, but also for the other vessels described above.

Transfer-printed sherds and vessels of several colors and numerous patterns are present in the Mustill collection. Unfortunately, only a few of the patterns and manufacturers could be identified, since marks are essentially absent and the vessels are highly fragmentary.

Transfer printing in dark blue is represented by 50 sherds and at least 3 vessels. This dark color is also known as Old Blue or Staffordshire Blue in older ceramic collector literature. Dark cobalt blue has considerable temporal specificity. It was intended only for export, and it is not found in England where it was made. While a few examples predate 1820 and fewer still postdate 1830, the great majority were made between about 1820 and 1830. Soon after 1830, dark cobalt blue became passé and was replaced with lighter colors as potters learned to produce fast-firing colors other than the previously popular blues.

Examples of dark blue sherds are illustrated in Figure 32. Among the illustrated sherds are *Playing at Draughts* by J & R Clews, which is part of the Wilkie-Burnet series, and *Palestine* by Ralph Stevenson (Snyder 1997:162). The date range of the Stevenson firm from 1810 to 1832 indicates the early age of these sherds and vessels. Sir David Wilkie and John Burnet painted the original views copied in the Clews “literary pattern” Wilkie-Burnet series (Larsen 1975:78). The view *Playing at Draughts* was published in 1822 in Burnet’s book *Practical Hints on Composition and Painting*. The actual painting was originally titled “The Draught Players.” The Clews firm ended production in 1836, but the dark blue pattern is almost certainly from the 1820s and was probably printed not long after Burnet’s book.

While a lag between times of manufacture and discard can be expected, the large quantity of dark blue sherds and vessels strongly indicates an early occupation of the site. This is consistent with the reported 1834 arrival of the Mustills at Lock 15, rather than with the reported 1853 date for construction of the house and store. In other words, these wares were likely in use at the original Mustill home at Lock 15 no later than the middle 1830s.

Shades of blue other than the very dark cobalt blue of the 1820s era are the most numerous of all transfer-printed sherds and vessels at the site (Figures 33 and 34). Lighter blues can date to the beginning of the transfer-print era. However, most of the 311 specimens in the Mustill collection are of styles suggesting a post-1830 age. This is almost as many sherds collected from the tavern and inn at Lock 38 (Richner 1992a:52), but the Mustill examples tend to be more highly fragmented than those from the very rich Lock 38 locale. Fragmentation prevented an expected degree of vessel identification; only 22 vessels are identified in the large collection of blue transfer-printed sherds in the Mustill collection.

Several vessel forms are present in various “medium” blue transfer-printed hues. These include 14 plates, 2 bowls, 2 cups, 2 saucers, and 1 unidentified form. Many sherds and several vessels exhibit the Canova pattern (Figure 34), which is thought to have been one of the most popular transfer-printed patterns ever produced. Although multiple manufacturers likely made it, the examples from Mustill match extremely well with published examples made by Thomas Mayer who worked in various Staffordshire locations though the early and middle nineteenth century (Godden 1964). Snyder (1997:125–127) dates examples identical to the Mustill specimens to about 1835, although other authors suggest a span of about 1826–1835 for his work at Stoke (Godden 1964, Williams 1978:214). G. Phillips of Longport made a similar, or perhaps identical, Canova pattern. He worked at that location from 1834 to 1848. Regardless of the actual manufacturer, the numerous Canova specimens from Mustill certainly predate about 1850, several years before the store and existing house are believed to have been built.

Another blue pattern identified from the site is *Tuscan Rose* (Figure 33). This pattern was also identified at the Canal Visitor Center at Lock 38 (Richner 1992a). Canova was present there, too, and at nearly every other early- to middle-nineteenth-century site studied within Cuyahoga Valley National Park to date. John and William Ridgway made *Tuscan Rose* around 1825 (Snyder 1997:140). Another blue pattern at Mustill is *Napier* (Figure 33), which was made by George Alcock (Snyder 1997:33). The age span suggested for this firm is about 1839 to 1846. While *Tuscan Rose*, *Napier*, and *Canova* were identified at Mustill by comparison to complete published examples or to sherds from other local sites, the blue *Park Scenery* pattern was identified from a maker’s mark. Such marks are rare in the Mustill ceramic assemblage. G. Phillips of Longport made *Park Scenery*; his firm operated from 1834 to 1848 at that location. These identified blue transfer-printed patterns all date before the reported 1853 age of the store and appear to indicate occupation of the site in the 1830s and early 1840s era.

Black transfer-printed sherds are also well represented, with a minimum of 5 vessels and 64 sherds recorded (Figure 35). The vessels are 1 plate, 2 bowls, 1 cup, and 1 unidentified form. Only the *Polish Star* pattern, made by Thomas Goodwin, was identified among the black transfer-printed sherds. Goodwin’s firm was in operation from 1834 to 1854, although the dates for production of this pattern within that span are not known.

Red transfer-printed sherds are a minority within the large transfer-printed collection, but they are still common, with 46 sherds from a minimum of 9 vessels present (Figure 35). Five of these are plates,

1 is a cup plate, 1 is a saucer, and 2 are unidentified forms. None of the red transfer-printed sherds and vessels could be identified relative to a pattern name or manufacturer. The presence of the cup plate is an interesting functional aspect of the Mustill ceramic assemblage that has been infrequently identified at other contemporary Cuyahoga Valley sites. The cup plate is small, typically about 3" in diameter, that was part of the American "tea ceremony." Tea was served in cups without handles (sometimes called tea bowls) and then partially decanted into deep saucers. The hot tea could then cool when it was sipped from the saucer, rather than from the cup. The pouring process left no saucer for the cup, which was then placed on a smaller saucer, known as a cup plate. Few of these cup plates have been identified in Cuyahoga Valley collections, although the 4"-diameter London-shape cups and the deep 6"-diameter saucers are quite common, especially in hand-painted and transfer-printed decorative types.

Brown sherds are more common, with 89 sherds of several patterns represented by a minimum of 9 vessels. While most of these are pre-1860 styles, a few geometric designs are indicative of the circa 1870s–1880s era (Figure 36). The single identified pattern among the brown sherds is Napier, which was made by George Alcock (Snyder 1997:33) between about 1839 and 1846. Five plates, 1 bowl, 2 saucers, and 1 unidentified form are present.

Shades of purple and mulberry transfer print, fairly common at 33 Cu 314 and other nearby sites, are uncommon at Mustill, with only 10 sherds present. No patterns or vessel forms could be identified with certainty.

Green transfer-printed sherds are quite uncommon, with only 4 sherds from 2 unidentified vessel forms present. For an undetermined reason, green transfer-printed ceramics were, it seems, quite rare at Cuyahoga Valley sites — it has rarely been identified despite extensive work at several early- and middle-nineteenth-century sites.

Flow blue and flow black transfer-printed sherds are fairly common at the Mustill site. Fifty-two flow blue sherds, representing a minimum of 4 vessels, dominate this decorative type. The flow black type consists only of 2 sherds from a minimum of 2 vessels. Flowing colors were developed in the middle 1840s and were part of transfer-printed decoration from that time until after the turn of the twentieth century. It appears that there were two periods of popularity for this decorative treatment. One occurred soon after the style was introduced, while the other spanned the last few years of the nineteenth century and the first decade of the twentieth century. The middle-nineteenth-century ware is similar in nearly all regards to other contemporary transfer-printed designs, with the exception that the color "bled" away from the core of the design to create an imprecise, blurry decoration. The subject matter was the typical, fanciful romantic scene of that period. The second period of popularity of flow blue decoration seems to have been more successful than the initial one, since large numbers of "resurgent" flow blue vessels are displayed at antique shops and shows and are actively collected across the United States. The later style often differs from the earlier one by the addition of raised, embossed design elements, application of painted gilt lines or zones near the rims, selection of geometric and other designs atypical of the middle nineteenth century, and in the use of vessel shapes of greater complexity. Most of the flow blue sherds from the Mustill site appear to represent the later style, although middle-nineteenth-century specimens are also present.

**Decal-Decorated.** At first glance, decal decoration is generally similar to transfer printing. However, it is typically polychrome, while transfer-print decoration is almost always monochrome, although occasionally center designs are one color and rim patterns a second color. Decal decoration is applied over glaze, while transfer printing is applied under glaze, and it is popular later in time than transfer printing. Decals are thin sheets that are applied to the vessel, also in contrast to transfer print, which is a color application that does not include fixing paper to the vessel. Decals are photo-mechanically produced. Under magnification, the series of printed dots that create the designs are readily visible. While there is considerable antiquity to decal decoration, it did not become an important decorative treatment until after about 1900. The decals exhibited on the Mustill Store vessels are likely from German or other Continental sources, although the actual vessels may be of U.S. or other manufacture. Decal-decorated vessels occasionally include application of painted gilt lines along the rim, like the resurgent flow blue vessels described above. Thirty-six decal-decorated sherds were identified in the Mustill collection, representing a

minimum of 7 vessels. These sherds and vessels date from about 1900 or later and are accordingly found in the later deposits at the site.

*Gilt-Decorated.* Five sherds, representing a minimum of 5 individual vessels, bear simple linear gilt-painted lines along their rims. These sherds are otherwise undecorated, but are highly fragmentary and may be from vessels that included other forms of decoration. These sherds and vessels are late in the site sequence, probably dating to about 1900 or later.

*Luster-Decorated.* Luster is probably best known from the tea leaf pattern, where the slightly iridescent copper-colored painted design was applied in widely placed tea leaf designs. Other luster decorations include broad bands, or even entire surfaces, of this metallic color on teapots and other vessels. Pink luster hand-painted designs are also well known and are popular with ceramic collectors. However, the two examples from Mustill Store are quite different and exhibit amorphous, purple luster color application. The sherds are very small and the form of the complete designs could not be determined or identified.

*Undecorated.* As expected, large numbers of undecorated whiteware sherds are present at the Mustill Store. Over two thousand sherds and 19 vessels were recovered. Plain, undecorated whiteware was manufactured in enormous quantities throughout the nineteenth century by nearly every Staffordshire pottery producer, and after the 1850s by numerous U.S. companies as well. Undecorated whiteware was the basis for assigning costs to whiteware decorative types, since, prior to about 1860, it was the least expensive of all whiteware vessels. After about 1860, when transfer printing, edge decoration, annular decoration, and hand painting all declined sharply in popularity, undecorated whiteware became more costly in contrast to the other decorative types. After 1860, plain undecorated whiteware (known by a bewildering array of names, most of which attempt to indicate hardness and durability) dominated whiteware production in England and the United States. This dominance is clearly seen in domestic archeological assemblages that postdate about 1860. For example, at the Old Munising town site in Michigan's Upper Peninsula, founded in 1867, undecorated whiteware overwhelmingly dominates the very large ceramic whiteware assemblage (Richner 1992b).

While there is a considerable range in color of this ware from almost cream to pure white to steel blue, there is no simple way to seriate or otherwise date the ware by surface tones and glazes. Another hinderance is that makers' marks, which might allow more precise dating, are rare in the assemblage. Accordingly, the large collection of undecorated whiteware from the Mustill Store has not been placed in any particular chronological order.

One undecorated whiteware sherd is marked by the vessel's maker. This is the mark of the firm Knowles, Taylor, and Knowles of East Liverpool, Ohio. This mark was used from 1878 to 1885. The sherd was recovered in 1999 from Test Unit 100-101N 112-113E, 50–60 cm below surface. A second marked sherd that mends with this example was recovered from 60–70 cm below surface in the same unit.

*Other.* The remainder of the site's whiteware collection consists of unidentified decorative types along with a few embossed or mold-decorated examples.

*Stoneware.* Stoneware was made from a specific clay that, when fired at very high temperatures, became impermeable to penetration by water and other liquids. When the surfaces of stoneware vessels were glazed or slipped, they were not only impermeable, but also easily cleaned and occasionally rather decorative in appearance. Nineteenth-century stoneware is best known for its use in food or other storage vessels such as crocks, jugs, water coolers, and similar large vessels. One-hundred-thirty-six stoneware sherds were collected at the Mustill site in 1999. Most of these sherds exhibit salt-glazed exteriors with Albany-slipped interiors. Salt glaze, which lends a gray, pebbly or "orange peel skin" to the exterior, was applied by adding raw salt to the kiln during the firing process. For vessels glazed in this manner, the interior was typically coated with a clay wash, or slip, of brown clay. Originally obtained from the Albany, New York area, this slip became named after that location regardless of where it was actually obtained. The stoneware sherds were not sorted or analyzed according to individual vessels, so the numbers of vessels represented by the 136 sherds was not determined. Compared with the large number of whiteware sherds, it is apparent that stoneware was used at the site in much smaller numbers than whiteware. Of course, stone-

ware was much thicker, harder, and more durable than whiteware and would not have entered the archeological record as frequently through breakage as whiteware. Most of the stoneware sherds from the site appear to derive from various sized crocks. These would have been used for a variety of food storage purposes. The stoneware vessels were probably locally or regionally made, since their weight was an impediment to shipping over long distances until rail transportation reached the area in the 1850s era. Local Summit County production of stoneware is known to extend back to the late 1820s era, and it is likely that many of the examples from Mustill are from local sources.

*Yellowware.* Beginning in the 1840s, yellowware was made in the Ohio region. Its paste is buff yellow and soft. Like whiteware, it had to be glazed inside and out to prevent absorption of liquids. Much early yellowware was finished with a colorless glaze, imparting a rich, dark-yellow color to the vessel surfaces. Later, annular bands, or amorphous dark brown manganese decorations, often referred to as Rockingham after one famous production site, were applied to add interest. Although yellowware was used for a variety of vessel forms, including washboards, much of it functioned for food preparation vessels such as bowls of various sizes. Yellowware is well represented at Mustill, with 143 sherds from an undetermined number of vessels recovered in 1999.

*Redware.* This ware, although used in the early nineteenth century for milk pans, molds, and other forms, is certainly best known in its simplest form — unglazed flower pots. Of the 67 redware sherds from the 1999 excavations at the Mustill site, 61 are unglazed redware flower pot fragments. The remaining 6 are glazed or slipped and are from undetermined vessel forms. Like stoneware and yellowware, redware was also made locally, and there is no reason to suppose that the vessels used at Mustill were manufactured at distant locales. This is in considerable contrast to the large whiteware assemblage, most of which was manufactured at Staffordshire, England.

### **Other Domestic Artifacts**

Table 3 clearly demonstrates that ceramic sherds dominate the domestic artifact group from the Mustill site. The only other artifact types present in significant numbers are curved-glass fragments and faunal remains. The curved-glass materials are very highly fragmented, and in few instances was it possible to identify specific vessel shapes or contents. Certainly, nearly all of the curved-glass specimens are from various bottles. Glassware was in short supply in the Western Reserve area in the early portion of the canal era, becoming common only as the peak period of the canal was passing after the 1850s. Excavations at site 33 Cu 314 at Lock 38 yielded very few vessels of 1820s–1840s vintage, and relatively few from the 1840s–1860s era. This pattern is probably represented at Mustill as well, but few of the bottle glass sherds could be placed in firm chronological context. Those that could be approximately dated match well with the stratigraphic sequence at the site, with late-nineteenth- or twentieth-century specimens commonly occurring in Stratum I, and earlier items in Stratum II proveniences. Where possible, manufacturing details with temporal implications were included in the artifact lists for the 1998 and 1999 projects (Tables 1 and 2). Specimens identified as “automatic machine” or “Owens scar” postdate 1903. Those identified as lipping tool probably date in the range from about 1860 to 1920, while the “hand finished” examples likely predate about 1860.

A total of 1,179 curved-glass sherds were identified in the collection, most of which were found in and above the structural feature positioned immediately south of the store (Table 3). A few of these are briefly described below to help place the assemblage in perspective.

Complete, or nearly complete, bottles were rarely encountered in hand excavations at the house or store. However, they are present in very large numbers in the recent landfill deposits north of the store as indicated by the discovery of large numbers in an exploratory backhoe trench at the concrete wasteway north of the store. They were not collected from the backhoe trench. Some modern examples were collected from hand excavations around the property. For example, a complete vessel, probably a shoe polish bottle, was collected from the upper level of Test Unit 111-112N 115.5-116.5E in the Front Porch area in 1998 (Table 1). This provenience is part of the dark, Stratum I deposit that caps the site. This specimen is machine-made and probably dates to the middle twentieth century at the earliest. Another example of

these twentieth-century items from the site is from 1998 Test Unit 4, where a blue *Milk of Magnesia* bottle with a screw cap was found in the black Stratum I deposit (Table 1).

Other recent bottle fragments were recovered from inside the store after the concrete floor was removed. There, the Stratum I deposit yielded a milk jug rim with the embossed word / Akron / and a nearly complete aqua bottle with a crown cap finish marked / Clicquot Club / Trademark /. The former specimen probably dates after about 1930, while the latter may date no earlier than about 1892 when crown cap technology was introduced. Several other examples of modern or other twentieth-century bottle sherds are included in the artifact identifications in Table 2 from the 1999 excavations. These are the kinds of items, all from Stratum I, that are so well represented in previous University of Pittsburgh and University of Akron excavations at the Mustill property. Accordingly, they will not be described in detail here.

Earlier bottle glass fragments are also present in the 1999 collection. A specimen with a glass rod pontil mark from the Meat Market surface likely predates about 1860. This specimen has the embossed information / Wm BETZ / SALEM, OHIO / MINERAL WATER /, which clearly reveals its contents and place of manufacture. Bottle sherds with lipping tool finishes are present in several proveniences at the site. For example, two such specimens are present in Level 5 of Test Unit 97-98N 103-103E. Earlier specimens with evidence of hand manufacture, including glass pontil marks on the base, are also present in several proveniences, including Test Unit 97-98N 104-105E, Level 4, where two bottle base fragments with pontil marks were recovered. A single Turlington bottle, indicative of 1820s or 1830s manufacture, is one of the few early-nineteenth-century bottles identified at the site.

The remaining domestic items are unremarkable and are summarized in Table 3 by category or type.

### ***Tools and Other Hardware***

A small sample of items in this broad category was collected in 1998 and 1999 at the Mustill Store. They are summarized in Table 5 by stratigraphic association.

### ***Miscellaneous Items***

This category includes very small numbers of items that did not fit well in the other functional classes identified at the site. They are summarized in Table 6. Included are several car parts from the Ramnytz occupation. They used the store, and the grounds behind it, for a car repair area.

### ***Personal Items***

Personal items are fairly well represented at the site (Table 7). The most numerous are white clay tobacco pipe fragments. Several buttons and a few other personal items were also collected.

### ***Tobacco Pipes***

Tobacco-related items are often summarized as a separate analytical or functional group in archeological reports, but I have elected to include them as personal items in this presentation. Most of the tobacco pipes are of styles that are usually attributed to English (Bristol) manufacture, although Dutch, and perhaps American, sources are also present.

Most of the decorative tobacco pipe styles from the Midwest Archeological Center excavations at the Mustill site have been recovered from other nineteenth-century sites along the Ohio and Erie Canal north of Akron. These include 33 Cu 314 (Richner 1992a), 33 Cu 341 (Richner 1993), and 33 Su 270 (Richner and Volf 2001). The so-called “cockled” varieties in the Mustill collection are especially well represented at the Canal Visitor Center (33 Cu 314; Richner 1992a), which historically served as a tavern and inn, and the Boston General Store (33 Su 270; Richner and Volf 2001). The floral or “thistle” styles at Mustill are present in small numbers at 33 Cu 314 and are more common at 33 Su 270. Examples of select cockled and floral decorative examples from Mustill are depicted in Figure 37. The most commonly occurring cockled decorative variety from Mustill has been termed “cockle, oval, and dumbbell” to describe the design occurring on the bowl of the pipe. This is a small-bowl type typically associated with pre-1850s de-

posits. Although there is some debate about place of manufacture for this and other cockled pipes, most authors attribute them to Bristol, England.

Other cockled examples from Mustill include simple cockled without additional embellishment, and several examples that are too fragmentary to determine a decorative pattern within the general cockled variety.

Several floral-decorated pipes are also present at Mustill. These include the floral, small bowl, Type A and Type B, both identified at 33 Cu 314 and 33 Su 270 (Richner 1992a:94, 276; Richner and Volf 2001) as well as additional styles. This is a minority type at both sites where pipe fragments were quite numerous. The Type A bowls have a capacity of 4.0 ml. The two sides of the bowl bear different floral representations. Both feature a central stem to which small leaves and a terminal flower element are attached. Front and back mold seams are built into the design by the addition of raised lines, one on either side of the central mold seam. A nearly complete example of this decorative type was collected from the Feature 7 area in Test Unit 98-99N 103-104E, at 40–50 cm below surface.

The floral Type B style, also originally described at 33 Cu 314 (Richner 1992a:94, 276) and well represented by a minimum of 6 individual pipes at 33 Su 270 (Richner and Volf 2001), where three essentially complete bowls were recovered, has a more complex design than the floral Type A pipe. Like Type A, this is a small-bowl pipe (4.0 ml). Also like Type A, the floral designs differ on each side of the bowl. These Type B floral representations feature long stems with numerous “twigs” or side branches unlike the Type A specimens. Various flower representations occur at the ends of these side stems. The front mold seam is obscured by simple hatching in the form of a series of short, nearly vertical raised lines.

Three additional floral examples from Mustill are not recorded in other local archeological literature. One is too fragmentary for determination of the complete design, but a simple element, perhaps representing a thistle, occurs on the single bowl fragment. On both of the others, which are small-bowl examples (4.0 ml), simple floral elements differing on each side are present. These simple flowers have a central stem, a few leaves, and flowers at the tip of the central stem. They also have vertical lines flanking the mold seams. In both of these characteristics, they are more similar to floral Type A than to floral Type B pipes.

The place of manufacture of these floral pipes is unknown, and the examples bear no makers’ marks. However, until proven otherwise, I assume that these pipes are of English manufacture, probably from the important Bristol pipe manufacturing center. This industry thrived until the 1850s, a perfect match for the late 1820s to 1850s associations at 33 Cu 314 and for the circa 1835–1850 associations at 33 Su 270.

The other identifiable pipe decorative style at Mustill is the ubiquitous TD pipe. Made in a number of variations by many manufacturers, this pipe cannot be placed in tight temporal perspective or identified with certainty by country of origin.

Burnished bowl fragments from Mustill, apparently from plain or minimally decorated examples, are likely of Dutch manufacture, since vertical burnishing is a characteristic of pipes made in that country in the nineteenth century.

Perhaps the most intriguing tobacco pipe sherds from the Mustill property are a few marked stem fragments and a marked bowl fragment. The bowl of a large-bowl type (likely postdating about 1850) is marked by its maker / LF /. We were unable to identify this maker. Two stem fragments bear a rather faint / OHIO /. It may have been this mark that led Bush to conclude that the white clay pipes from his Mustill excavations were all of local manufacture. We could not determine which bowls from the collection, if any, are associated with these ‘Ohio’ stems. Nor could we identify a maker or specific place of manufacture. I doubt that the pipes were made at Mogadore or other local manufacturing locations, since the work of those factories is known to be glazed stoneware or redware pipes in the detachable reed-stem form, rather than in the white clay integral bowl-and-stem form.

Another fragmentary stem is marked / BRISTOL / on one side and /... HITE & S .../ on the other. This would seem to be White and Smith.

### ***Structural Items***

Structural or architectural items are infrequent, with the notable exception of flat glass from window panes (Table 8). The very small number of nails in the collection is at least partially a result of a field decision not to collect items that were rusted to a condition that made it impossible to make even basic identifications of form or manufacturing method. Accordingly, many heavily oxidized lumps, some of which were probably nails, were discarded. The nails included in Table 8 are the only ones from the site that were identifiable according to form or manufacturing type and were the only ones that were collected. However, even that small sample does provide some useful information.

When the nails are examined relative to stratigraphic association, a clear pattern emerges. Wire nails supplanted cut nails in popularity in the middle 1890s and in a few years had essentially completely replaced cut nails for all but specialty uses. Wire and cut nails are both present in the often-mixed Stratum I deposit, but are completely absent from the earlier Stratum II deposits.

Flat glass sherds from former window panes are very numerous at the site and occur in nearly all horizontal proveniences (Table 8). They are particularly numerous from proveniences at the wooden structural feature south of the store (n = 513). This supports the interpretation that the structure represented by the feature was not merely an outbuilding, but was instead a wooden structure that formerly contained numerous windows. The most logical interpretation is that the feature is the remains of the Mustill's first residence and that it predates the circa-1853 structure standing adaptively restored upslope from the lock.

### ***Interpretation of Artifact Origin***

Like all projects at the Mustill site to date, the 1998 and 1999 MWAC projects yielded large numbers of artifacts. However, many of them are from fill zones, and some may be unrelated to the site's primary activities. It appears that significant numbers of the artifacts recovered by the Pittsburgh teams from excavations on the north side of the store are from twentieth-century land fill origin and are therefore unrelated to the Mustills or other site residents. The fills of Strata I and II appear to contain not only materials imported (from undetermined locations) with the fill, but also materials discarded on site.

It is difficult in most cases to subdivide these materials according to actual origin. Some evidence indicates that most of Stratum II's artifacts derive from onsite breakage and/or discard by the site's occupants and users. This includes the pattern of artifact distribution and the character of those materials. Stratum II deposits away from the store contain insignificant numbers of artifacts, while dense accumulations occur near the store (and the former house south of the store). In addition, partially reconstructable ceramic vessels were found within single or adjacent test units.

Other materials are directly associated with important site features, such as the former wooden structure that I interpret as the earliest Mustill residence. There is strong evidence that the midden subset of Stratum II, identified here as Stratum IIa, is the result of onsite discard of artifacts, rather than import of artifacts within the Stratum II fill. Many matching ceramic patterns, tobacco pipe types, and other artifacts were found in that deposit. Furthermore, many of those artifacts were in an obvious, dense, organically stained layer, rather than jumbled and diffused randomly through fill as one might expect from materials dumped from one or more landfill episodes. Still, one must be careful in positively attributing the artifacts from our work at Mustill, as well as those from all previous projects, to the nineteenth and early twentieth occupants of the site at Lock 15. This is especially true for Stratum I, but applies to some extent to Stratum II as well.

## Site Significance and Management Recommendations

### *Site Significance*

Excavations at the Mustill property since 1991 have exposed considerable portions of the site deposit and have resulted in discovery of tens of thousands of artifacts. However, many of the artifacts, particularly those from Stratum I, are unassociated with the Mustill era. In fact, many occur as imported landfill materials from varied and unknown locations in Akron. Many are of modern origin and twentieth-century age and occur primarily on the north side of the store, extending well to the north of the Mustill property. Other Stratum I materials are associated with twentieth-century use of the property by the Ramnytzy family. These range from domestic materials to automotive parts. These materials are present along all façades of the store and are present in small numbers near the house as well.

Late nineteenth-century artifacts, many of which are certainly related to the Mustill occupation of Lock 15, are also present in Stratum I and in other mixed contexts at the site. These materials were redeposited after their initial discard in various ways, including excavations for tile drains, automotive repair pits, and other purposes. For example, along the south façade of the store, installation of a tile drainage line disrupted nineteenth-century deposits and redeposited them along with materials of similar age to the twentieth-century tile line. Most of the University of Pittsburgh and University of Akron excavations prior to 1998, and the upper levels of 1998 and 1999 MWAC excavations, exposed these mixed Stratum I deposits. While some artifacts from these excavations can be confidently associated with the Mustill (or later) site occupation, the research potential involving extensive, mixed deposits is limited. However, not all of the site deposits are mixed or modern. One of the most important contributions of the 1998 and 1999 MWAC fieldwork at the Mustill site was to identify and isolate earlier, unmixed deposits.

It is especially significant that all projects conducted at the site to date have exposed and recorded substantial, intact site features. These include wooden bridge elements, the canal wasteway channel, a stone retaining wall and porch foundation, two concrete wasteway water-control structures, the stone Meat Market foundation, two cisterns, remnants of a structure formerly attached to the northwest façade of the store, stone and concrete foundation elements from one or possibly two early twentieth-century outbuildings south of the store, a brick walkway, and perhaps most importantly, a clear pattern of linear molds from the wooden fabric of a large structure that was likely the first Mustill residence.

Artifact deposits are associated with several of these features, most notably with the early residence. A nineteenth-century midden there and along the north façade of the store might be considered features in their own right, and they contain many artifacts associated with the primary canal era and the Mustill occupation of Lock 15. Several of these features and deposits are not documented in the historic record. Even the original residence is mentioned in the historic record only in the most general terms. No early documents on its precise location or configuration have been located to date despite rather extensive research efforts. Accordingly, archeological research is the only remaining avenue for studying the Mustill's first residence and the nature of their occupation of the Lock 15 area prior to about 1853.

In my opinion, the numerous features preserved at the Mustill archeological site and the rather extensive nineteenth-century deposits near the store have the potential to address a variety of research questions, including several that can be addressed only through archeological research at this property. Potential archeological research avenues at the Mustill site include comparison of the Lock 15 materials with assemblages from contemporary commercial sites such as the inn and tavern at Lock 38 (33 Cu 314) and the Boston General Store (33 Su 270) near Lock 32, and at contemporary domestic farmstead sites such as the Frazee House (33 Cu 341). Archeological research on the existing Mustill collections or those from future, highly targeted excavations, could reveal similarities and differences in artifact assemblages from these and other contemporary nineteenth-century sites to build a model for better understanding functional and chronological aspects of the canal era in the Middle and Lower Cuyahoga River valley.

The artifact assemblages from Mustill and other local sites could be used to examine patterns of import and transportation fostered by the Ohio and Erie Canal, and later by the development of rail service

to the valley in the post-1850s era. The ceramic assemblage from Mustill (and several other sites) are especially rich and varied, and would alone be sufficient for studies of site economy, trade, and regional style preferences. The tobacco pipe assemblage, while smaller in size, also has great analytical potential. Basic questions about the source of many pipes remain poorly answered, and the topic is an important avenue of regional research.

Surprisingly, the area around the house offers the least archeological potential since so little of interest has been found there. However, the area near the store contains a suite of features and artifacts ranging from about 1830 to the first years of the twentieth century that has considerable research potential. The archeological deposits at Mustill have the potential to embellish the historical record and to provide data unavailable from any combination of historic sources for a variety of future studies, not limited to the few examples suggested above. On this basis, the archeological site at the Mustill property is potentially significant under National Register Criterion D. I recommend that the National Register nomination for the property be amended to recognize the significance of the archeological site component.

### ***Project Impacts and Management Recommendations***

The 1998 and 1999 MWAC archeological project focused on select project restoration-related components that were expected to result in ground disturbance at the Mustill House and Store. At the house, demolition and reconstruction of the west addition and installation of perimeter drains and underground utilities were the focus for archeological fieldwork. The University of Pittsburgh and the MWAC field teams recorded sparse and extremely shallow cultural deposits in all fieldwork at the house. No significant artifact deposits were found near or under the house. A single feature, a cistern, was identified adjacent to the west addition. The 1998 MWAC team marked that feature and recommended that it be preserved in place. Although the north side of the upper portion of the cistern was slightly damaged during Mustill House foundation repair work, the feature remains largely intact at the site today. Similarly, the lack of intact deposits led the 1998 team to recommend no further archeological work prior to the foundation repair and perimeter drain installation program at the house.

Given the apparent lack of cultural materials at the house, archeological monitoring during installation of underground utility lines and perimeter drains was recommended prior to the initiation of 1999 fieldwork. That work was undertaken with negative results in 1999.

The City of Akron should be aware that the single potentially significant archeological feature or deposit known to exist near the house is the cistern recorded in 1998. I recommend that the feature be preserved in place. If any ground disturbance is planned in the future near the south side of the west addition of the house, the cistern should either be carefully protected, or if that should prove to be impractical, subject to archeological data collection through excavation.

At the Mustill Store, archeological work by MWAC in 1998 and 1999 focused on reconstruction of the Meat Market and store porch and installation of utility lines and a perimeter drain. Based upon 1998 fieldwork, it was recommended that the existing Meat Market and porch stone foundations not be replaced with extensive, reinforced poured-concrete foundations as indicated in contracted project construction drawings. NPS staff, working with the project partners, devised a structural solution preserving all of the existing fabric of the Meat Market and porch foundations while eliminating all disturbance of potentially intact artifact deposits. The only disturbance that occurred was the installation of concrete “tubes” or columns to support the new wooden porch. These were installed in the post-1913 fill of the wasteway. That deposit had been investigated by the University of Pittsburgh teams and found to contain nothing of archeological significance.

The 1999 MWAC team sampled the north, west, and south façades of the store where the perimeter drain was proposed to be installed. Before starting fieldwork, and as fieldwork continued, I argued for the elimination of that component of the restoration project, since it was among the only project components that had the potential to adversely impact archeological deposits. However, its elimination would have required installation of gutters and downspouts. This was considered to be inappropriate given the tar-

geted age for restoration of the store. Accordingly, the plans for the perimeter drainage system was retained. Sampling of the north façade revealed that the original grade was buried at a considerable depth as one approached the Meat Market, but was very shallow on higher ground near the northwest corner of the store. About 90 percent of the north façade was excavated to about 1 m north of the foundation. On the west façade, original grade was found to be much deeper near the southwest corner than at the northwest corner of the store. Excavation also re-exposed the brick walkway first recorded in 1991 during the first University of Akron archeological project. No features were found in the perimeter drain impact zone.

Along the south façade, original grade was found to be very deeply buried as one moves east toward the lock. Much of the perimeter of the foundation in this area was found to be disturbed through nineteenth-century installation of a ceramic tile drain. The purpose of that drain was apparently to carry rain-water spilling from the store's roof toward the canal. About 50 percent of the proposed perimeter drain impact zone along the south façade was examined through 1999 test excavation units.

Given the extensive sampling conducted along the north, west, and south façades in 1999, and the lack of pre-twentieth-century features within that impact zone, no additional excavations were recommended in advance of installation of the drain later in 1999.

The final component of 1999 archeological fieldwork was the examination of underground utility routes. Away from the store, that was accomplished through monitoring of mechanical trenching. No features and no artifact concentrations were recorded away from the store. The brick walkway along the west façade was avoided and preserved in place, as was the brick cistern located at the store's northwest corner. As plans for the installation of the store's sewer line were developed and revised, I hoped that the important Feature 7 area could be avoided. However, as the final plan was developed while fieldwork was underway, it became apparent that the sewer line route would intersect the western edge of the feature. Accordingly, the MWAC team opened several contiguous 1-x-1-m test units and exposed a trench through which the new sewer line could be installed. The team also monitored the entire installation, including the actual connection with the store through the south foundation wall. Since the entire sewer line route was either excavated by hand through four 1-x-1-m test units, or monitored during installation, there was no need for additional excavations to mitigate the impact of the installation, since the entire impact zone was archeologically investigated during the 1999 site testing program.

At the completion of fieldwork, I noted that other project components, to be completed by project partners other than the National Park Service, had the potential to expose archeological deposits. These primarily included the construction of a restroom and additional sewer line (to connect with the house and store lines) and grading associated with trail construction. Ohio Department of Transportation archeologists evaluated the trail component (Orr 1999), while Dr. David Bush was contracted to examine the restroom project and sewer line route. The Midwest Archeological Center has not been provided the results of his work.

Given the presence of numerous features and intact nineteenth-century deposits near the Mustill Store, great care should be exercised during management in the future. It should not be assumed that all possible archeological work has been completed, since, almost without exception, all of the projects to date focused on specific, proposed development project areas. Extensive deposits remain in place around the structure, especially on the north, west, and south façades. While there is a considerable buffer zone of recent fill north of the store overlying nineteenth-century deposits and original grade, in other areas, important deposits are not deeply buried. I recommend that any proposed future development actions be carefully evaluated by an archeologist meeting the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*, and with extensive experience on nineteenth-century historic site archeology, during the planning phase. I recommend that any proposed ground disturbance, beyond shallow planting of turf grass or other actions impacting only the upper 5 cm of the soil, be reviewed by an archeologist meeting these qualifications before initiating the project. Without question, the most archeologically sensitive area is the zone immediately south of the store where the original home, identified as Feature 7, occurs. All but the western edge of that important feature and its associated archeological deposit remains intact in that area.



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Table 1. Artifacts from the Mustill site, 1998 excavations.

**Part I: Mustill House Test Units**

Proven.	cmbs	n	Description		
TU 1	0-10	3	bone		
		35	glass, curved		
		25	glass, flat		
		11	whiteware		
		4	yellowware		
	10-20	1	coin, 1865 cent, good condition		
		2	glass, curved		
		5	glass, flat		
		1	redware		
		1	stoneware		
		11	whiteware		
		20-30	1	whiteware	
TU 2	0-10	11	glass, curved		
		34	glass, flat		
		1	key, / National Key / Cleveland, O. USA /; back has logo and / National Key Co. / IN8 /		
		4	whiteware		
TU 3	0-10	60	glass, curved; many are from modern beer bottle		
		20	glass, flat		
		1	porcelain		
		2	whiteware		
	10-20	33	glass, curved; many are from modern beer bottle		
		3	glass, flat		
		2	whiteware		
		1	yellowware		
		Feature 1	10-20	1	concrete sample; cistern
				1	whiteware; Feature 1, cistern
20	1		brick; cistern		
20-30	2	glass, flat; cistern			
	1	whiteware, hand-painted; cistern			
TU 4	0-10	1	ferrous metal cut nail		
		23	glass, curved		
		58	glass, flat		
		15	whiteware		
		1	yellowware		
	10-20	1	glass, curved		
		1	whiteware		
		Bldrs Tr	10-20	11	glass, curved
				17	glass, flat
				1	whiteware
20-30	1	glass, flat			
	TU 5	0-10	1	button, glass, 4 holes	
2			ferrous metal cut nails		
1			glass, curved		
25			glass, flat		
1			tin can rim		

Proven.	cmbs	n	Description		
TU 5 cont.	0-10	1	whiteware		
		1	yellowware		
	10-20	1	button, plastic ?		
		1	ceramic ? jewelry brooch ?		
		6	glass, curved		
		5	glass, flat		
		4	whiteware		
		1	yellowware		
		TU 6	0-10	1	button, glass
				7	glass, curved
62	glass, flat				
1	lamp fuel jet				
2	marble, glass				
3	tin can rims				
1	whiteware				
10-20	6		glass, flat		
	1		tobacco pipe, clay, decorated stem		
	2		whiteware		
TU 7	0-10	3	glass, curved		
		37	glass, flat		
		1	redware tile ?		
		1	whiteware		
		10-20	3	glass, flat	
	1		redware tile ?		
	20-30		2	bone	
		2	glass, flat		
	TU 8	0-25	23	bone	
			1	coin or token, asian-like markings, square cutout in the middle	
1			fabric curtain pull		
5			ferrous metal cut nails		
6			glass, curved		
41			glass, flat		
1			tin can rim		
2			tobacco pipe, clay, stems		
14			whiteware		
1			glass, chimney lamp		
TU 9	0-35	8	bone		
	0-35	1	marble, glass		
	35-45	1	bone		
	35-45	1	tobacco pipe, clay, stem		

Key to Mustill House proveniences and abbreviations:

Proven. = Provenience; cmbs = centimeters below surface; TU = Test Unit; BldrsTr = the Builder's Trench in TU 4. Feature 1 is the Mustill House cistern, in TUs 3, 5, and 6.

**Part II: Mustill Store Meat Market Test Units**

Proven.	cmbs	n	Description	
TU 1	0-59	1	bead, glass	
		2	bone	
		1	coin, 1937 cent piece	
		1	ferrous metal cut nail	
		96	glass, curved	
		26	glass, flat	
		2	stoneware	
	59-70	6	whiteware	
		1	yellowware	
		6	bone	
		1	glass, bottle finish, lipping tool, amber, crown neck	
		8	glass, curved	
		19	glass, flat	
		1	redware	
		1	stoneware	
		1	tin can	
		3	whiteware	
		70-90	2	bone
			8	glass, curved
			6	glass, flat
			3	whiteware
TU 2	75-85	12	glass, curved	
		64	glass, flat	
		4	annular ware	
		1	non-ferrous metal	
		42	whiteware	
	85-95	4	bone	
		11	glass, curved	
		78	glass, flat	
		13	annular ware	
		1	tobacco pipe, clay, cockle-oval-dumbbell bowl fragment	
		1	tobacco pipe, clay, stem/bowl junction	
		2	tobacco pipe, clay, stem	
		1	tobacco pipe, clay, mouthpiece	
	95-105	76	whiteware	
		7	bone	
		1	glass, bottle finish w/applied lip, handblown ? similar in shape to French square wide-mouth bottle	
		13	glass, curved	
		95	glass, flat	
		4	leather	
6		annular ware		
2		mollusk shell		
1		tobacco pipe, clay, cockled bowl fragment		
2		tobacco pipe, clay, mouthpieces		
1		tobacco pipe, clay, stem		
95	whiteware			

Proven.	cmbs	n	Description
TU 2	95-105	3	whiteware ? annular decorated
cont.		2	yellowware
TU 3	0-35	1	glass, curved
		1	glass, flat
		10	whiteware
	35-65	1	bone
		26	glass, curved
		12	glass, flat
		7	leather
		1	mollusk shell
		1	stoneware
		51	whiteware
		1	yellowware
	65-127	12	bone
		3	copper
		6	glass, curved
		53	glass, flat
		4	annular ware
		3	tobacco pipe, clay, cockled bowl fragments
		5	tobacco pipe, clay, stems
		132	whiteware
		6	yellowware
TU 4	0-120b	2	bone
		1	bone china
		1	glass, bottle, cobalt blue, / Milk of Magnesia / The Chas. H. Phillips / Chemical Company / Glenbrook, CONN. /, metal screw on cap, automatic lip finish
		1	glass, bottle, prescription bottle shape with plastic screw cap, automatic lip finish
		8	glass, curved
		3	glass, flat
		4	leather shoe fragments
		1	milk glass lid liner
		7	tin cans
		14	whiteware
		1	yellowware
	0-120c	1	milk glass lid liner
		22	whiteware
		1	yellowware

Mustill Store Meat Market Test Units, May 1998:

TU 1 was located at 110-111N 112-113E

TU 2 was located at 109-110N 110-111E

TU 3 was located at 108-109N 110-111E

TU 4 was located at 107.75-108N 110-111E

0-120b = black soil layer, 0-120 cmbs

0-120c = clay layer, 0-120 cmbs

**Part III: Mustill Store Meat Market Backhoe Trench**

Proven.	cmbs	n	Description
BH Tr	90-155	2	annular ware
		1	brick
		1	glass, bottle base with pontil mark
		2	glass, flat
		1	mollusk shell
		60	whiteware
		1	yellowware;
		1	oak equipment (pan scraper ?) handle
		—	leather fragments, 3 shoes
		—	wood fragments, not collected
BH Tr	46-116	2	annular ware
		1	bone
		1	glass, curved, cobalt blue, automatic
		1	glass, flat
		3	glass, slag
		2	stoneware
		8	whiteware
BH Tr	52-58	1	ferrous metal spike
		1	glass, curved
		6	whiteware

*Note:* Artifacts with provenience and depth of BH Tr 90-155 cmbs are from the backhoe trench unit at 107.75-110N 110-111E; artifacts with provenience and depth of BH Tr 46-116 and 52-58 cmbs are from the backhoe trench unit at 111.60-114.60N 108.30-109.30E. The Meat Market Backhoe Trench was excavated on July 29, 1998.

**Part IV: Mustill Store Front Porch Area**

Proven.	cmbs	n	Description
101-109N	115-116E		
	0-32	1	bone
		2	ceramic tile
		2	glass, bottle finish, lipping tool finish, pieces glued together
		1	glass, bottle finish, automatic
		2	glass, curved
		1	glass, jar; cosmetic jar ?
		1	leather
		1	marble, glass
		5	porcelain
		1	whiteware
	0-35	1	bone
		1	bucket handle
		2	buttons
		4	glass, curved
		1	glass, flat
		1	glass, stopper, / C & CO /
		1	glass, stopper
		1	glass, Vicks jar, automatic finish

Proven.	cmbs	n	Description
101-109N	115-116E, continued		
	0-35	1	marble, glass
		7	porcelain
		1	tableware, spoon
		1	tableware, undeterminable, non-ferrous metal
		7	whiteware
		1	yellowware
111-112N	115.5-116.5E		
	0-55	2	bone china
		1	glass, bottle, round glue or shoe polish shape, still has cork and dipper, Owens scar, automatic lip finish
		1	glass, bottle base
		4	glass, bottle finishes; all automatic
		19	glass, curved
		1	mollusk shell
		1	stoneware
		5	whiteware

#### Part V: Bucket Augers 1 and 2 and the Wasteway Inlet Trench

Proven.	cmbs	n	Description
BkAg1	0-233	1	button, glass
		1	glass, curved
		3	whiteware
BkAg2	0-194	1	bone
		9	glass, bottle finish, applied lip finish, ring/oil neck shape
		1	glass, flat
		2	whiteware
WwIn	0-63	1	glass, curved, base with / ... STERED /
		1	glass, curved, tumbler base
		1	milk glass rim with threading, automatic lip finish
		1	glass, curved, base
		2	industrial ceramic unidentified objects

*Notes:* BkAg1 and BkAg2 were bucket auger excavations within the interior portion of the Mustill Store. The Wasteway Inlet trench is abbreviated WwIn above; the trench was 1 m wide and 3 m long.

Table 2. Artifacts from the Mustill site, 1999 excavations.

**Inside Store, Below West Door, Near Foundation; 001-000**

- 1 porcelain, transfer-print, blue
- 1 whiteware, undecorated
- 1 curved glass, milkjug rim, colorless; / AKRON ... /
- 1 curved glass, nearly complete bottle, aqua, crown finish, automatic technique; / Cliquot Club / Trademark /
- 1 ferrous metal meat hook

**West Side of Store Interior; 002-000**

- floor sample, concrete; 361.4g

**Inside Mustill Store, from Black Layer; 003-000**

- 23 bone
- 2 porcelain electrical insulators

**Surface Collection North of Meat Market; 004-000**

- 4 stoneware, Bristol slip
- 1 curved glass, bottle, aqua; finish absent, pontil mark, / Wm BETZ / SALEM, OHIO / MINERAL WATER /

**North Trench; 005-000**

- 1 marble, glass
- 1 porcelain, decal-decorated; rim
- 1 whiteware, decal-decorated
- 4 whiteware, edge-decorated, blue; rims
- 1 whiteware, sponge-decorated, blue
- 2 whiteware, transfer-print, blue; 1 handle

**North Trench, 22.1 m Northwest of Manhole Cover; 006-000**

- 1 ceramic drain pipe; 1" interior diameter

**Trench South of Store Driveway**

0–65 cmbs; 007-000

- 1 clay pipe stem
- 1 bone
- 2 redware, unglazed, flower pot; 1 rim
- 3 whiteware, undecorated
- 8 shoe flap, leather, non-ferrous metal
- 1 curved glass, amber
- 1 curved glass, aqua
- 1 curved glass, colorless
- 7 curved glass, colorless with green tint; 2 bottle bases

65–100 cmbs; 007-001

- 1 clay pipe bowl; COD
- 1 clay pipe mouthpiece, tapered
- 3 clay pipe stem
- 1 tooth
- 13 whiteware, annular
- 1 whiteware, edge-decorated, green; rim
- 9 whiteware, hand-painted; 1 rim
- 4 whiteware, sponge-decorated, blue; rim
- 2 whiteware, transfer-print, black
- 2 whiteware, transfer-print, blue; 1 rim
- 1 whiteware, transfer-print, purple
- 13 whiteware, undecorated; 4 base, 1 rim
- 2 whiteware, yellow glaze
- 1 ferrous metal boat nail ?
- 1 roofing slate
- 3 curved glass, aqua; 1 bottle base
- 2 curved glass, colorless; 1 tumbler rim
- 4 flat glass
- 1 milkglass

**North Trench Connecting to Store; 008-001**

- 1 curved glass, bottle finish, dark green; applied lip, double oil finish

**Outside South Window of Store, Wood Part; 009-000**

- 1 Liberty Cent, unknown date; very poor condition

**Backhoe Trench, East Wall Clean-Up; 010-000**

- wood sample from post of old outbuilding; 56.7g

Table 2, continued.

**Backhoe Trench, Clean-Up, Historic Midden; 011-000**

- 1 clay pipe bowl with cockles
- 9 clay pipe stem
- 1 porcelain, undecorated
- 1 whiteware, annular
- 1 whiteware, edge-decorated, blue; rim
- 1 whiteware, edge-decorated, green; rim
- 8 whiteware, hand-painted; 1 base, 4 rim
- 1 whiteware, sponge-decorated, brown
- 2 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, flow blue; rim
- 1 whiteware, transfer-print, Old Blue
- 16 whiteware, undecorated; 5 base, 1 rim
- 1 button, glass; 4 holes,  $\frac{13}{32}$ "
- 2 curved glass, colorless; 1 tumbler rim, 1 stem
- 8 flat glass

**Electric Line Trench; 012-000**

- 2 clay pipe bowl, 1 with vertical burnishing
- 1 clay pipe stem
- 6 bone
- 2 mollusk shell
- 1 stoneware, Rockingham glaze
- 5 whiteware, annular; 2 rim
- 11 whiteware, edge-decorated, blue; 10 rim
- 1 whiteware, edge-decorated, green; 1 rim
- 8 whiteware, hand-painted; 2 base, 2 rim
- 14 whiteware, sponge-decorated, blue; 7 rim, 1 base
- 5 whiteware, sponge-decorated, blue with hand-painted peafowl; 1 base
- 1 whiteware, sponge-decorated, red; rim
- 10 whiteware, transfer-print, blue; 1 rim, 1 base
- 1 whiteware, transfer-print, brown; rim
- 1 whiteware, transfer-print, flow blue
- 2 whiteware, transfer-print, red; 1 base
- 20 whiteware, undecorated; 3 base, 1 rim
- 2 ceramic tile
- 1 curved glass, aqua
- 1 curved glass, bottle base, aqua; pontil mark
- 2 flat glass
- 1 ferrous metal 'S' hook
- 1 tubing, stoneware

**Water Line Trench; 013-000**

- 1 curved glass, complete bottle, amber; external thread, automatic technique; rubber cap and glass dropper
- 1 curved glass, complete bottle, amber; external thread, automatic technique; ferrous metal cap; may have been filled with vanilla

**Black Fill Inside Store; 014-000**

- 1 ferrous metal and non-ferrous metal; *the* mystery object described on text page 17

**100-101N 104-106E, Builder's Trench; 015-000**

- 1 mollusk shell
- 1 whiteware, edge-decorated, blue; rim
- 1 whiteware, hand-painted; rim
- 1 whiteware, transfer-print, blue
- 3 whiteware, undecorated; 1 rim

**Inside Mustill Store**

- 0-30 cmbs; 016-001s
- soil sample; 420.8g
- 30-50 cmbs; 016-002s
- soil sample; 500+ g
- 50-60 cmbs; 016-003s
- soil sample; 480.8g

**Surface, Under Addition of House; 017-000**

- 1 whiteware, transfer-print, flow black; rim
- 1 whiteware, transfer-print, flow blue; rim
- 1 button, glass; 4 holes,  $\frac{3}{8}$ "
- 1 button, plastic; 2 holes,  $\frac{7}{16}$ "
- 1 button, plastic; 2 holes,  $\frac{3}{4}$ "

Table 2, continued.

- 1 button, plastic; 4 holes,  $\frac{5}{8}$ "
- 1 button, shell with non-ferrous metal shank;  $\frac{27}{32}$ "
- 1 shirt collar button
- 1 curved glass, complete bottle, aqua; packer finish, lipping tool technique; / 3-in-One Oil Co / Three in One /
- 2 glass stopper; 1 colorless, 1 amber
- 5 bead, glass; 3 red, faceted; 1 colorless; 1 black
- 1 brooch with faux 'gem' set stones; glass
- 1 pin, ferrous metal and plastic
- 2 tin lids; / Colgate's Exquisite Extracts /

**Inside Mustill Store, Shovel Test 1**

0-60 cmbs; 101-001

- 1 clay pipe stem; dot and line
- 1 stoneware, salt glaze/Albany slip
- 1 stoneware, salt glaze/brown glaze; rim diameter = 8.5"
- 2 whiteware, undecorated
- 1 curved glass, colorless

**Inside Mustill Store, Shovel Test 2**

0-65 cmbs; 102-001

- 1 stoneware, salt glaze/Albany slip
- 1 whiteware, transfer-print, Old Blue
- 1 curved glass, amber
- 4 curved glass, colorless

**Inside Mustill Store, Shovel Test 3**

0-58 cmbs; 103-001

- 2 whiteware, undecorated

**Inside Mustill Store, Shovel Test 4**

0-88 cmbs was sterile; 104-001

**Test Unit at 95.35-97N 103-104E**

0-65 cmbs; 401-001

- 7 stoneware, Albany and Bristol slip; 2 base, 1 rim; all from same crock vessel
- 1 stoneware, salt glaze/Albany slip
- 1 whiteware, annular
- 1 whiteware, undecorated
- 1 curved glass, colorless
- 3 unidentified, non-ferrous metal; auto parts ?
- 1 unidentified, non-ferrous metal; has threads inside, fitting ?
- 2 wood

65-100 cmbs; 401-002

- 4 clay pipe bowl; 2 floral, 1 COD, 1 cockled
- 3 clay pipe mouthpiece, tapered
- 23 clay pipe stem
- 72 bone
  - 1 stoneware, bottle finish, Albany slip
  - 1 stoneware, Rockingham glaze/colorless glaze; base
  - 2 stoneware, salt glaze/Albany slip
  - 7 whiteware, annular; 2 rim, 1 base, 1 pearlware
- 16 whiteware, edge-decorated, blue
  - 1 whiteware, edge-decorated, green
- 25 whiteware, hand-painted; 4 rim, 1 base
  - 8 whiteware, sponge-decorated, blue; 4 rims
    - 1 whiteware, sponge-decorated, blue, with hand-painted peafowl
  - 4 whiteware, transfer-print, black
- 12 whiteware, transfer-print, blue; 2 base
  - 3 whiteware, transfer-print, brown
  - 2 whiteware, transfer-print, Old Blue
  - 3 whiteware, transfer-print, red
- 61 whiteware, undecorated; 7 rim, 5 base, 1 lid
  - 1 whiteware, undeterminable decoration; burnt ?
  - 1 whiteware, yellow glaze
  - 1 yellowware, annular decoration
  - 1 yellowware, colorless glaze
  - 1 yellowware, Rockingham glaze; handle
  - 1 button back, non-ferrous metal
  - 2 button, glass; 4 holes,  $\frac{13}{32}$ "
  - 9 ferrous metal cut nail
  - 1 curved glass, amber
- 19 curved glass, aqua; 1 glass insulator or kick-up ?

Table 2, continued.

- 8 curved glass, colorless; 1 tumbler rim
- 1 curved glass, colorless with green tint
- 1 curved glass, colorless, stopper handle
- 3 curved glass, olive green
- 19 flat glass
- 1 glass slag
- 1 milkglass, blue
- 1 quartz crystal; broken, but has faceted end

**Test Unit at 97-98N 103-104E**

- 0-20 cmbs; 402-001, nothing collected
- 20-30 cmbs; 402-002
  - 1 plastic toy fish; from a necklace ?
  - 3 tooth
  - 4 whiteware, annular
  - 1 whiteware, decal-decorated, polychrome
  - 1 whiteware, edge-decorated, blue; rim
  - 1 whiteware, transfer-print, blue; rim, Canova ?
  - 1 whiteware, transfer-print, brown
  - 3 whiteware, transfer-print, flow blue
- 25 whiteware, undecorated
  - 2 yellowware, colorless glaze
  - 2 curved glass, aqua
  - 5 curved glass, colorless
  - 1 curved glass, green
  - 5 flat glass
  - 1 flat glass; from refrigerator
- 30-40 cmbs; 402-003
  - 1 cartridge casing, .22-caliber
  - 2 clay pipe stem; 1 mouthpiece, tapered
  - 6 bone
  - 3 redware, unglazed
  - 2 stoneware, Albany slip
  - 1 stoneware, salt glaze/black glaze
  - 4 whiteware, annular; 1 rim
  - 1 whiteware, edge-decorated, blue
  - 1 whiteware, gilt
  - 1 whiteware, hand-painted; broad stroke, blue
  - 1 whiteware, sponge-decorated, blue; base
  - 1 whiteware, transfer-print, blue
- 47 whiteware, undecorated; 3 rim, 1 base
  - 1 yellowware, annular
  - 3 yellowware, colorless glaze
  - 1 ceramic drain tile
  - 1 tile, unidentified material
  - 5 curved glass, aqua
- 20 curved glass, colorless
- 10 curved glass, colorless with green tint
  - 2 curved glass, green
  - 1 curved glass, red; solarized
  - 8 flat glass
  - 3 jar lid liner, milkglass
  - 1 insulator, porcelain and ferrous metal
- 40-50 cmbs; 402-004
  - 2 clay pipe bowl
  - 4 clay pipe stem; 1 mouthpiece, tapered
  - 2 bone; 1 calcined
  - 5 whiteware, annular; 2 rims
  - 2 whiteware, hand-painted; broad line, polychrome
  - 1 whiteware, sponge-decorated, blue, with hand-painted peafowl
  - 1 whiteware, transfer-print, blue
- 13 whiteware, undecorated; 3 base, 1 rim, 1 handle
  - 3 yellowware, colorless glaze
  - 3 curved glass, aqua
  - 2 curved glass, colorless
  - 2 curved glass, colorless with green tint
  - 1 flat glass
  - 4 glass slag

Table 2, continued.

50-60 cmbs; 402-005

- 1 clay pipe bowl; COD
  - 1 clay pipe bowl; COD
  - 24 clay pipe stem; 1 mouthpiece, tapered, 1 junction
  - 7 bone
  - 1 stoneware, brown glaze/salt glaze
  - 5 whiteware, annular; 4 rim
  - 6 whiteware, edge-decorated, blue; 5 rim
  - 7 whiteware, hand-painted; broad line, polychrome, 2 rim
  - 1 whiteware, transfer-print, black; rim
  - 5 whiteware, transfer-print, blue; 1 rim, 4 burnt and articulate
  - 1 whiteware, transfer-print, red
  - 19 whiteware, undecorated
  - 1 whiteware, undeterminable decoration
  - 2 yellowware, colorless glaze
  - 1 yellowware, Rockingham glaze; rim
  - 1 button, glass; 4 holes,  $1\frac{5}{32}$ "
  - 1 button, non-ferrous metal
  - 4 curved glass, aqua
  - 1 curved glass, bottle finish, aqua; wide prescription, lipping tool
  - 1 curved glass, bottle finish, colorless; tapered patent, lipping tool
  - 3 curved glass, colorless
  - 2 curved glass, dark green
  - 23 flat glass
- Layer 8, 55 cmbs; 402-008s  
— soil sample; 194.0g
- Layer 9, 65 cmbs; 402-009s  
— soil sample; 96.6g

**Test Unit at 97-98N 104-105E**

0-10 cmbs; 403-001, and 10-20 cmbs; 403-002, nothing collected

20-30 cmbs; 403-003

- 1 marble, clay
  - 1 stoneware, Albany slip; base
  - 1 stoneware, Bristol slip; crock rim, diameter = 6"
  - 2 whiteware, annular-linear
  - 1 whiteware, decal-decorated; polychrome, floral
  - 4 whiteware, edge-decorated, blue; 3 rim, shell
  - 3 whiteware, green/brown glaze; 1 rim
  - 3 whiteware, hand-painted; 1 rim, broad line, polychrome
  - 3 whiteware, sponge-decorated, blue
  - 1 whiteware, sponge-decorated, brown
  - 2 whiteware, transfer-print, blue
  - 3 whiteware, transfer-print, flow blue
  - 5 whiteware, transfer-print, red; 2 rims, articulate
  - 8 whiteware, undecorated
  - 1 yellowware, colorless glaze
  - 1 yellowware, colorless glaze; base, burnt
  - 1 ceramic tile
  - 1 ceramic tile
  - 10 curved glass, aqua
  - 16 curved glass, colorless; 1 jar rim, 1 tumbler rim
  - 1 curved glass, green
  - 1 curved glass, red; solarized
  - 3 jar lid liner, milkglass
  - 1 glass tack head ?
  - 1 non-ferrous metal
- 30-40 cmbs; 403-004
- 3 clay pipe bowl; 2 cockled, 1 COD
  - 3 clay pipe stem
  - 5 bone
  - 1 stoneware, black glaze
  - 1 stoneware, unglazed
  - 7 whiteware, annular-linear
  - 18 whiteware, edge-decorated, blue; 3 rims, all shell
  - 9 whiteware, hand-painted; 1 rim
  - 7 whiteware, sponge-decorated, blue
  - 2 whiteware, sponge-decorated, blue with hand-painted peafowl; saucer
  - 3 whiteware, sponge-decorated, brown
  - 2 whiteware, transfer-print, black; 1 rim, burnt

Table 2, continued.

- 6 whiteware, transfer-print, blue; 4 base
- 2 whiteware, transfer-print, brown; 1 rim
- 1 whiteware, transfer-print, red
- 73 whiteware, undecorated; 3 rim, 8 base
- 1 yellowware, annular
- 6 yellowware, colorless glaze
- 2 yellowware, Rockingham glaze; 1 rim
- 2 curved glass, aqua
- 1 curved glass, bottle finish, aqua; pontil mark
- 1 curved glass, bottle finish, aqua; pontil mark, large homeopathic bottle ?
- 7 curved glass, colorless
- 1 curved glass, green
- 1 curved glass, red
- 10 flat glass; 1 blue
- 1 fused glass
- 2 jar lid liner, milkglass
- 1 lead weight
- 40-50 cmbs; 403-005
- 1 non-ferrous metal
- 6 clay pipe bowl; 2 COD, 1¾ cockled
- 2 clay pipe mouthpiece; 1 ringed, 1 tapered
- 10 clay pipe stem
- 33 bone
- 6 teeth
- 1 redware, colorless glaze/Bristol; white slip; rim
- 8 whiteware, annular; 1 rim, 7 linear, 1 abstract
- 3 whiteware, edge-decorated, blue; 2 shell, 2 rims
- 4 whiteware, hand-painted; 2 rim
- 4 whiteware, sponge-decorated, blue; 3 rims, 3 sherds articulate, 2 vessels
- 1 whiteware, transfer-print, black
- 7 whiteware, transfer-print, blue; 1 rim
- 1 whiteware, transfer-print, brown; rim
- 2 whiteware, transfer-print, Old Blue; 1 pearlware
- 1 whiteware, transfer-print, red
- 20 whiteware, undecorated; 2 base, 2 rims
- 2 yellowware, annular; rims, same vessel
- 2 button, glass; broken, different sizes
- 1 button, non-ferrous metal
- 1 curved glass, aqua
- 1 curved glass, bottle finish, colorless
- 4 curved glass, colorless
- 9 flat glass
- 1 glass slag
- 4 non-ferrous metal handle
- 50-60 cmbs; 403-006
- 4 clay pipe bowl; 1 with / LF /, large bowl
- 6 clay pipe stem
- 15 bone
- 1 tooth
- 1 redware, brown glaze
- 6 whiteware, annular; 1 rim
- 2 whiteware, edge-decorated, blue; rims
- 1 whiteware, edge-decorated, green; rim
- 5 whiteware, hand-painted; 2 rims
- 1 whiteware, sponge-decorated, blue
- 2 whiteware, transfer-print, blue; 1 rim
- 2 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, flow blue; burnt
- 2 whiteware, transfer-print, red
- 6 whiteware, undecorated; 1 rim, 2 base
- 1 whiteware, yellow glaze; / ... HINES /
- 1 button, glass; 4 holes, 7/16"
- 1 button, non-ferrous metal
- 6 curved glass, aqua
- 15 flat glass
- 55 cmbs; 403-006s
- joist wood sample; 19.3g

Table 2, continued.

**Test Unit at 98-99N 103-104E**

- 0-15 cmbs; 404-001, nothing collected
- 15-25 cmbs; 404-002
- 4 bone
  - 1 porcelain, undecorated
  - 3 whiteware, annular; 1 rim
  - 1 whiteware, decal-decorated; polychrome, floral, base with a portion of a maker's mark
  - 1 whiteware, sponge-decorated, blue
  - 1 whiteware, transfer-print, flow blue
- 19 whiteware, undecorated; 1 rim
- 1 yellowware, Rockingham glaze
  - 1 yellowware, unglazed; base
  - 1 button, bone; 4 holes, <sup>2</sup>/<sub>32</sub>"
  - 4 curved glass, aqua
- 10 curved glass, colorless; 1 is a lid ?
- 1 curved glass, green
  - 2 curved glass, red
  - 1 curved glass, yellow
  - 8 flat glass
  - 4 ferrous metal
- 25-35 cmbs; 404-003
- 1 clay pipe bowl; cockled
- 12 bone
- 2 ceramic
  - 1 stoneware, bristol slip/black glaze
  - 1 stoneware, brown glaze/black slip
  - 2 stoneware, metallic brown glaze/brown glaze
  - 1 whiteware, decal-decorated; floral, polychrome
  - 5 whiteware, edge-decorated, blue; 4 rim, 4 shell pattern
  - 2 whiteware, hand-painted
  - 2 whiteware, sponge-decorated, blue
  - 2 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, brown; rim
  - 1 whiteware, transfer-print, flow blue; with gilt
- 19 whiteware, undecorated
- 1 yellowware, colorless glaze
  - 1 yellowware, colorless glaze/Rockingham glaze
  - 1 ferrous metal cut nail
  - 1 curved glass, amber
- 15 curved glass, aqua
- 4 curved glass, bottle finish, aqua; crown finish, automatic technique; 2 different vessels
  - 1 curved glass, bottle finish, colorless
- 10 curved glass, colorless; 2 with writing, but not very much
- 1 curved glass, green
  - 1 curved glass, red
  - 8 flat glass
  - 2 jar lid liner, milkglass
  - 1 milkglass
  - 1 non-ferrous metal tube and wood rod; flag holder ?
- 35-45 cmbs; 404-004
- 4 clay pipe bowl; 1 cockled, 1 with thistle motif
  - 2 clay pipe mouthpieces; tapered
  - 9 clay pipe stem; 1 with / OHIO /, 3 articulate with tapered mouthpiece
  - 3 bone
  - 1 mollusk shell
  - 1 stoneware, metallic brown glaze
  - 2 whiteware, annular; 1 linear, 1 abstract
  - 2 whiteware, edge-decorated, blue; 1 rim
  - 2 whiteware, hand-painted
  - 2 whiteware, sponge-decorated, blue
  - 2 whiteware, transfer-print, black
  - 9 whiteware, transfer-print, blue; 3 rims; many Canova
  - 1 whiteware, transfer-print, brown
- 22 whiteware, undecorated; 2 base, 1 rim
- 1 tack, non-ferrous metal
  - 2 curved glass, aqua
  - 1 curved glass, colorless
  - 3 curved glass, dark green
- 18 flat glass
- 1 fused glass

Table 2, continued.

- 1 glass slag
- 45-55 cmbs; 404-005
  - 3 clay pipe bowl; 1 complete with thistles, 1 cockled
- 13 clay pipe stem
- 4 bone
  - 1 mollusk shell
  - 1 porcelain, undecorated
  - 1 redware, colorless glaze/Rockingham glaze
- 19 whiteware, annular
  - 1 whiteware, edge-decorated, blue; rim
  - 2 whiteware, hand-painted; 1 lid; 1 pearlware; 1 polychrome, broad line, 1 sprig
  - 1 whiteware, sponge-decorated, blue with hand-painted peafowl
  - 1 whiteware, transfer-print, black; rim
  - 1 whiteware, transfer-print, blue
  - 4 whiteware, transfer-print, brown; 2 rim
  - 1 whiteware, transfer-print, Old Blue
  - 2 whiteware, transfer-print, red
- 18 whiteware, undecorated; 3 base, 1 rim
  - 3 curved glass, aqua
  - 1 curved glass, colorless
- 15 flat glass
  - 1 glass slag
  - 1 pressed glass, colorless
  - 1 lead
- 55-65 cmbs; 404-006
  - 2 clay pipe bowl; cockles
  - 1 clay pipe mouthpiece
  - 9 clay pipe stem; 3 decorated: 1 with dots, 1 with / ... HITE & S ... / ... RISTOL ... /, 1 raised angles
- 10 bone
  - 1 mollusk shell
  - 1 tooth
  - 2 whiteware, annular; 1 rim
  - 2 whiteware, edge-decorated, blue; 1 rim
  - 9 whiteware, hand-painted; 5 rims
  - 2 whiteware, transfer-print, blue; 1 rim
  - 1 whiteware, transfer-print, brown
  - 1 whiteware, transfer-print, red; 1 rim, Canova
  - 7 whiteware, undecorated; 1 base, 1 rim
  - 2 ferrous metal cut nail
  - 1 curved glass, colorless
  - 3 flat glass
- 60 cmbs; 404-006s
  - 1 button, non-ferrous metal; <sup>17</sup>/<sub>32</sub>"
- Layer 10, 70 cmbs; 404-010s
  - soil sample; 79.2g

**Test Unit at 98-99N 104-105E**

- 0-10 cmbs; 405-001) nothing collected
- 10-20 cmbs; 405-002
  - 2 bone; 1 calcined
  - 2 whiteware, annular
  - 3 whiteware, edge-decorated, blue; 3 rim
  - 4 whiteware, hand-painted; 1 rim
  - 2 whiteware, sponge-decorated, blue
  - 1 whiteware, transfer-print, black
  - 4 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, Old Blue
- 32 whiteware, undecorated; 1 rim
  - 2 yellowware, colorless glaze; 1 handle, 1 base
  - 2 ceramic drain tile
  - 1 ceramic tile; hexagonal
  - 4 curved glass, amber
  - 3 curved glass, aqua
  - 1 curved glass, bottle finish, colorless with green tint; crown finish
- 16 curved glass, colorless
  - 6 curved glass, colorless with green tint
  - 1 curved glass, dark green
  - 5 curved glass, green
  - 9 flat glass

Table 2, continued.

- 1 jar lid liner, milkglass
- 1 milkglass
- 20-30 cmbs; 405-003
  - 5 clay pipe stem; 1 dot and line
  - 5 bone; 1 calcined
  - 1 porcelain; not sure if tableware or something else
  - 1 stoneware, Albany slip; base
  - 5 stoneware, salt glaze/Albany slip; 1 crock rim, diameter = 12"
  - 1 whiteware, decal-decorated; polychrome, floral
  - 6 whiteware, edge-decorated, blue; 6 rims
  - 5 whiteware, hand-painted; 1 rim
  - 1 whiteware, purple lustre
  - 5 whiteware, transfer-print, blue; 4 rim, 3 Canova
  - 2 whiteware, transfer-print, brown
- 13 whiteware, transfer-print, Old Blue; most from same vessel; Palestine ?
  - 1 whiteware, transfer-print, purple
  - 1 whiteware, transfer-print, red
- 67 whiteware, undecorated
  - 8 yellowware, colorless glaze
  - 1 yellowware, Rockingham glaze
  - 1 ceramic tile; square
  - 1 curved glass, amber
- 10 curved glass, aqua
  - 1 curved glass, bottle base, aqua; pontil mark; large homeopathic bottle ?
- 18 curved glass, colorless; 2 tumbler base; 2 with writing
  - 3 curved glass, green
  - 4 flat glass
- 3 jar lid liner, milkglass
  - 1 milkglass
  - 1 non-ferrous metal; doorlock out jam for skeleton key ?
- 30-40 cmbs; 405-004
  - 6 clay pipe bowl; 2 COD, 1 cockles
  - 9 clay pipe stem; 1 dots
  - 6 bone
  - 2 porcelain, transfer-print and hand-painted ?
  - 1 redware, metallic brown glaze
  - 1 stoneware, salt glaze/Albany slip
  - 2 whiteware, annular; earthworm
  - 8 whiteware, annular-linear
  - 11 whiteware, edge-decorated, blue; 6 rim; 9 shell pattern
  - 25 whiteware, hand-painted; 2 monochrome broad line, 22 polychrome sprig; 4 rim
  - 6 whiteware, sponge-decorated, blue
  - 1 whiteware, sponge-decorated, blue with hand-painted peafowl
  - 4 whiteware, transfer-print, black
  - 5 whiteware, transfer-print, blue; 2 base
  - 4 whiteware, transfer-print, brown; 1 base
  - 2 whiteware, transfer-print, mulberry
  - 2 whiteware, transfer-print, Old Blue; Palestine ?
- 100 whiteware, undecorated; 8 rim, 3 base
  - 2 yellowware, annular
  - 1 yellowware, colorless glaze; rim
  - 4 curved glass, aqua
  - 1 curved glass, bottle finish, colorless
  - 4 curved glass, colorless
  - 1 curved glass, olive-green
- 51 flat glass
- 40-50 cmbs; 405-005
  - 8 clay pipe bowl; 2 nearly complete; 1 floral Type A, 1 COD
  - 1 clay pipe mouthpiece, tapered
- 16 clay pipe stem; 1 line and dot
  - 9 bone
  - 3 teeth
  - 2 porcelain, undecorated
  - 1 redware, metallic brown glaze
  - 9 whiteware, annular-linear; 1 rim
  - 4 whiteware, edge-decorated, blue; rims
  - 10 whiteware, hand-painted; 5 rim; 3 broad line, 1 sprig
  - 2 whiteware, sponge-decorated, blue; 1 rim
  - 1 whiteware, sponge-decorated, blue with hand-painted peafowl; rim
  - 1 whiteware, transfer-print, black

Table 2, continued.

- 7 whiteware, transfer-print, blue; 3 Canova
- 1 whiteware, transfer-print, brown; rim
- 1 whiteware, transfer-print, red
- 26 whiteware, undecorated
- 1 copper tubing; water line ?
- 4 curved glass, aqua
- 12 curved glass, colorless
- 51 flat glass
- 5 pressed glass, colorless; 3 articulate; 1 stem
- 1 ferrous metal, unidentified
- 2 ferrous metal; base of something round
- 2 slate pencils

**Test Unit at 99-100N 103-104E**

Layer 1, 2 cmbs; 406-001s

— soil sample; 191.0g

0-10 cmbs; 406-001, nothing collected

10-20 cmbs; 406-002

- 1 bone; calcined
- 1 flat glass
- 1 porcelain, undecorated
- 1 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, red
- 10 whiteware, undecorated
- 1 whiteware, undeterminable decoration
- 2 curved glass, aqua
- 2 curved glass, brown
- 3 curved glass, colorless

Layer 2, 10 cmbs; 406-002s

— soil sample; 145.2g

20-30 cmbs; 406-003

- 1 clay pipe stem
- 1 bone
- 1 porcelain, decal-decorated; polychrome
- 1 porcelain, undecorated
- 1 stoneware, Bristol slip/Albany slip
- 1 stoneware, Rockingham glaze; base and rim, pie form ?
- 1 whiteware, annular ring; rim
- 2 whiteware, edge-decorated, blue; rims
- 1 whiteware, green aerograph ? with gilt; rim
- 1 whiteware, greenish glaze
- 1 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, flow blue ?
- 19 whiteware, undecorated; 4 rim
- 1 curved glass, amber
- 1 curved glass, bottle finish, aqua; crown finish, automatic technique
- 1 curved glass, cobalt blue
- 3 curved glass, colorless
- 3 curved glass, colorless with green tint
- 2 glass tube
- 1 milkglass

Layer 3, 15 cmbs; 406-003s

— soil sample; 171.8g

30-40 cmbs; 406-004

- 1 clay pipe bowl
- 2 clay pipe mouthpiece, tapered
- 2 clay pipe stem
- 1 bone
- 6 redware, unglazed; 3 rim
- 1 stoneware, unglazed; saucer for a flower pot ?
- 3 whiteware, annular-linear
- 1 whiteware, edge-decorated, blue
- 1 whiteware, greenish glaze
- 7 whiteware, hand-painted; broad line, polychrome; all same vessel
- 3 whiteware, transfer-print, blue; 1 rim; 2 Canova
- 1 whiteware, transfer-print, brown
- 8 whiteware, undecorated; 4 base, 2 rim
- 2 whiteware, undeterminable decoration

Table 2, continued.

- 1 yellowware, colorless glaze
- 1 button, glass; 3 holes,  $1\frac{1}{32}$ "
- 4 curved glass, amber
- 5 curved glass, colorless
- 13 flat glass
  - 1 glass slag
  - 1 milkglass
  - 1 non-ferrous metal, unidentified
- Layer 4, 25 cmbs; 406-004s
  - soil sample; 170.5g
  - 40-50 cmbs; 406-005
    - 1 clay pipe bowl; cockles
    - 5 clay pipe stem
    - 1 whiteware, annular ring
    - 7 whiteware, annular-linear; 1 rim
    - 1 whiteware, edge-decorated, blue
    - 6 whiteware, hand-painted; 5 broad line, polychrome, 1 sprig; 2 sprig
    - 1 whiteware, sponge-decorated, blue
    - 3 whiteware, transfer-print, blue; 2 rim; Canova
    - 4 whiteware, transfer-print, red; 1 base
    - 14 whiteware, undecorated; 5 base, 1 rim
      - 1 yellowware, colorless glaze
      - 1 flat glass
      - 2 mason jar lid, aqua; complete
- Layer 5, 35 cmbs; 406-005s
  - soil sample; 171.1g
  - 50-60 cmbs; 406-006
    - 6 clay pipe bowl; 1 floral, 1 with vertical burnishing, 2 cockles, 1 COD
    - 1 clay pipe mouthpiece, tapered
    - 5 clay pipe stem
    - 6 bone
    - 5 teeth
    - 1 stoneware, bottle finish; salt glaze/Albany slip
    - 6 whiteware, annular; 5 linear; 1 rim, 1 earthworm; rim
    - 1 whiteware, annular ring; rim
    - 4 whiteware, edge-decorated, blue; 4 rim
    - 1 whiteware, sponge-decorated, brown
    - 1 whiteware, transfer-print, blue
    - 10 whiteware, undecorated
      - 1 button, glass; 4 holes,  $1\frac{3}{32}$ "
      - 1 asphalt shingle
      - 6 brick; soft orange
      - 9 curved glass, aqua
      - 1 curved glass, bottle base, aqua; iron rod pontil mark, / TERRY ... / MASSILLO ... /
      - 6 curved glass, colorless; 5 from the same vessel / PARF ... /; 2 bases
      - 3 curved glass, olive-green
    - 31 flat glass
      - 1 lead scrap
- Layer 6, 45 cmbs; 406-006s
  - soil sample; 171.6g
  - 60-70 cmbs; 406-007
    - 1 clay pipe bowl;  $\frac{3}{4}$  cockled
    - 1 bone
    - 1 stoneware, salt glaze/unglazed
    - 1 whiteware, sponge-decorated, blue; rim
    - 1 whiteware, transfer-print, blue
    - 1 whiteware, transfer-print, red
    - 2 whiteware, undecorated
    - 4 ferrous metal cut nail
    - 5 flat glass
  - 60 cmbs; 406-007a
    - 1 thimble, non-ferrous metal
    - wood sample
- Layer 7, 60 cmbs; 406-007s
  - soil sample; 360.2g
  - 76 cmbs; 406-008
    - charcoal; 0.3 g

Table 2, continued.

**Test Unit at 100-101.1N 103-104E**

Level 1; 407-001, nothing collected

Level 2; 407-002

- 14 bone
  - 1 porcelain; handle
  - 1 stoneware, metallic black glaze; rim
  - 2 whiteware, edge-decorated, blue; rims, articulate
  - 1 whiteware, hand-painted
  - 1 whiteware, sponge-decorated, blue with hand-painted peafowl
  - 1 whiteware, transfer-print, Old Blue
  - 1 whiteware, undecorated
  - 1 yellowware, Rockingham glaze
  - 1 tile, unidentified material; another tile found earlier
  - 2 curved glass, colorless
    - 1 curved glass, colorless with yellow tint
- 17 flat glass; some quite large
  - 1 fused glass
- Level 3; 407-003
  - 1 clay pipe bowl
  - 2 clay pipe stem
  - 1 bone
  - 13 redware, unglazed; 2 rim, 4 base
    - 1 stoneware, Bristol slip
    - 1 stoneware, Bristol slip/Albany slip
    - 2 whiteware, annular
    - 3 whiteware, annular; funky purple and yellow
    - 2 whiteware, decal-decorated; polychrome with gilt; rims, same vessel
    - 4 whiteware, edge-decorated, blue; 4 rim
    - 2 whiteware, transfer-print, black
    - 1 whiteware, transfer-print, blue
    - 1 whiteware, transfer-print, brown
    - 1 whiteware, transfer-print, flow blue
    - 3 whiteware, transfer-print, red
  - 13 whiteware, undecorated; 2 base with gilt, 1 rim, 1 base with portion of a maker's mark
    - 1 non-ferrous metal suspender grip guide
    - 1 drain pipe, stoneware
    - 1 sewer pipe, stoneware
    - 2 non-ferrous metal washers
    - 3 curved glass, amber
      - 1 curved glass, bottle finish, colorless with aqua tint; crown finish, automatic technique
  - 13 curved glass, colorless
    - 1 curved glass, colorless with green tint
  - 13 flat glass
    - 1 carbon rod
    - 2 ferrous metal crown cap
    - 1 lead scrap
- Level 4; 407-004
  - 1 clay pipe bowl; yellowish clay
  - 1 clay pipe stem
  - 6 bone; 2 calcined
    - 1 bone; large mammal
  - 2 whiteware, gilt with hand-painted blue ring along rim
  - 7 whiteware, hand-painted
    - 1 whiteware, transfer-print, brown
  - 17 whiteware, undecorated
    - 1 whiteware, undeterminable decoration
    - 1 yellowware, Rockingham glaze
    - 1 drain pipe, stoneware
    - 1 curved glass, aqua
    - 2 curved glass, colorless
    - 2 curved glass, olive-green
  - 18 flat glass
    - 1 jar lid liner, milkglass; complete
- Level 5; 407-005
  - 1 clay pipe bowl; COD
  - 3 clay pipe stem
  - 5 bone; 2 calcined
  - 2 whiteware, annular-linear
  - 2 whiteware, hand-painted
  - 2 whiteware, sponge-decorated, blue; 1 with possible hand-painted peafowl; rims
  - 1 whiteware, transfer-print, blue

Table 2, continued.

- 1 whiteware, transfer-print, Old Blue; pearlware
  - 9 whiteware, undecorated; 1 rim
  - 1 drain pipe, stoneware
  - 28 flat glass
    - 1 jar lid ?, milkglass
    - 1 mica
  - Level 6, Feature 7; 407-006
    - 1 clay pipe stem
    - 5 bone
    - 3 whiteware, annular-linear
      - 1 whiteware, sponge-decorated, blue
      - 1 whiteware, transfer-print, blue
      - 1 whiteware, transfer-print, flow blue; rim
    - 12 whiteware, undecorated; 3 base, 1 rim
    - 6 flat glass
      - 1 milkglass, blue
  - Level 6, black disturbance area; 407-006a
    - 2 bone; 1 calcined
      - 1 whiteware, light green and brown glaze; annular ?
      - 1 whiteware, undecorated
      - 1 curved glass, colorless
      - 1 flat glass
  - Level 6, Feature 7, yellow fill; 407-006b
    - 1 clay pipe mouthpiece, tapered
    - 3 clay pipe stem
      - 1 whiteware, annular
      - 1 whiteware, annular ring
      - 2 whiteware, edge-decorated, blue; rims
      - 2 whiteware, hand-painted; 1 rim
      - 3 whiteware, transfer-print, blue; 1 rim
      - 4 whiteware, undecorated
      - 1 curved glass, tumbler rim, colorless
      - 1 flat glass
  - Level 8; 407-008
    - 2 whiteware, annular ring
    - 2 whiteware, hand-painted
    - 2 whiteware, transfer-print, blue
    - 1 whiteware, undecorated
    - 1 curved glass, olive-green
- Test Unit at 100-101N 104-105E**
- 0-10 cmbs; 408-001
    - 1 whiteware, hand-painted; blue, broad line
  - 10-20 cmbs; 408-002
    - 1 clay pipe stem
    - 2 bone
    - 2 teeth; pig tusk
    - 1 porcelain, transfer-print, blue
    - 2 whiteware, edge-decorated, blue; rims; articulate
    - 6 whiteware, undecorated; 1 with a portion of a maker's mark
    - 1 whiteware, undeterminable decoration
    - 1 yellowware, colorless glaze
    - 3 glazed brick ?
    - 3 curved glass, colorless; 1 is possibly a tail light cover
    - 1 curved glass, green
    - 5 flat glass
      - 1 fused glass
      - 1 milkglass
      - 3 stone inlay ?
  - 20-30 cmbs; 408-003
    - 2 clay pipe bowl; cockles
    - 2 clay pipe stem; 1 with dot and line
    - 1 marble, glass
    - 7 bone; 3 calcined
    - 3 porcelain, undecorated
      - 1 stoneware, salt glaze
      - 1 stoneware, salt glaze/Albany slip
    - 5 whiteware, edge-decorated, blue; 3 rim
    - 1 whiteware, sponge-decorated, brown
    - 2 whiteware, transfer-print, blue
    - 1 whiteware, transfer-print, flow blue; rim

Table 2, continued.

- 2 whiteware, transfer-print, red
- 20 whiteware, undecorated; 3 base, 2 cream colored
- 2 whiteware, undeterminable decoration; greenish glaze with hand painting ? vibrant colors
- 1 yellowware, annular
- 1 ceramic tile; hexagonal
- 1 sewer drain, stoneware
- 1 curved glass, amber
- 2 curved glass, aqua
- 3 curved glass, bottle finish, aqua; crown finish, automatic technique
- 10 curved glass, colorless; 1 tumber/jar rim, 1 base, 1 threaded rim
- 1 curved glass, green
- 7 flat glass
- 2 jar lid liner, milkglass with non-ferrous metal lid
- 1 milkglass
- 1 ferrous metal plate
- 1 non-ferrous metal, unidentified
- 30-40 cmbs; 408-004
- 3 clay pipe stem; 1 with raised angles, 1 dot and lines
- 2 bone; 1 calcined
- 2 mollusk shell
- 1 porcelain, undecorated
- 3 whiteware, annular; 2 linear, 1 earthworm
- 1 whiteware, decal-decorated; polychrome, floral
- 8 whiteware, edge-decorated, blue; 5 rim
- 7 whiteware, hand-painted; 2 broad line polychrome; 2 sprig
- 3 whiteware, sponge-decorated, blue; 2 rim
- 2 whiteware, sponge-decorated, blue with hand-painted peafowl; 1 rim
- 2 whiteware, sponge-decorated, green with hand-painted peafowl
- 4 whiteware, transfer-print, blue; 1 rim
- 1 whiteware, transfer-print, brown
- 42 whiteware, undecorated; 2 rim, 2 base
- 2 whiteware, undeterminable decoration
- 6 yellowware, colorless glaze
- 1 button, glass; 4 holes,  $\frac{11}{32}$ "
- 2 ceramic tiles; hexagonal
- 1 drain pipe, stoneware; hexagonal ?
- 1 sewer pipe, stoneware
- 10 curved glass, colorless
- 18 flat glass
- 1 chandelier faux crystal, glass
- 1 non-ferrous metal scrap
- 30-35 cmbs, Feature 3, black soil; 408-004a
- 1 whiteware, annular
- 1 whiteware, transfer-print, blue; base
- 1 whiteware, transfer-print, flow blue
- 4 whiteware, undecorated; 1 rim
- 4 yellowware, colorless glaze; 1 rim
- 1 curved glass, colorless; 1 rim
- 1 mason jar lid, aqua
- 35-40 cmbs, Feature 3, yellow clay; 408-004b
- 1 clay pipe stem
- 3 bone
- 1 whiteware, annular ring
- 1 whiteware, hand-painted; polychrome, broad line
- 3 whiteware, undecorated
- 5 curved glass, colorless; 2 tumbler rim
- 1 curved glass, green
- 4 flat glass
- 1 fossil ?
- 40-50 cmbs; 408-005
- 1 bone
- 1 mollusk shell
- 1 stoneware, salt glaze/Albany slip
- 6 whiteware, annular
- 1 whiteware, edge-decorated, blue; rim
- 1 whiteware, hand-painted
- 3 whiteware, sponge-decorated, blue
- 1 whiteware, transfer-print, black; rim
- 1 whiteware, transfer-print, blue
- 6 whiteware, transfer-print, flow blue

Table 2, continued.

- 24 whiteware, undecorated; 2 base, 1 rim
  - 1 button, glass; 4 holes, <sup>13</sup>/<sub>32</sub>"
  - 1 curved glass, aqua; solarized
  - 5 curved glass, colorless; 2 tumbler base, articulate; 1 tumbler rim
  - 5 flat glass
  - 1 glass slag
  - 1 milkglass

50-60 cmbs; 408-006

- 1 whiteware, annular ring
- 1 whiteware, annular ?
- 2 whiteware, sponge-decorated, blue; rims, articulate
- 1 whiteware, transfer-print, blue
- 4 whiteware, undecorated; 2 rims
- 5 flat glass

60-70 cmbs; 408-007

- 1 clay pipe bowl
- 1 whiteware, transfer-print, blue
- 5 whiteware, undecorated; 1 rim
- 4 flat glass

**Test Unit at 100-101N 105-106E**

0-40 cmbs; 409-001

- 1 stoneware, Albany slip/unglazed
- 1 stoneware, dull black glaze
- 1 stoneware, salt glaze/Albany slip
- 3 whiteware, edge-decorated, blue
- 1 whiteware, sponge-decorated, blue
- 1 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, flow black
- 2 whiteware, transfer-print, red
- 4 whiteware, undecorated; 2 base, 1 handle, 1 rim; 1 base has / ... / ... ville / ... rance /
- 1 yellowware, colorless glaze
- 1 jar lid liner, milkglass

40-50 cmbs, trench fill; 409-002a

- 1 bone
- 1 whiteware, annular-linear
- 1 whiteware, transfer-print, blue
- 1 whiteware, undecorated
- 3 flat glass

40-50 cmbs, trench by pipe; 409-002b

- 1 stoneware, salt glaze/Albany slip
- 1 whiteware, edge-decorated, blue
- 2 whiteware, hand-painted; broad line
- 1 whiteware, transfer-print, red
- 1 whiteware, undecorated
- 1 yellowware, annular-linear
- 1 curved glass, aqua
- 4 curved glass, colorless; 1 tumbler base
- 1 curved glass, dark yellow

40-50 cmbs, Stratum II fill; 409-002c

- 1 clay pipe bowl; complete, TD, large bowl
- 1 clay pipe mouthpiece, tapered
- 12 whiteware, edge-decorated, blue; 7 rim
- 2 whiteware, hand-painted
- 5 whiteware, transfer-print, blue
- 2 whiteware, transfer-print, flow blue
- 24 whiteware, undecorated; 4 base, 1 rim
  - 1 yellowware, annular
  - 1 ferrous metal cut nail; burnt
  - 4 sewer pipe, stoneware
  - 3 curved glass, colorless
- 11 flat glass
  - 1 graphite/lead; square, pencil lead ?

50-60 cmbs, trench fill; 409-003a

- 1 whiteware, transfer-print, blue
- 1 whiteware, undecorated
- 1 glass slag

Table 2, continued.

50-60 cmbs, fill and sill; 409-003b

- 1 whiteware, annular
- 2 whiteware, edge-decorated, blue; rims
- 1 whiteware, hand-painted
- 1 whiteware, transfer-print, black
- 1 whiteware, transfer-print, red; rim
- 1 whiteware, undecorated
- 1 curved glass, colorless
- 3 flat glass

**Test Unit at 100-101N 106-107E**

0-10 cmbs; 410-001, nothing collected

10-20 cmbs, black dirt; 410-002a

- 1 porcelain, undecorated
- 2 whiteware, annular ring
- 1 whiteware, annular-linear
- 3 whiteware, undecorated; bases, articulate, burnt
- 1 whiteware, undeterminable decoration
- 1 yellowware, annular-linear; rim
- 1 shirt collar button
- 1 token; / Good for one city fare / A. T. Co. Akron /
- 1 curved glass, aqua; 1 rim
- 3 curved glass, colorless; 1 shot glass ? base, 1 rim, 1 tumbler base
- 1 fused glass

10-20 cmbs, trench; 410-002b

- 1 bone; roundsteak ?
- 2 porcelain, undecorated
- 1 whiteware
- 1 whiteware, transfer-print, blue
- 3 whiteware, undecorated; 2 rims, articulate; 1 base, burnt
- 1 porcelain; knob and tubing
- 2 curved glass, aqua; 1 crown finish, 1 rim
- 4 curved glass, colorless; 3 rims
- 1 flat glass
- 1 bead, glass
- 1 non-ferrous metal spoon; / Rogers Nickel Silver /

10-24 cmbs, cinder layer; 410-002c

- 1 clay pipe bowl; COD
- 1 porcelain, undecorated
- 1 stoneware, salt glaze/Albany slip
- 1 whiteware, annular
- 1 whiteware, green and brown glaze; annular ?
- 1 whiteware, undecorated; burnt
- 1 glass, unidentified
- 2 curved glass, bottle finish, colorless; crown finish, automatic technique; different vessels
- 4 curved glass, colorless; 1 tumbler rim, 1 milkjar ? rim
- 6 flat glass
- 1 brooch, plastic and ferrous metal; heartshaped
- 1 ferrous metal crown cap
- 1 ferrous metal wrench

24-30 cmbs, Builder's Trench; 410-003a

- 1 clay pipe stem
- 2 porcelain, undecorated
- 2 redware, unglazed
- 1 whiteware, annular ring
- 2 whiteware, hand-painted
- 1 whiteware, transfer-print, flow blue; rim
- 1 whiteware, transfer-print, purple
- 5 whiteware, undecorated; 3 rim, 1 base
- 1 yellowware, unglazed; green paint ?
- 1 porcelain; knob and tubing
- 1 curved glass, bottle finish, colorless with green tint; crown finish, automatic technique
- 2 curved glass, brown
- 2 curved glass, colorless
- 1 flat glass

24-30 cmbs, Builder's Trench; 410-003b

- 1 ceramic tile ?
- 1 stoneware, salt glaze/Albany slip
- 1 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, flow blue

Table 2, continued.

3	whiteware, undecorated
1	porcelain; knob and tubing
2	curved glass, colorless; 1 rim
3	flat glass
1	non-ferrous metal, unidentified
30-40 cmbs; 410-004a	
1	bone
1	porcelain, undecorated
3	whiteware, annular
23	whiteware, edge-decorated, blue
4	whiteware, edge-decorated, blue; rims
1	whiteware, gilt
1	whiteware, sponge-decorated, blue
25	whiteware, undecorated; 3 rim, 3 base
1	curved glass, aqua; bottle base, pontil mark
3	curved glass, colorless; 1 chimney lamp rim
4	flat glass
1	glass slag
1	milkglass
30-40 cmbs, trench; 410-004b	
1	clay pipe bowl; cockles
1	clay pipe stem; raised angled lines and / OHIO /
1	bone
1	whiteware, edge-decorated, blue
1	whiteware, transfer-print, flow blue
4	whiteware, undecorated
1	whiteware, yellow glaze
1	flat glass
40-50 cmbs, trench; 410-005a	
1	clay pipe stem
1	whiteware, annular
1	whiteware, hand-painted
1	whiteware, transfer-print, black
1	whiteware, transfer-print, red; rim
6	whiteware, undecorated
2	curved glass, colorless; 1 tumbler rim
3	flat glass
40-50 cmbs, fill and sill; 410-005b	
1	clay pipe mouthpiece, tapered
2	clay pipe stem
8	bone
1	redware, metallic brown glaze
1	stoneware, salt glaze/Albany slip
1	stoneware, salt glaze/unglazed
2	whiteware, annular-linear
2	whiteware, edge-decorated, blue; rims
7	whiteware, hand-painted
5	whiteware, transfer-print, blue
22	whiteware, undecorated; 2 base, 2 rim
1	yellowware, colorless glaze
1	yellowware, Rockingham glaze
1	button, bone; 4 hole
1	curved glass, aqua
1	curved glass, bottle base with kick-up, dark green
1	curved glass, colorless
8	flat glass
1	slate pencil
50 cmbs; 410-005c	
1	whiteware, hand-painted with gilt; plate
50-60 cmbs, trench; 410-006a	
1	clay pipe mouthpiece, tapered
4	whiteware, edge-decorated, blue; 3 rim
2	whiteware, hand-painted
1	whiteware, transfer-print, red; rim
10	whiteware, undecorated; 1 base
1	flat glass
1	non-ferrous metal, unidentified
50-60 cmbs, fill and sill; 410-006b	
2	bone

Table 2, continued.

- 1 whiteware, hand-painted; rim
- 1 whiteware, transfer-print, red
- 4 whiteware, undecorated; 1 rim
- 1 curved glass, colorless with green tint
- 1 curved glass, dark green
- 1 flat glass
- 0 charcoal
- 60-75 cmbs, Feature 9; 410-007a
  - 2 whiteware, undecorated
  - 1 curved glass, colorless with green tint
- 60-75 cmbs, Feature 9 fill; 410-007b
  - 1 whiteware, transfer-print, Old Blue
  - 1 whiteware, undecorated
  - 1 curved glass, colorless with green tint
- 60-75 cmbs, Feature 9, Builder's Trench Fill; 410-007c
  - 1 clay pipe mouthpiece, tapered
  - 1 whiteware, annular
  - 1 whiteware, hand-painted
  - 3 whiteware, undecorated

**Test Unit at 100-101N 107-108E**

- 0-10 cmbs; 411-001
  - 1 stoneware, salt glaze/Albany slip
- 10-20 cmbs; 411-002
  - 1 stoneware, colorless glaze/Bristol slip
  - 1 whiteware, hand-painted; rim
  - 2 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, flow blue
  - 6 whiteware, undecorated
  - 3 whiteware, undeterminable decoration
  - 1 yellowware, colorless glaze
  - 1 brick
  - 1 curved glass, blue
  - 1 curved glass, colorless
  - 1 curved glass, jar rim, colorless
  - 1 milkglass
- 20-30 cmbs; 411-003
  - 1 marble, glass; machine made, agate
  - 1 non-ferrous metal bottle cap; twist on
  - 2 porcelain, undecorated
  - 1 redware, unglazed
  - 1 whiteware, annular
  - 3 whiteware, hand-painted
  - 2 whiteware, transfer-print, blue
  - 10 whiteware, undecorated; 4 rim
  - 1 yellowware, unglazed; green paint
  - 1 curved glass, blue
  - 4 curved glass, colorless
  - 4 flat glass
  - 5 milkglass
  - 2 syringe, glass; 1 functional unit
  - 1 celluloid utensil handle
- 30-40 cmbs; 411-004
  - 1 clay pipe bowl; cockles
  - 4 clay pipe stem
  - 2 bone
  - 1 tooth
  - 1 stoneware, Bristol slip
  - 1 whiteware, annular; rim
  - 1 whiteware, annular ring; rim
  - 1 whiteware, edge-decorated, blue; rim
  - 5 whiteware, hand-painted
  - 1 whiteware, transfer-print, brown
  - 2 whiteware, transfer-print, flow blue
  - 1 whiteware, transfer-print, red
  - 41 whiteware, undecorated; 3 base
  - 2 yellowware, colorless glaze
  - 1 1882 Liberty Cent
  - 1 curved glass, blue

Table 2, continued.

- 3 curved glass, colorless
- 2 flat glass
- 1 glass slag
- 40-50 cmbs, clay soil; 411-005a
  - 1 clay pipe mouthpiece, tapered
  - 2 clay pipe stem
  - 8 bone
  - 3 molluck shell
  - 2 whiteware, edge-decorated, blue; rims
  - 4 whiteware, hand-painted
  - 1 whiteware, sponge-decorated, blue
  - 2 whiteware, transfer-print, black; goblet ?
  - 3 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, Old Blue
  - 2 whiteware, transfer-print, red
- 13 whiteware, undecorated; 4 base
  - 2 curved glass, aqua
  - 2 curved glass, colorless; 1 tumbler rim
  - 2 curved glass, dark green; bottle base, sherds articulate
  - 3 flat glass
  - 4 glass slag
- 40-50 cmbs, black soil; 411-005b
  - 2 whiteware, annular; 1 linear, 1 "earthworm"
  - 1 whiteware, edge-decorated, blue; rim
  - 1 whiteware, hand-painted peafowl
  - 1 whiteware, sponge-decorated, blue; rim
  - 1 whiteware, sponge-decorated, blue with hand-painted peafowl
  - 1 whiteware, transfer-print, blue
  - 6 whiteware, undecorated; 1 base
  - 1 yellowware, colorless glaze
- 40-50 cmbs, Feature 4; 411-005c
  - 3 drain pipe, stoneware
- 50-60 cmbs; 411-006
  - 1 whiteware, annular ring; rim
  - 2 whiteware, transfer-print, blue; 1 rim, 1 base
  - 5 whiteware, undecorated; 2 rim
- Test Unit at 99-100N 107-108E**
- 0-24 cmbs; 412-001
  - 1 marble, glass; Akroagate ?
  - 1 whiteware, undecorated; rim
- 24-34 cmbs; 412-002
  - 1 clay pipe bowl
  - 1 clay pipe mouthpiece, tapered
  - 5 bone
  - 1 porcelain, hollow rod, glazed
  - 1 stoneware, black glaze
  - 1 stoneware, colorless glaze; rim
  - 1 stoneware, salt glaze/unglazed
  - 3 whiteware, annular
  - 5 whiteware, edge-decorated, blue; rims
  - 1 whiteware, hand-painted
  - 1 whiteware, sponge-decorated, blue
  - 1 whiteware, sponge-decorated, brown
  - 1 whiteware, transfer-print, black
  - 7 whiteware, transfer-print, blue; 3 rim
  - 3 whiteware, transfer-print, flow blue
- 36 whiteware, undecorated; 3 rim, 4 base
  - 1 whiteware, yellow glaze
  - 1 yellowware, colorless glaze
  - 2 yellowware, unglazed; 1 with green paint ?
  - 1 glass syringe top ?
  - 1 curved glass, aqua
  - 6 curved glass, colorless; 1 base
  - 1 curved glass, red
  - 2 flat glass
- 34-44 cmbs; 412-003
  - 1 clay pipe stem
  - 12 bone

Table 2, continued.

3	mollusk shell
2	teeth
1	porcelain, undecorated
5	whiteware, annular
2	whiteware, edge-decorated, blue; rims
10	whiteware, hand-painted; 3 rim
1	whiteware, sponge-decorated, blue; rim
3	whiteware, transfer-print, black; 1 base
3	whiteware, transfer-print, blue
1	whiteware, transfer-print, Old Blue; rim, Palestine ?
1	whiteware, transfer-print, purple
5	whiteware, transfer-print, red; 3 rim
23	whiteware, undecorated; 4 base
2	ferrous metal cut nail; 1 spike ?
1	roofing slate
3	curved glass, colorless; 1 with pontil mark
2	curved glass, dark green
4	flat glass
44-54	cmbs; 412-004
1	clay pipe mouthpiece, tapered
1	bone
1	whiteware, transfer-print, black
1	whiteware, undecorated
5	curved glass, colorless
5	flat glass
<b>Test Unit at 100-101N 112-113E</b>	
0-10	cmbs; 413-001, nothing collected
10-20	cmbs; 413-002
1	whiteware, annular
2	whiteware, undecorated
0	a plastic item
0	five ferrous metal wire nails
9	curved glass, colorless
13	flat glass
20-30	cmbs; 413-003
1	marble, glass
1	bone
9	whiteware, decal-decorated with gilt; 4 rims, sherds articulate
1	whiteware, undecorated
1	curved glass, bottle finish, colorless; crown finish, automatic technique
2	curved glass, colorless
30-40	cmbs; 413-004
2	porcelain, decal-decorated; 1 base, 1 rim
2	porcelain, transfer-print, blue; 1 base
1	whiteware, edge-decorated, blue; rim
1	whiteware, hand-painted
1	whiteware, transfer-print, blue; rim
3	whiteware, undecorated; 1 handle
1	curved glass, amber
14	curved glass, colorless; 1 base, 1 neck, 1 finish-external thread
1	curved glass, colorless with green tint; rim
1	curved glass, complete bottle, colorless; whiskey flask, screw on cap, / FEDERAL LAW FORBIDS SALE OR RE-USE OF THIS BOTTLE /
1	curved glass, complete bottle, milkglass with ferrous metal cap
2	flat glass
1	milkglass
1	dowel, milkglass
40-50	cmbs; 413-005
1	clay pipe stem
4	porcelain, undecorated; 1 handle
2	redware, unglazed
1	whiteware, annular
2	whiteware, decal-decorated
2	whiteware, edge-decorated, blue; rims
1	whiteware, hand-painted; rim
2	whiteware, sponge-decorated, blue; 1 rim
4	whiteware, transfer-print, blue
4	whiteware, transfer-print, brown
16	whiteware, undecorated; 5 rims, 2 with gilt

Table 2, continued.

- 1 yellowware, unglazed
- 5 porcelain, insulators ?
- 2 porcelain, knob and tube insulator
- 10 curved glass, aqua; 3 tumbler base, 1 crown finish
- 17 curved glass, colorless; 1 rim
  - 1 curved glass, colorless with a pink tint
- 11 curved glass, colorless with green tint; 3 tumbler base sherds articulate, 2 have crown finishes, 1 with / KOLD OR ... / UTILITY GLAS ... /
  - 1 non-ferrous metal, unidentified
- 50-60 cmbs; 413-006
  - 2 clay pipe stem
  - 1 stoneware, black glaze
  - 1 stoneware, Bristol slip
  - 3 stoneware, salt glaze/Albany slip
  - 2 whiteware, annular
  - 2 whiteware, decal-decorated
  - 3 whiteware, edge-decorated, blue; 2 rim
  - 5 whiteware, hand-painted
  - 1 whiteware, transfer-print, black
- 30 whiteware, undecorated; 1 rim, 3 base
  - 1 whiteware, undecorated base articulates with sherds from next level, maker's mark = Knowles, Taylor, and Knowles. E. Liverpool, OH 1878-1885
  - 5 yellowware, annular
  - 4 yellowware, colorless glaze
  - 1 yellowware, unglazed
  - 1 ferrous metal nail
  - 4 curved glass, aqua
  - 9 curved glass, colorless
  - 3 flat glass
- 60-70 cmbs; 413-007a
  - 1 clay pipe mouthpiece, tapered
  - 2 clay pipe stem
  - 3 bone
  - 1 porcelain, gilt
  - 1 stoneware, colorless glaze; rim
  - 2 stoneware, salt glaze/Albany slip
  - 2 whiteware, annular; rims
  - 1 whiteware, hand-painted
  - 1 whiteware, mold-decorated; rim
  - 1 whiteware, transfer-print, brown; rim
  - 2 whiteware, transfer-print, flow blue
  - 1 whiteware, transfer-print, Old Blue
  - 8 whiteware, undecorated; 3 rim, 1 base
  - 2 whiteware, undecorated; marker's mark: Knowles, Taylor, and Knowles 1878-1885; articulates with sherd from previous level
  - 2 curved glass, aqua
  - 2 curved glass, cobalt blue
  - 2 flat glass
- 60-70 cmbs; 413-007b
  - 1 stoneware, Albany slip 'resist' flower
  - 1 whiteware, annular ring; rim
  - 2 whiteware, annular-linear
  - 1 whiteware, edge-decorated, blue
  - 6 whiteware, hand-painted; 3 rim
  - 2 whiteware, sponge-decorated, blue with hand-painted peafowl
  - 1 whiteware, transfer-print, blue; rim
  - 1 whiteware, transfer-print, brown
  - 8 whiteware, undecorated
  - 1 ferrous metal cut nail
  - 2 curved glass, colorless
  - 8 flat glass
- 70-80 cmbs; 413-008
  - 2 clay pipe stem
  - 1 stoneware, unglazed/Albany slip
  - 1 whiteware, annular ring
  - 1 whiteware, annular-abstract
  - 1 whiteware, hand-painted
  - 1 whiteware, sponge-decorated, blue
  - 5 whiteware, transfer-print, blue
  - 10 whiteware, undecorated
  - 2 curved glass, colorless with green tint
    - 1 curved glass, olive-green
  - 10 flat glass

Table 2, continued.

80-90 cmbs; 413-009

- 1 whiteware, annular
- 1 whiteware, annular ring
- 1 whiteware, edge-decorated, blue; rim
- 1 whiteware, hand-painted
- 4 whiteware, undecorated
- 14 flat glass

**Test Unit at 100-101N 101-102E**

0-10 cmbs; 414-001

- 1 whiteware, transfer-print, blue
- 2 whiteware, transfer-print, Old Blue
- 4 whiteware, undecorated
- 2 ferrous metal cut nail
- 1 ferrous metal scrap

10-20 cmbs, Feature 5; 414-002

- 1 bone
- 3 whiteware, undecorated; 1 rim
- 1 yellowware, annular
- 1 ferrous metal hinge
- 1 flat glass
- 1 ferrous metal

20-30 cmbs, Feature 5; 414-003

- 1 clay pipe stem
- 10 bone
- 1 redware, unglazed
- 6 whiteware, undecorated; 1 rim
- 1 yellowware, Rockingham glaze
- 3 curved glass, colorless
- 2 flat glass

30-40 cmbs; 414-004

- 1 clay pipe stem
- 3 bone
- 3 whiteware, annular-linear
- 1 whiteware, edge-decorated, blue
- 1 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, green
- 7 whiteware, undecorated
- 1 1940 ? Lincoln Cent; very poor condition
- 6 curved glass, colorless
- 2 curved glass, green
- 4 flat glass

40-50 cmbs; 414-005

- 2 clay pipe bowls; 1 complete unidentified floral, 1 possible floral Type B
- 4 clay pipe stem; 1 decorated, raised angles
- 21 bone
- 1 porcelain, undecorated; base, burnt
- 3 redware, unglazed
- 1 stoneware, blue glaze
- 3 whiteware, hand-painted
- 1 whiteware, transfer-print, blue; rim
- 5 whiteware, transfer-print, brown; rims
- 14 whiteware, transfer-print, Old Blue; pearlware, Wilkie-Burnet
- 5 whiteware, undecorated; 1 base, 1 rim
- 1 curved glass, amber
- 8 curved glass, colorless
- 4 flat glass
- 1 milkglass
- 1 ferrous metal crown cap
- 1 porcelain, industrial

50-60 cmbs; 414-006

- 1 clay pipe bowl
- 4 clay pipe stem
- 2 bone
- 7 whiteware, hand-painted
- 3 whiteware, transfer-print, brown; 2 rim
- 1 whiteware, transfer-print, Old Blue; rim, pearlware
- 1 whiteware, undecorated
- 1 curved glass, colorless
- 2 flat glass

Table 2, continued.

60-70 cmbs; 414-007

- 1 clay pipe bowl; floral motif
- 1 clay pipe stem
- 1 redware, unglazed; rim
- 1 whiteware, annular-abstract
- 5 whiteware, hand-painted
- 1 whiteware, transfer-print, blue
- 2 whiteware, undecorated
- 1 flat glass

70-80 cmbs; 414-008

- 1 whiteware, hand-painted

80-90 cmbs; 414-009

- 1 whiteware, hand-painted; rim

**Test Unit at 100-101N 100-101E**

0-10 cmbs, Feature 3; 415-001

- 1 ferrous metal cut nail
- 1 curved glass, complete bottle, amber; external thread, automatic technique, / VICKS /

10-20 cmbs, Feature 3; 415-002

- 1 porcelain, undecorated
- 1 whiteware, annular ring
- 1 whiteware, red glaze
- 1 whiteware, sponge-decorated, blue
- 2 whiteware, transfer-print, blue
- 1 whiteware, transfer-print, flow blue
- 1 whiteware, transfer-print, purple
- 6 whiteware, undecorated
- 1 drain pipe, stoneware
- 2 ferrous metal cut nail
- 0 five ferrous metal wire nails
- 1 curved glass, colorless with green tint
- 3 flat glass
- 1 glass slag
- 1 non-ferrous metal roller bearing

20-30 cmbs, Features 3, 4, and 5; 415-003

- 1 clay pipe bowl; simple cockle
- 1 clay pipe mouthpiece
- 7 clay pipe stem
- 9 bone
- 3 mollusk shell
- 2 teeth
- 14 whiteware, annular-linear; 3 rim
- 5 whiteware, edge-decorated, blue; 2 rim
- 9 whiteware, hand-painted
- 9 whiteware, transfer-print, blue; 1 rim
- 2 whiteware, transfer-print, flow blue
- 35 whiteware, undecorated; 1 rim
- 1 drain tile, stoneware; / NATIONAL /
- 2 flat glass
- 1 lead seal ?

30-40 cmbs, Feature 5; 415-004

- 1 clay pipe mouthpiece, tapered
- 1 bone
- 4 whiteware, annular
- 1 whiteware, edge-decorated, blue; rim
- 10 whiteware, hand-painted; 3 rim
- 4 whiteware, transfer-print, blue
- 3 whiteware, undecorated
- 1 whiteware, undeterminable decoration
- 1 curved glass, aqua; Mason jar
- 1 flat glass

40-50 cmbs; 415-005

- 1 clay pipe stem
- 4 bone
- 1 whiteware, transfer-print, black
- 1 whiteware, transfer-print, blue; base
- 4 whiteware, undecorated
- 1 flat glass

Table 2, continued.

50-60 cmbs; 415-006

- 2 clay pipe stem; 1 decorated with raised angled lines
- 6 bone
- 1 whiteware, hand-painted
- 4 whiteware, undecorated
- 2 drain pipe, stoneware
- 1 milkglass

60-70 cmbs; 415-007

- 1 bone
- 3 whiteware, transfer-print, Old Blue; articulate

70-80 cmbs sterile; 80-90 cmbs sterile; 90-105 cmbs sterile

**Test Unit at 102-103N 100-101E**

unit floor, from wall; 416-000

- 1 button, shell; 2 holes,  $2\frac{3}{32}$ "; found on floor of unit, came from wall

0-10 cmbs; 416-001, nothing collected

10-20 cmbs; 416-002

- 2 clay pipe stem
- 3 bone
- 1 stoneware, salt glaze/Albany slip
- 2 whiteware, sponge-decorated, blue; rims, articulate
- 1 whiteware, sponge-decorated, brown with hand-painted peafowl
- 1 whiteware, transfer-print, blue; rim
- 10 whiteware, undecorated; 1 base
- 1 yellowware, annular
- 1 button, shell; 2 holes,  $\frac{7}{16}$ "
- 1 ferrous metal cut nail
- 0 ferrous metal bolt and washer
- 0 a ferrous metal muffler bracket
- 0 a ferrous metal wire nail
- 0 two ferrous metal roofing nails
- 0 three ferrous metal springs
- 1 curved glass, amber
- 1 curved glass, colorless
- 1 curved glass, colorless with amethyst tint
- 2 flat glass

20-30 cmbs; 416-003

- 1 bone
- 3 whiteware, annular
- 1 whiteware, sponge-decorated, blue
- 1 whiteware, transfer-print, blue
- 8 whiteware, undecorated; rim
- 1 whiteware, undeterminable decoration; rim
- 1 brick, colorless glaze
- 3 ferrous metal cut nail
- 0 a ferrous metal nut and bolt
- 0 a ferrous metal screw
- 0 a ferrous metal spring
- 0 a ferrous metal washer
- 0 a ferrous metal wire nail
- 1 curved glass, colorless
- 11 flat glass
- 1 non-ferrous metal, unidentified
- 1 bead, plastic

30-40 cmbs; 416-004

- 8 whiteware, undecorated; 1 base
- 4 ferrous metal cut nail
- 2 curved glass, colorless
- 1 curved glass, olive-green
- 5 flat glass

40-50 cmbs; 416-005

- 1 clay pipe stem
- 5 bone
- 1 stoneware, dark brown glaze
- 3 whiteware, annular
- 1 whiteware, annular ring; rim
- 4 whiteware, hand-painted; 2 rims
- 1 whiteware, sponge-decorated, green
- 1 whiteware, transfer-print, black

Table 2, continued.

- 3 whiteware, transfer-print, blue; 1 rim
- 1 whiteware, transfer-print, flow blue; rim
- 10 whiteware, undecorated; 3 base
- 1 yellowware, Albany slip
- 1 ferrous metal nail
- 1 curved glass, amber
- 3 flat glass
- 1 plastic
- 50-60 cmbs, dark brown sandy loam; 416-006a
  - 1 stoneware, salt glaze/Albany slip; base
  - 1 whiteware, edge-decorated, blue; rim
  - 2 whiteware, transfer-print, blue; rims
  - 1 whiteware, transfer-print, green
  - 3 whiteware, undecorated; 1 rim
  - 1 curved glass, amber
  - 3 flat glass
  - 1 milkglass
- 50-60 cmbs, light brown sandy loam; 416-006b
  - 3 bone; includes 1 tooth
  - 1 stoneware, salt glaze/Albany slip
  - 2 whiteware, undecorated
  - 1 ferrous metal nail
  - 2 flat glass
- 60-70 cmbs, dark brown sandy loam; 416-007a
  - 1 porcelain, mold-decorated; base, bone china ?
  - 1 whiteware, edge-decorated, blue; rim
  - 1 whiteware, hand-painted
  - 1 whiteware, transfer-print, blue
  - 4 whiteware, undecorated
  - 1 ferrous metal nail
  - 3 flat glass
- 60-70 cmbs, light brown sandy loam; 416-007b
  - 2 whiteware, transfer-print, blue; 1 base
  - 4 whiteware, undecorated
  - 1 flat glass
- 70-80 cmbs; 416-008
  - 1 clay pipe bowl; cockles
  - 5 bone
  - 1 porcelain, undecorated; bone china ?
  - 1 stoneware, colorless slip
  - 1 stoneware, salt glaze/brown glaze
  - 7 whiteware, annular-linear; same vessel
  - 4 whiteware, hand-painted; rims
  - 1 whiteware, sponge-decorated, blue; rim
  - 1 whiteware, transfer-print, black
  - 3 whiteware, transfer-print, blue
  - 2 whiteware, transfer-print, brown
  - 1 whiteware, transfer-print, green
  - 33 whiteware, undecorated; 4 base, 1 rim
  - 5 curved glass, colorless
  - 1 curved glass, green
  - 2 flat glass
- 80-90 cmbs; 416-009
  - 7 bone
  - 1 stoneware, salt glaze/Albany slip
  - 2 whiteware, hand-painted
  - 4 whiteware, transfer-print; 1 rim, 1 base
  - 9 whiteware, undecorated
  - 3 yellowware, Albany slip
  - 1 curved glass, colorless
  - 3 flat glass
- 90-100 cmbs; 416-010
  - 1 clay pipe stem
  - 3 bone
  - 1 stoneware, salt glaze/Albany slip
  - 1 whiteware, annular; rim
  - 1 whiteware, annular ring; rim
  - 1 whiteware, hand-painted; rim
  - 1 whiteware, transfer-print, black

Table 2, continued.

- 2 whiteware, transfer-print, blue
- 11 whiteware, undecorated
- 1 yellowware, Albany slip
- 2 curved glass, colorless
- 5 flat glass
- 100-141 cmbs, Builder's Trench; 416-011
- 1 clay pipe bowl; cockles
- bone; 5.4g
- 1 whiteware, annular ring; rim
- 3 whiteware, hand-painted; 1 rim
- 6 whiteware, transfer-print, black; 2 rim
- 3 whiteware, transfer-print, blue; 2 rim
- 1 whiteware, transfer-print, brown
- 17 whiteware, undecorated; 1 rim, 1 base
- 0 an unidentified ferrous object
- 3 curved glass, colorless
- 10 flat glass

**Test Unit at 103-104N 100-101E**

- 0-10 cmbs; 417-001
- 1 stoneware, Bristol slip
- 1 whiteware, sponge-decorated, blue
- 2 whiteware, undecorated; 1 handle
- 2 ferrous metal cut nail
- 2 curved glass, amber
- 2 curved glass, cobalt blue
- 5 curved glass, colorless
- 1 glass syringe thumbrest
- 3 keys, non-ferrous metal; all have writing on them
- 1 lightbulb; taillight, complete
- 1 spoon, non-ferrous metal; / TCQ Stainless Steel Japan /
- 10-20 cmbs; 417-002
- 1 clay pipe mouthpiece, tapered
- 4 bone
- 8 stoneware, salt glaze/Albany slip; 1 base
- 1 stoneware, salt glaze/metallic black glaze
- 1 whiteware, annular ?
- 1 whiteware, edge-decorated, blue
- 3 whiteware, hand-painted; 1 rim
- 2 whiteware, sponge-decorated, blue
- 1 whiteware, sponge-decorated, brown
- 1 whiteware, transfer-print, blue
- 2 whiteware, transfer-print, flow blue; rims
- 20 whiteware, undecorated; 2 burnt, 1 rim
- 1 curved glass, bottle base, aqua; pontil mark
- 2 curved glass, colorless
- 19 flat glass
- 1 jar lid liner, milkglass
- 1 pressed glass, aqua
- 20-30 cmbs; 417-003
- 3 bone
- 1 stoneware, salt glaze/unglazed
- 2 whiteware, edge-decorated, blue; rims
- 1 whiteware, hand-painted
- 1 whiteware, sponge-decorated, blue
- 1 whiteware, transfer-print, blue
- 12 whiteware, undecorated; 1 has a stamped maker's mark
- 0 three ferrous metal wire nails
- 1 curved glass, aqua
- 1 curved glass, colorless
- 17 flat glass
- 30-40 cmbs; 417-004
- 1 cartridge, .22-caliber short
- 6 bone
- 1 mollusk shell
- 2 stoneware, colorless glaze; rims, articulate
- 1 stoneware, colorless glaze/Albany slip
- 1 whiteware, annular-linear
- 2 whiteware, hand-painted
- 2 whiteware, sponge-decorated, blue

Table 2, continued.

- 1 whiteware, transfer-print, purple
- 17 whiteware, undecorated; 6 rims
  - 1 whiteware, undeterminable decoration; blue glaze
  - 4 flat glass
  - 1 milkglass
- 40-50 cmbs; 417-005
  - 1 clay pipe bowl; cockles
  - 3 clay pipe stem
- 17 bone
  - 2 stoneware, brown glaze/colorless slip ?
  - 1 stoneware, colorless glaze/unglazed
  - 1 stoneware, salt glaze/metallic brown glaze
  - 4 whiteware, annular; 3 linear, 1 "earthworm"
  - 2 whiteware, annular ring; rims
  - 8 whiteware, hand-painted
    - 1 whiteware, mold-decorated
    - 1 whiteware, sponge-decorated, blue; rim
    - 1 whiteware, transfer-print, black
    - 6 whiteware, transfer-print, blue; 1 rim
    - 1 whiteware, transfer-print, flow blue; rim
- 49 whiteware, undecorated
  - 3 yellowware, Rockingham glaze
    - 1 ferrous metal wire nail
  - 2 curved glass, aqua
  - 5 curved glass, colorless
  - 1 curved glass, green
- 19 flat glass
  - 1 glass slag
  - 1 leather scrap
- 50-60 cmbs; 417-006
  - 3 clay pipe bowl; cockles
  - 9 bone
    - 1 mollusk shell
  - 4 teeth
    - 1 stoneware, black glaze
    - 1 stoneware, colorless glaze
  - 3 whiteware, annular
    - 1 whiteware, edge-decorated, blue; rim
  - 5 whiteware, hand-painted; 1 rim
  - 14 whiteware, transfer-print, blue; 1 rim
  - 2 whiteware, transfer-print, flow blue; 1 rim
  - 1 whiteware, transfer-print, red; rim
- 39 whiteware, undecorated; 6 base
  - 8 yellowware, Albany slip
    - 1 yellowware, colorless glaze
  - 1 ferrous metal wire nail
  - 5 curved glass, aqua
  - 9 curved glass, colorless
  - 2 curved glass, olive-green
- 24 flat glass
  - 1 jar lid liner, milkglass
- 60-70 cmbs; 417-007
  - 7 bone
    - 1 stoneware, salt glaze/Albany slip
    - 1 whiteware, annular; rim
    - 1 whiteware, edge-decorated, blue; rim
    - 1 whiteware, hand-painted; rim
    - 1 whiteware, sponge-decorated, green with hand-painted peafowl
  - 5 whiteware, undecorated; 1 base
    - 1 yellowware, colorless glaze
    - 1 yellowware, Rockingham glaze
  - 1 brick
  - 7 ferrous metal nail; 2 are cut, the rest can't tell
  - 3 curved glass, colorless
- 12 flat glass
- 70-80 cmbs; 417-008
  - 2 clay pipe stem
  - 6 bone
  - 7 whiteware, annular; 1 rim
  - 2 whiteware, edge-decorated, blue; rims

Table 2, continued.

- 3 whiteware, hand-painted
- 1 whiteware, sponge-decorated, blue
- 3 whiteware, transfer-print, blue
- 31 whiteware, undecorated
- 1 non-ferrous metal zipper slide and pull chain
- 3 brick
- 1 ferrous metal cut nail
- 0 two ferrous metal nails
- 5 flat glass
- 1 jar lid liner, milkglass

80-90 cmbs; 417-009

- 4 clay pipe bowl; 2 COD
- 1 clay pipe stem
- 4 bone
- 11 whiteware, annular; 1 rim
- 1 whiteware, edge-decorated, blue; rim
- 1 whiteware, edge-decorated, green
- 2 whiteware, hand-painted
- 2 whiteware, transfer-print, blue; 1 rim
- 1 whiteware, transfer-print, brown; rim
- 1 whiteware, transfer-print, mulberry; rim
- 1 whiteware, transfer-print, red; rim
- 27 whiteware, undecorated
- 1 whiteware, yellow glaze
- 1 button, glass
- 1 curved glass, colorless with amethyst tint
- 3 curved glass, colorless with green tint
- 11 flat glass
- 1 ferrous metal bottle cap

80-90 cmbs, east half; 417-009b

- 3 whiteware, hand-painted; base, articulate

90-100 cmbs; 417-010

- 3 bone
- 2 whiteware, annular
- 3 whiteware, hand-painted; 1 rim
- 1 whiteware, sponge-decorated, brown; rim
- 1 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, red
- 12 whiteware, undecorated
- 1 whiteware, yellow glaze
- 2 yellowware, colorless glaze
- 1 curved glass, aqua
- 1 curved glass, colorless
- 13 flat glass

**Test Unit at 104-105N 99-100E**

0-10 cmbs; 418-001

- 1 porcelain, transfer-print, black
- 1 stoneware, Bristol slip/metallic black glaze
- 2 stoneware, Rockingham glaze
- 2 whiteware, transfer-print, blue; 1 rim
- 2 whiteware, transfer-print, flow blue; 1 rim
- 11 whiteware, undecorated; 2 rims
- 2 yellowware, colorless glaze
- 0 two ferrous metal auto parts — a spring and a cap

**Test Unit at 105-106N 100-101E**

0-10 cmbs; 419-001, nothing collected

10-20 cmbs; 419-002

- 2 stoneware, salt glaze/Albany slip
- 1 stoneware, salt glaze/metallic brown glaze
- 1 whiteware, edge-decorated, blue; rim
- 2 whiteware, sponge-decorated, blue; 1 rim
- 2 whiteware, transfer-print, blue
- 5 whiteware, undecorated; 2 rims, articulate
- 1 yellowware, annular

20-30 cmbs; 419-003

- 1 clay pipe mouthpiece, tapered
- 3 clay pipe stem

Table 2, continued.

3	bone
1	whiteware, annular
7	whiteware, edge-decorated, blue; 5 rims
4	whiteware, hand-painted
1	whiteware, sponge-decorated, blue; rim
1	whiteware, sponge-decorated, brown
3	whiteware, transfer-print, blue
11	whiteware, undecorated; 2 rim, 1 base
4	yellowware, colorless glaze
0	a ferrous metal wire nail
1	curved glass, colorless
1	plastic, unidentified
30-40	cmbs; 419-004
2	clay pipe stem
1	bone
1	whiteware, edge-decorated, blue
1	whiteware, hand-painted; base
2	whiteware, sponge-decorated, blue; 1 rim
1	whiteware, transfer-print, black
3	whiteware, transfer-print, flow blue; 2 rims
6	whiteware, undecorated; 1 rim
2	flat glass
40-50	cmbs; 419-005
1	mollusk shell
3	whiteware, hand-painted
4	whiteware, transfer-print, blue
10	whiteware, undecorated; 1 rim
50-60	cmbs; 419-006
1	whiteware, undecorated
60-70	cmbs; 419-007
1	whiteware, transfer-print, blue
70-80	cmbs; 419-008a
14	whiteware, transfer-print, black; same vessel
1	ferrous metal
70	cmbs; 419-008b
1	whiteware, transfer-print, blue; Canova, rim
1	whiteware, undecorated
80-90	cmbs; 419-009a
5	whiteware, transfer-print, black; same vessel
83	cmbs; 419-009b
1	whiteware, transfer-print, black
<b>Test Unit at 106-107N 100-101E</b>	
0-10	cmbs; 420-001
1	porcelain
3	whiteware, undecorated
2	ferrous metal cut nail
1	ferrous metal hinge
4	curved glass, amber
2	curved glass, colorless; 2 rims; <i>modern</i>
4	curved glass, green; 1 bottle finish; <i>modern</i>
7	flat glass
1	headlight cover, glass, colorless
1	mirror glass
1	ferrous metal padlock
10-20	cmbs; 420-002
2	bone
1	porcelain, mold-decorated; rim
1	stoneware, Albany slip
6	stoneware, salt glaze/Albany slip
3	whiteware, annular
3	whiteware, edge-decorated, blue; 2 rim
1	whiteware, hand-painted
3	whiteware, sponge-decorated, blue
1	whiteware, sponge-decorated, brown
3	whiteware, transfer-print, flow blue
14	whiteware, undecorated; 1 rim, 1 base
10	yellowware, colorless glaze

Table 2, continued.

- 2 yellowware, Rockingham glaze
- 1 button, ferrous metal
- 1 1933 Lincoln Cent
- 2 ferrous metal cut nail
- 1 roofing slate
- 1 curved glass, amber
- 2 curved glass, aqua
- 1 curved glass, bottle base, aqua; pontil mark
- 1 curved glass, cobalt blue
- 6 curved glass, colorless
- 41 flat glass
- 1 headlight cover, glass, colorless
- 1 ferrous metal
- 2 bead, glass
- 20-30 cmbs; 420-003
  - 1 bone
  - 1 stoneware, colorless glaze/Albany slip; rim
  - 1 stoneware, salt glaze/dull black glaze
  - 1 stoneware, salt glaze/orangish-brown glaze
  - 1 whiteware, annular
  - 1 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, flow blue; rim
  - 5 whiteware, undecorated; 1 base
  - 2 whiteware, undeterminable decorated; 1 rim
  - 1 yellowware, colorless glaze
  - 1 yellowware, Rockingham glaze
  - 1 curved glass, aqua
  - 2 flat glass
- 30-50 cmbs; 420-004
  - 2 bone
  - 1 stoneware, salt glaze/metallic red-brown glaze
  - 1 whiteware, annular ring; rim
  - 4 whiteware, transfer-print, blue; 1 rim
  - 5 whiteware, undecorated
  - 1 glass slag
- 50-60 cmbs; 420-005
  - 1 clay pipe stem
  - 2 whiteware, transfer-print, blue
- 60-70 cmbs; 420-006
  - 1 whiteware, edge-decorated, blue
- 70-80 cmbs sterile; 80-90 cmbs sterile; 90-166 cmbs auger test sterile

**Test Unit at 107.7-109N 100-101E**

- 0-20 cmbs, Feature 1; 421-001
  - 1 stoneware, Rockingham glaze; rim
  - 1 ferrous metal 'C' clamp
  - 1 porcelain insulator
- 20-30 cmbs; 421-002, nothing collected
- 30-40 cmbs; 421-003
  - 1 stoneware, Albany slip
  - 2 whiteware, annular
  - 3 whiteware, annular ring; base
  - 1 whiteware, edge-decorated, blue; rim
  - 1 whiteware, transfer-print, blue
  - 1 whiteware, transfer-print, flow blue
  - 3 whiteware, undecorated
  - 2 yellowware, colorless glaze
  - 1 button, glass; 4 holes,  $\frac{9}{16}$ "
  - 3 curved glass, colorless
  - 3 flat glass
- 40-50 cmbs sterile; 50-60 cmbs sterile; 60-70 cmbs sterile; 70-80 cmbs sterile

**Test Unit at 107.7-109N 101-102E**

- 0-25 cmbs, Feature 1; 422-001
  - 1 fishing line swivel
  - 1 bone
  - 1 1916 Lincoln Cent
  - 3 ferrous metal cut nail

Table 2, continued.

4	ferrous metal wire nails
2	curved glass, colorless
1	curved glass, colorless with green tint
2	flat glass
1	leather strap
1	non-ferrous metal rod
1	pencil lead
8	porcelain, toilet tank
25-33 cmbs, cistern; 422-002	
2	bone
1	porcelain, blue-silver glaze
2	redware, unglazed; 1 rim
1	stoneware, brown glaze/unglazed
1	whiteware, transfer-print, blue-green; rim
5	whiteware, undecorated; 2 rim
2	curved glass, colorless
4	flat glass
2	jar lid liner, milkglass
33-40 cmbs, cistern; 422-003	
7	porcelain, undecorated
2	stoneware, Bristol slip
1	stoneware, Bristol slip/Albany slip
4	whiteware, decal-decorated; 1 rim
2	whiteware, edge-decorated, blue; rims
2	whiteware, sponge-decorated, blue
6	whiteware, undecorated; 1 rim, 1 base
1	button, glass; 4 holes, 1/2"
1	button, glass; 4 holes, 13/32"
1	ferrous metal cut nail
2	curved glass, aqua
1	curved glass, blue
3	curved glass, colorless; 1 rim
1	curved glass, colorless with amethyst tint
5	curved glass, colorless with green tint
1	curved glass, purple
2	flat glass
2	jar lid liner, milkglass
2	milkglass; 1 is blue
1	non-ferrous metal
40-50 cmbs, cistern; 422-004	
2	porcelain, transfer-print, blue; 1 handle
1	stoneware, Bristol slip; burnt
4	whiteware, decal-decorated; rims, articulate
1	whiteware, hand-painted
1	whiteware, transfer-print, flow blue; rim
1	whiteware, undecorated
1	curved glass, amber
4	curved glass, colorless
2	jar lid liner, milkglass
50-60 cmbs; 422-005	
1	porcelain, transfer-print, blue; base
1	whiteware, edge-decorated, blue; rim
3	whiteware, undecorated; 2 rim
2	curved glass, colorless
1	flat glass
1	milkglass
1	bead, glass
60-70 cmbs; 422-006	
1	porcelain, transfer-print, blue
2	whiteware, sponge-decorated, brown; 2 rims
1	whiteware, transfer-print, flow blue; rim
1	whiteware, undecorated
1	curved glass, bottle finish, aqua; crown finish, automatic technique
1	jar lid liner, milkglass
2	non-ferrous metal
70-80 cmbs; 422-007	
1	whiteware, undecorated; rim

Table 2, continued.

**Test Unit at 107.7-109N 103-104E**

0-10 cmbs; 423-001

- 1 bone
- 1 porcelain, undecorated; base / EXCLUSIVE SERVICE / FOR / SCHULTE UNITED INC. / MFD BY FRAUNFELTER CHINA CO /
- 12 redware, unglazed; flower pot; 7 rims, 4 bases
- 1 stoneware, Albany slip
- 2 whiteware, decal-decorated; rims
- 1 whiteware, hand-painted
- 4 whiteware, undecorated; 2 rim
- 1 whiteware, yellow glaze
- 5 ferrous metal cut nail
- 8 curved glass, colorless; 2 rim
- 1 curved glass, complete bottle, colorless; small homeopathic, has glass applicator inside
- 1 milkglass

10-20 cmbs; 423-002

- 7 bone
- 1 porcelain, gilt; base
- 1 porcelain, transfer-print, blue
- 1 porcelain, undecorated
- 4 redware, unglazed; flower pot
- 1 stoneware, salt glaze/metallic brown glaze
- 3 whiteware, decal-decorated; 2 rim
- 2 whiteware, edge-decorated, blue; 1 rim
- 1 whiteware, sponge-decorated, blue; base
- 7 whiteware, undecorated; 1 base, 1 rim
- 3 whiteware, yellow glaze
- 3 yellowware, colorless glaze; 2 base
- 1 ferrous metal cut nail
- 3 curved glass, colorless
- 1 curved glass, complete bottle, brown; external thread, automatic technique
- 1 curved glass, complete bottle, colorless; external thread, automatic technique
- 1 electrical switch, porcelain
- 1 heel spacer, rubber; womans shoe ?
- 1 non-ferrous metal plate; / NORTH POLE / inscribed into it

20-30 cmbs; 423-003

- 2 porcelain, mold-decorated; 1 rim
- 1 porcelain, transfer-print, blue
- 3 redware, unglazed; flower pot
- 1 stoneware, Albany slip; tube
- 1 stoneware, Bristol slip; tube
- 1 stoneware, Bristol slip/Albany slip
- 1 stoneware, salt glaze/metallic brown glaze
- 2 whiteware, edge-decorated, blue; rims
- 1 whiteware, hand-painted peafowl
- 1 whiteware, sponge-decorated, blue
- 1 whiteware, transfer-print, blue
- 2 whiteware, transfer-print, brown
- 1 whiteware, transfer-print, red
- 35 whiteware, undecorated; 6 rim, 1 base
- 4 yellowware, colorless glaze
- 1 roofing slate
- 3 curved glass, amber
- 6 curved glass, colorless; 1 modern bottle base; 2 chimney lamp rims
- 1 curved glass, colorless with amethyst tint
- 2 flat glass
- 1 bead, glass; pink
- 4 pencil; 2 wood, 1 lead, 1 non-ferrous metal with eraser all articulate

30-40 cmbs; 423-004

- 1 cartridge casing; large caliber, center fire
- 2 mollusk shell
- 2 porcelain, transfer-print, blue
- 1 redware, unglazed; flower pot
- 1 stoneware, Albany slip
- 2 stoneware, Bristol slip
- 1 whiteware, annular
- 1 whiteware, edge-decorated, blue; rim
- 2 whiteware, hand-painted
- 1 whiteware, transfer-print, red
- 3 whiteware, undecorated; 1 rim
- 1 whiteware, undeterminable decoration; blue sponge or blue transfer-print

**Table 2, continued.**

1	stoneware tubing
0	3 ferrous metal scrap
1	curved glass, amber
2	curved glass, aqua
3	curved glass, cobalt blue
2	curved glass, colorless
1	flat glass
40-50 cmbs; 423-005	
27	whiteware, transfer-print, blue; 5 rim, 5 base; mostly all Canova
3	whiteware, undecorated; 1 rim
2	flat glass
50-60 cmbs; 423-006	
1	whiteware, transfer-print, blue; rim, Canova
1	flat glass
60-70 cmbs; 423-007	
2	whiteware, transfer-print, blue; rim, Canova
1	whiteware, undecorated
1	glass slag
70-80 cmbs; 423-008	
1	redware, unglazed; flower pot
2	whiteware, transfer-print, blue
37	whiteware, transfer-print, brown
103	whiteware, undecorated
1	curved glass, bottle base, aqua; / TURLINGTON BALSOM [ <i>sic</i> ] /, from a “counterfeit” Turlington bottle, see Richner 1992a:140, Vessel 46
1	glass slag
80-90 cmbs; 423-009	
1	whiteware, annular
1	whiteware, undecorated; rim
<b>Test Unit at 107.7-109N 104-105.25E</b>	
0-10 cmbd; 424-001, nothing collected;	
10-20 cmbd; 424-002	
1	porcelain, transfer-print, blue; saucer
1	porcelain, undecorated
3	redware, unglazed; flower pot; 1 rim
1	stoneware, colorless glaze
1	whiteware, decal-decorated; rim
1	whiteware, transfer-print, blue; rim
2	whiteware, undecorated; 1 base
1	whiteware, yellow glaze; rim
18	ceramic bathroom tile
4	curved glass, amber
10	curved glass, colorless
20-65 cmbd; 424-003	
1	clay pipe stem
1	stoneware, salt glaze/Albany slip with cobalt blue hand painting
1	whiteware, edge-decorated, blue; rim
1	whiteware, hand-painted; rim
5	whiteware, transfer-print, blue; all bases, two different vessels
1	whiteware, undecorated
1	curved glass, aqua; base
1	curved glass, colorless; base
1	curved glass, tumbler base, colorless with green tint
1	milkglass
1	clothespin, wood
1	spoon; complete
65-80 cmbd; 424-004	
1	clay pipe mouthpiece, ringed
1	whiteware, edge-decorated, blue; gilt, rim
31	whiteware, transfer-print, blue; mostly all bases
1	whiteware, transfer-print, Old Blue
1	whiteware, transfer-print, purple; base
3	whiteware, undecorated; base
1	curved glass, bottle base, aqua

*Notes:* cmbs = centimeters below surface; cmbd = centimeters below datum; COD = “cockle, oval, and dumbbell” — as discussed on text page 43, this is a small-bowl pipe category typically associated with pre-1850s deposits. The hyphenated six-digit numbers are provenience codes; in each set, horizontal provenience is coded in the first three digits and vertical provenience is coded in the second three digits. Counts in the left column include dashes for uncountable materials such as soil samples; zeroes indicate discarded materials. For example, counts for cut nails and wire nails are listed above; wire nails were discarded, whereas cut nails were retained.



Table 3. Domestic artifacts from the Mustill site.

Stratum	Area	ww	yw	rw	sw	bc	por	curved glass	stopper	pressed glass	tin can	bone, shell	flat ware	lid liner	crown cap	twist cap	fused glass	stone inlay
I	Mustill House	54	7	1	—	—	—	104	2	—	7	27	—	—	—	—	—	—
	Meat Market, int	14	—	—	—	1	—	11	—	—	7	2	—	—	—	—	—	—
	Meat Market, ext	—	—	—	4	—	—	1	—	—	—	3	—	—	—	—	—	—
	Store, interior	1	—	—	—	—	1	2	—	—	—	23	—	—	—	—	—	—
	Store, south façade	124	13	2	5	—	8	96	—	—	—	15	—	—	—	—	—	—
	first residence	751	50	2	67	—	14	271	—	—	—	129	2	11	1	1	8	1
	Store, east side	13	1	3	1	2	12	57	2	—	—	4	2	—	—	—	—	—
	Store, west side	93	3	—	14	—	3	28	—	1	—	8	1	1	—	—	—	—
	Store, north side	33	—	17	7	—	11	44	—	—	—	4	—	4	—	—	—	—
II	Mustill House	7	1	1	—	—	—	34	—	—	—	3	—	—	—	—	—	—
	Meat Market, int	25	2	—	—	—	—	9	—	—	—	2	—	—	—	—	—	—
	Meat Market, ext	4	—	—	2	—	—	1	—	—	—	1	—	—	—	—	—	—
	Store, interior	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, south façade	12	—	—	—	—	—	1	—	—	—	2	—	—	—	—	—	—
	first residence	626	17	10	11	—	6	116	—	2	—	62	1	3	—	—	—	—
	Store, east side	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, west side	366	10	—	13	—	2	1	—	—	—	54	—	—	—	—	—	—
	Store, north side	248	2	1	4	—	3	21	—	—	—	1	—	3	—	—	—	—
I-II	Mustill House	14	—	1	1	—	1	62	—	—	—	8	—	—	—	—	—	—
	Meat Market, int	19	1	1	3	—	—	106	—	—	1	8	—	—	—	—	—	—
	Meat Market, ext	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, interior	5	—	—	3	—	—	6	—	—	—	—	—	—	—	—	—	—
	Store, south façade	28	—	3	21	—	1	13	—	—	—	21	—	—	1	—	—	—
	first residence	146	1	13	5	—	2	40	—	—	—	18	—	1	2	—	1	—
	Store, east side	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, west side	336	30	—	19	—	1	42	—	—	—	61	—	1	—	—	—	—
	Store, north side	16	3	4	1	—	3	2	—	—	—	7	—	—	—	—	—	—
IIa	Store, south side	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	first residence	386	7	1	8	—	3	72	1	—	—	99	—	—	—	—	—	—
	Store, east side	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
I-IIa	first residence	110	2	—	1	—	1	9	—	—	—	4	—	—	—	—	—	—
I-VIb	Store, south façade	40	—	—	4	—	1	6	—	—	—	3	—	—	—	—	—	—

Table 3. Concluded.

Stratum	Area	ww	yw	rw	sw	bc	por	curved glass	stopper	pressed glass	tin can	bone, shell	flat ware	lid liner	crown cap	twist cap	fused glass	stone inlay
II-VIb	Store, south façade	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	first residence	2	—	—	—	—	—	5	—	—	—	1	—	—	—	—	—	—
	Store, west side	47	—	—	—	—	—	—	—	—	—	6	—	1	—	—	—	—
	Store, east side	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
	Store, north side	54	4	4	7	—	5	18	—	—	—	2	—	—	—	—	—	—
I-II-IIa	Store, south façade	10	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VII	Meat Market, ext	6	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Totals		3599	154	67	201	3	78	1179	5	3	15	579	6	25	4	1	9	1

*Notes:* The area listed above as “first residence” is the structure represented by MWAC Feature 7 at the Mustill Store. Key to column heading abbreviations for ceramics in the first six columns are: ww = whiteware; yw = yellowware; rw = redware; sw = stoneware; bc = bone china; por = porcelain.

Table 4. Whiteware vessels from the Mustill site.

Description	Stratum	ID	Shape	<i>n</i>	Pattern	Maker
Transfer-Printed, Old Blue	I and II	121	plate	3	Palestine	R. Stevenson
	II	122	8" plate	15	Playing at Draughts <sup>1</sup>	J & R Clews
	?	123	undeterm.	1		
Transfer-Printed, Blue	I	124	undeterm.	1		
	?	125	cup?	1		
	I	126	cup?	1		
	I	127	6" saucer	2		
	II	128	plate?	1		
	I-II	129	plate?	1		
	I	130	plate	1		
	I	131	hollow	1		
	II	132	15" platter	1		
	II	133	5.5" saucer	1		
	I	134	plate?	1	Napier	G. Alcock
	I-II	135	plate	1	Tuscan Rose	J&W Ridgway
	II and IIa	136	9" plate	2	Willow	
	I-II and II	137	9" plate	2	Willow	
	I and II	138	soup plate	4		
	II	139	10" plate	17	Canova	T. Mayer or G. Phillips
	II	140	plate	4	Canova	T. Mayer or G. Phillips
	II	141	plate	2	Canova	T. Mayer or G. Phillips
	I	142	plate	3	Park Scenery	G. Phillips
	II	143	bowl	2	Park Scenery	G. Phillips
II	183*	plate	12	Park Scenery	G. Phillips	
II	184*	plate	9	Canova	T. Mayer or G. Phillips	
Transfer-Printed, Red	I	100	undeterm.	2		
	I-II	101	plate	3		
	I	102	6" saucer	2		
	I	103	saucer?	2		
	IIa	104	undeterm.	1		
	IIa	105	undeterm.	1		
	IIa	106	plate?	1		
	I-II	107	plate	1	Canova	T. Mayer or G. Phillips
	II	182*	undeterm.	1	Canova	T. Mayer or G. Phillips
	Transfer-Printed, Brown	?	92	plate	1	Napier
?		93	plate	1	Napier	G. Alcock
II		94	plate	2		
I		95	undeterm.	1		
?		96	undeterm.	1		
II		97	6" saucer	3		
II		98	6" saucer	1		
II		99	hollow	2		
II		181*	plate	1		
Transfer-Printed, Black		I-II	108	undeterm.	2	
	II	109	4" cup	2		
	II	110	plate?	2		
	II	111	7" bowl?	1		
	IIa	112	bowl	1	Polish Star	T. Goodwin
Transfer-Printed, Green	I-II	119	undeterm.	2		
	I	120	hollow	1		
Transfer-Printed, Purple	II	118	undeterm.	1		
Transfer-Printed, Flow Blue	?	115	10" plate	1		
	II	116	6" saucer?	1		
	II	117	undeterm.	1		

Table 4. Continued.

Description	Stratum	ID	Shape	<i>n</i>	Pattern	Maker
Transfer-Printed, Flow Black	I-II	113	bowl	2		
	II	114	plate	2		
	I	185	bowl?	1		
Annular	II	79	6" bowl	4		
	I-II	80	bowl	3		
	II	81	pitcher?	5		
	II	82	hollow	2	rouletted rim	
	II	83	hollow	1	rouletted rim	
	II	84	7.5" bowl	1	"cat's eye"	
	II	85	6.5" bowl	1	"cat's eye"	
	IIa	86	cup	1		
	I-II	87	hollow	3		
	II	88	undeterm.	1		
	I	89	6" bowl	1		
	II	90	6.5" bowl	3		
	IIa	91	undeterm.	1		
	Edge-Decorated, Green	?	44	11" plate	1	shell with bud
IIa		45	plate	1	shell with bud	
Edge-Decorated, Blue	IIa	46	8" plate	2	shell	
	IIa	47	plate	1	shell	
	?	48	plate	1	shell	
	?	49	plate	2	shell	
	IIa	50	plate	1	shell	
	?	51	plate?	1	shell	
	II	52	12" plate	2	shell	
	IIa	53	10" plate	1	shell	
	II	54	plate	1	shell	
	I	55	plate	1		
	I-II	56	10" plate	2	shell	
	I-II	57	10" plate	2	shell	
	?	58	10" plate	1	shell	
	I-II	59	10" plate	2	shell	
	IIa	60	11" plate	1	shell	
	I-IIa	61	10" plate	3		
	IIa	62	platter?	3		
	IIa	63	plate?	1	shell	
	?	64	platter?	1	shell	
	I-IIa	65	plate	3	shell	
	I	66	10" plate	4	shell	
IIa	67	undeterm.	1			
?	68	plate	1	shell		
IIa	69	10" plate	1	shell with bud		
I	70	10" plate	1	shell		
I-IIa	71	plate?	1	shell with bud		
?	72	platter?	1			
IIa	73	plate	1			
II-VIb	74	plate?	2	with gilt line		
II	75	plate?	2	embossed		
II and IIa	76	plate	5	embossed		
II	77	plate?	1	plume?		
I-II	78	plate?	1	embossed		
Hand-Painted, Undefined	?	40	cup	1		
	II	41	saucer	1		
	II	42	cup	1		
	I	43	saucer	1		

Table 4. Continued.

Description	Stratum	ID	Shape	<i>n</i>	Pattern	Maker
Hand-Painted, Broad Line	II-IIa	16	saucer	6	polychrome	
	I-II	17	cup	3	polychrome	
	II	18	cup?	2	polychrome	
	?	19	cup	1	polychrome	
	II	20	saucer	1	polychrome	
	II	21	saucer	7	polychrome	
	IIa	22	saucer	1	polychrome	
	II	32	saucer	1		
	II	37	saucer	1	polychrome	
	IIa	38	saucer	1		
Hand-Painted, Fine Line	II	179	lid	1	polychrome	
	IIa	25	cup	4	polychrome	
	II-IIa	26	saucer	4	polychrome	
	IIa	27	cup	2	polychrome	
Hand-Painted, Sprig	I	28	cup	1	polychrome	
	II	23	cup	1	polychrome	
	I	24	cup	1	green	
	?	29	saucer	1	polychrome	
	I-IIa	30	cup	2	polychrome	
	II	31	cup	2	polychrome	
	?	33	cup	1	polychrome	
	IIa	34	saucer	1	polychrome	
	I-II	35	undeterm.	1		
	I-II	36	saucer	1	polychrome	
Hand-Painted, with Gilt	IIa	39	cup	1		
	II	178	4" cup	1	polychrome	
	IIa	158	8.5" plate	1	blue band	
Sponge/Spatter, Brown	I-II	159	4" cup?	2	blue band	
	II	1	saucer?	1		
Sponge/Spatter, Green	I	2	cup?	1		
	I-II	3	saucer?	1		
Sponge/Spatter, Blue	I-II	4	cup	1		
	II	5	cup	1		
	IIa	6	cup	1		
	II	7	cup	1		
	II-IIa	8	cup	2		
	IIa	9	cup	1		
	I	10	saucer	1		
	I	11	10" plate	1		
	?	12	plate?	1	peafowl	
	I	13	cup	1	peafowl	
Sponge/Spatter, Red	I-II	14	hollow	2	peafowl	
	I	15	cup	2	peafowl	
Mold-Decorated	?	186	saucer?	1		
	I	175	undeterm.	2	peach color	
Decal-Decorated	I	176	8" plate	3	yellow glaze	
	I	144	5.5" bowl	5		
	I-II	145	10" plate	1		
	I	146	plate	3		
	I	147	plate?	1		
	I	148	undeterm.	1		
	I	157	6" saucer	9	with gilt	
	I-II	180	plate?	1	with gilt	

**Table 4. Continued.**

Description	Stratum	ID	Shape	<i>n</i>	Pattern	Maker
Gilt-Decorated	I	149	undeterm.	2		
	I-II	150	undeterm.	1		
Luster-Decorated	II	151	hollow	1	"resist"	
Undecorated	I-II	161	undeterm.	3		
	I	162	plate	1		
	II-VIa	163	bowl	1		
	II	164	10" plate	2		
	I	165	undeterm.	2		
	I-II	166	10" plate	1		
	I-VIa	167	undeterm.	1		
	I-VIa	168	undeterm.	1		
	I	169	6" saucer	1		
	I	170	9" bowl	2		
	I	171	4" cup	1		
	II	172	plate	1		
	II	173	hollow	1		
	IIa	174	ch. pot lid <sup>2</sup>	7		
Other	I-II	152	undeterm.	2		
	I	153	undeterm.	1	gray glaze	
	I	154	undeterm.	1	gray glaze	
	I and IIa	155	cup?	2	yellow glaze	
	I	156	undeterm.	1	silver line	
	I	160	bowl?	1	green band, hand painted ?	
	I	177	7" plate?	1	blue band, hand painted ?	

Notes: All specimens described in this table are from the 1999 excavations, which were more extensive than those undertaken in the previous year. \*Partially reconstructed vessels on display at the Mustill Store, 2001-?.

undeterm. = undetermined vessel shape

<sup>1</sup> Wilkie-Burnet series.

<sup>2</sup> chamber pot lid.

Table 5. Tools and other hardware .

Stratum	Area	metal spike	wrench	boat nail	thrd. fast.	'C' clamp	ufo	nfm	carbon rod	slag	indust. ceramic	chimn. glass	lamp fuel jet	handle	tack, pin
I	Mustill House	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	Store, interior	—	—	—	—	—	—	—	—	—	2	—	—	—	—
	Store, south façade	—	—	—	—	—	2	1	—	—	7	—	—	—	—
	first residence	—	1	—	—	—	5	4	—	5	2	—	—	4	1
	Store, east side	—	—	—	—	—	—	—	—	—	2	—	—	1	—
	Store, west side	—	—	—	4	—	—	2	—	1	—	—	—	—	—
	Store, north side	—	—	—	—	1	—	2	—	—	1	—	—	—	—
II	Mustill House	—	—	—	—	—	—	—	—	—	—	1	—	—	—
	Meat Market, ext.	—	—	—	—	—	—	—	—	3	—	—	—	—	—
	first residence	—	—	—	—	—	3	4	—	2	—	—	—	—	—
	Store, west side	—	—	—	—	—	2	—	—	1	—	—	—	—	—
	Store north side	—	—	—	—	—	—	—	—	2	—	—	—	—	—
I-II	Store, south façade	—	—	—	—	—	—	—	—	—	1	—	—	—	—
	first residence	—	—	—	2	—	—	1	1	1	—	—	—	—	1
	Store, west side	—	—	—	—	—	1	—	—	1	—	—	—	—	—
	Store, north side	—	—	—	—	—	—	1	—	—	—	—	—	—	—
IIa	Store, interior	—	—	1	—	—	—	—	—	—	—	—	—	—	—
	first residence	—	—	—	—	—	—	2	—	7	—	—	—	—	—
	Store, east side	—	—	—	—	—	—	1	—	—	—	—	—	—	—
I-IIa	first residence	—	—	—	—	—	—	—	—	2	—	—	—	—	—
II-VIb	Store, north side	—	—	—	—	—	3	—	—	—	1	—	—	—	—
VII	Meat Market, ext.	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals		1	1	1	6	1	16	18	1	25	16	1	1	5	3

*Notes:* The area listed above as “first residence” is the structure represented by MWAC Feature 7 at the Mustill Store. Key: ext. = exterior; thrd. fast. = threaded fasteners; i.e., nuts, screws, bolts, washers; ufo = unidentified ferrous object; nfm = non-ferrous metal; indust. ceramic = industrial ceramics such as insulators; chimn. glass = glass chimney for oil lamp.

Table 6. Miscellaneous artifacts from the Mustill site.

Stratum	Area	curtain pull	meat hook	car parts	lead, scrap weight	glass tube	roller bearing	mica	clothes pin	toilet tank	faux crystal	mirror glass	padlock	artificial tile	key
I	Mustill House	1	—	—	—	—	—	—	—	—	—	—	—	—	1
	Store, interior	—	1	—	—	—	—	—	—	—	—	—	—	—	—
	first residence	—	—	4	1	—	—	—	—	—	1	—	—	2	—
	Store, west side	—	—	9	—	—	1	—	—	—	—	1	1	—	3
	Store, north side	—	—	—	—	—	—	—	—	8	—	—	—	—	—
II	Store, west side	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, north side	—	—	—	—	—	—	—	1	—	—	—	—	—	—
I-II	first residence	—	—	—	—	1	—	1	—	—	—	—	—	—	—
	Store, west side	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Total		1	1	14	1	1	1	1	1	8	1	1	1	2	4

*Note:* The area listed above as “first residence” is the structure represented by MWAC Feature 7 at the Mustill Store.

Table 7. Personal items from the Mustill site.

Stratum	Area	fishing gear	heel spacer	token, coin	button	jewelry	marble	pipe	leather	bead	toy	casing	slate pencil	lead, graphite	thimble	syringe	guide grip
I	Mustill House	—	—	1	8	2	2	2	—	5	—	—	—	—	—	—	—
	Meat Market, interior	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—
	Store, interior	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, south façade	—	—	1	—	—	1	5	—	—	—	—	—	—	—	—	—
	first residence	—	—	1	6	1	4	45	—	1	1	1	—	—	—	3	—
	Store, east side	—	—	—	2	—	2	—	1	—	—	—	—	—	—	—	—
	Store, west side	—	—	—	1	—	—	3	—	1	—	—	—	—	—	1	—
	Store, north side	1	—	1	2	—	—	—	1	—	—	—	—	1	—	—	—
II	Mustill House	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—
	Store, south façade	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—
	first residence	—	—	—	8	—	—	139	—	—	—	—	2	—	1	—	—
	Store, west side	—	—	—	1	—	—	15	—	—	—	1	—	—	—	—	—
	Store, north side	—	—	—	1	—	—	2	—	1	—	—	—	—	—	—	—
I-II	Mustill House	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
	Meat Market, interior	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, interior	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
	Store, south façade	—	—	—	—	—	—	8	—	—	—	—	—	—	—	—	—
	first residence	—	—	—	—	—	—	25	—	—	—	—	—	—	—	—	1
	Store, west side	—	—	1	1	—	—	21	1	2	—	—	—	—	—	—	1
	Store, north side	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
IIa	Meat Market, interior	—	—	—	—	—	—	17	11	—	—	—	—	—	—	—	—
	first residence	—	—	—	5	—	—	44	—	—	—	1	—	1	—	—	—
I-IIa	first residence	—	—	1	—	—	—	5	—	—	—	—	—	—	—	—	—
I-VIb	Store, south façade	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—
II-VIb	first residence	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
	Store, west side	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	1
	Store, north side	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—
I-II-IIa	Store, south façade	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—
Totals		2	1	8	35	3	9	347	18	11	1	4	2	3	1	4	3

Note: The area listed as “first residence” is the structure represented by MWAC Feature 7 at the Mustill Store.

Table 8. Structural items from the Mustill site.

Stratum	Area	cut nail	wire nail	roof nail	unident. nail	roof slate	ceram. tile	flat glass	drain pipe	door lock	door knob	elect. switch	flag holder	hinge
I	Mustill House	8	—	—	—	—	—	304	—	—	—	—	—	—
	Meat Market, interior	—	—	—	—	—	—	3	—	—	—	—	—	—
	Store, interior	—	—	—	—	—	—	—	—	—	—	—	—	—
	Store, south façade	2	—	—	1	—	—	26	—	—	—	—	—	1
	first residence	3	—	—	—	1	9	134	3	—	1	—	1	—
	Store, east side	—	—	—	—	—	2	1	—	—	—	—	—	—
	Store, west side	11	7	2	—	—	—	23	1	—	—	—	—	1
	Store, north side	9	4	—	—	—	18	8	—	—	—	—	—	—
II	Mustill House	—	—	—	—	—	—	17	—	—	—	—	—	—
	Meat Market, interior	—	—	—	—	—	—	6	—	—	—	—	—	—
	Meat Market, exterior	—	—	—	—	—	—	65	—	—	—	—	—	—
	Store, south façade	—	—	—	—	—	—	2	—	—	—	—	—	—
	first residence	6	—	—	—	1	1	228	—	1	—	—	—	—
	Store, west side	2	—	—	6	—	—	70	2	—	—	—	—	—
	Store, north side	—	—	—	—	—	—	7	—	—	—	—	—	—
	Mustill House	—	—	—	—	—	—	25	—	—	—	—	—	—
I-II	Meat Market, interior	1	—	—	—	—	—	46	—	—	—	—	—	—
	Store, south façade	—	—	—	—	—	—	14	—	—	—	—	—	—
	first residence	—	—	—	—	—	1	77	4	—	—	—	—	—
I-II	Store, west side	6	6	—	2	1	1	113	—	—	—	—	—	—
	Store, north side	1	—	—	—	—	—	—	—	—	—	1	—	—
	Meat Market, interior	—	—	—	—	—	—	240	—	—	—	—	—	—
IIa	first residence	10	—	—	—	—	1	63	7	—	1	—	—	—
	first residence	—	—	—	—	—	—	6	—	—	—	—	—	—
I-IIa	Store, south façade	1	—	—	—	—	—	10	—	—	—	—	—	—
II-VIb	Store, south façade	—	—	—	—	—	—	14	—	—	—	—	—	—
	first residence	—	—	—	—	—	—	5	—	—	—	—	—	—
	Store, west side	1	—	—	2	—	—	5	—	—	—	—	—	—
	Store, north side	—	—	—	—	1	—	3	—	—	—	—	—	—
I-II-IIa	Store, south façade	—	—	—	—	—	1	—	—	—	—	—	—	
Totals		61	17	2	11	4	33	1,516	17	1	2	1	1	2

Note: The area listed as “first residence” is the structure represented by MWAC Feature 7 at the Mustill Store.

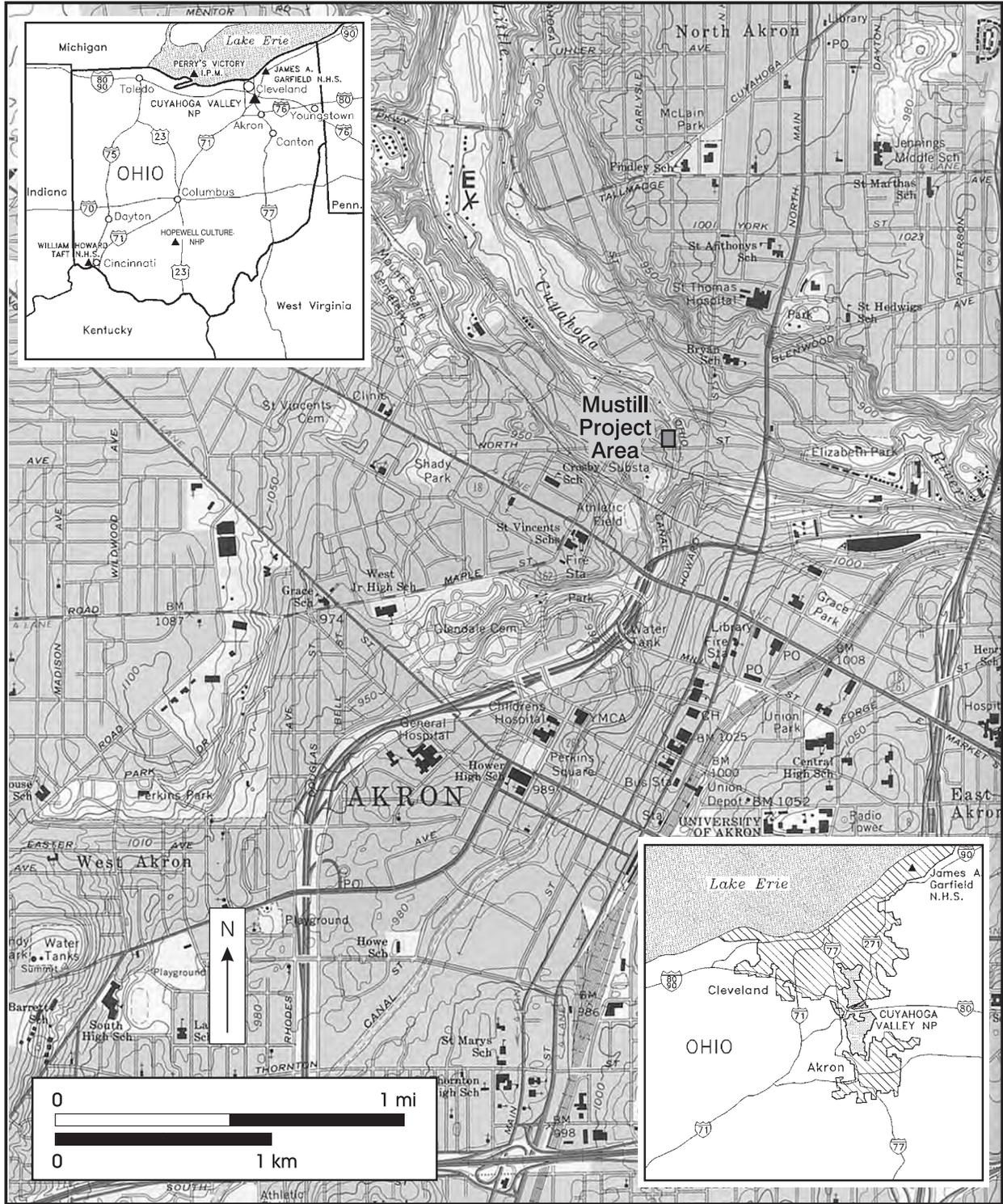


Figure 1. General project area.



Figure 2. Mustill Store prior to restoration.



Figure 3. Mustill Store after restoration.



Figure 4. The Mustill project area, circa 1855.

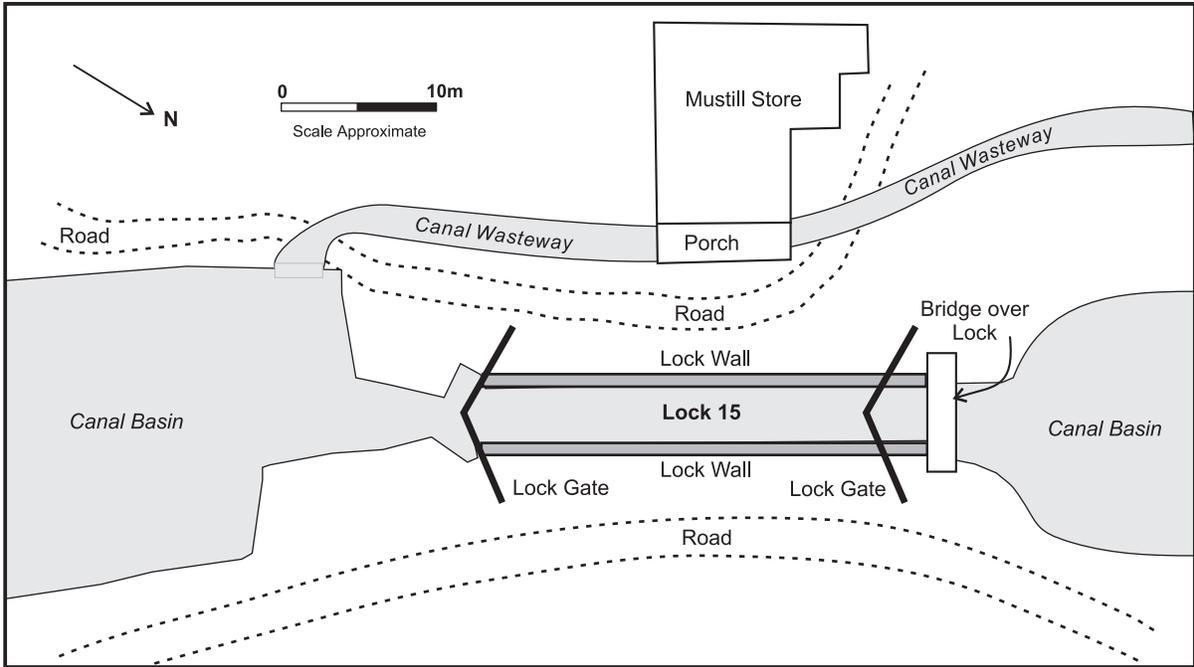


Figure 5. Detail of Lock 15 relative to the Mustill Store, circa 1900.

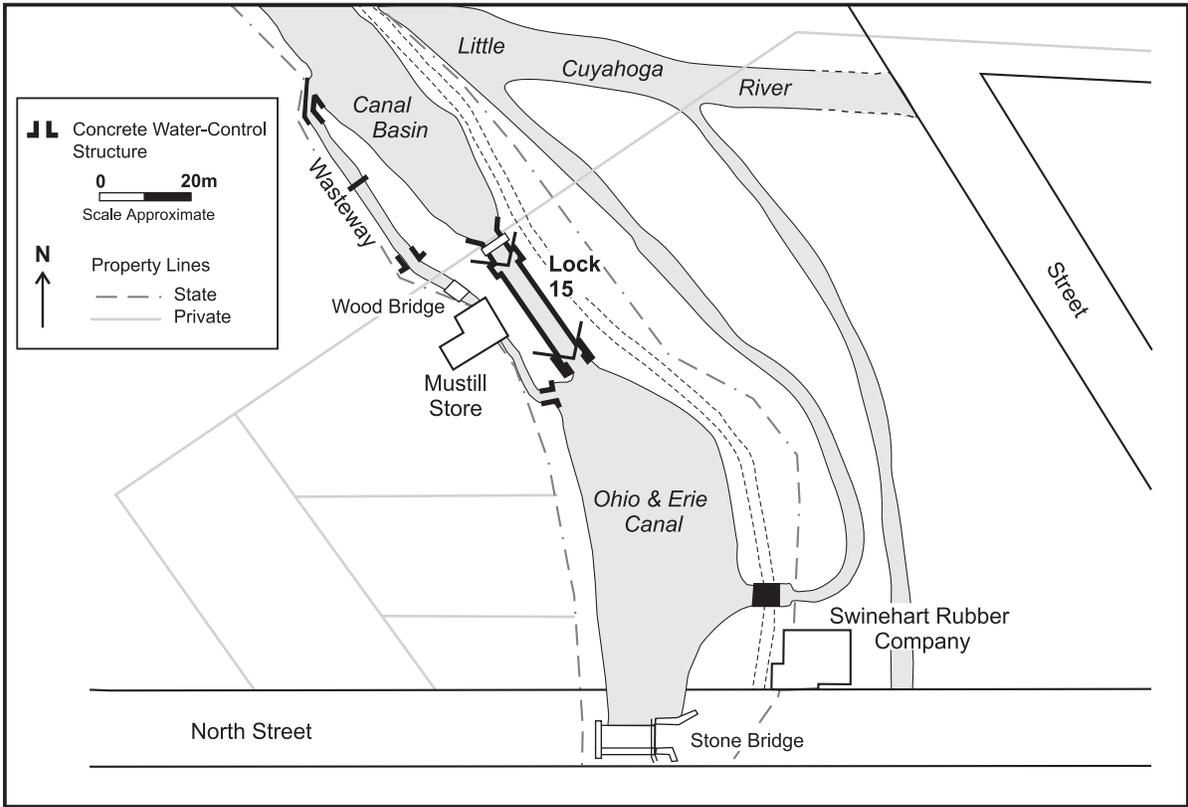


Figure 6. The project area, the Mustill Store, and canal features near Lock 15, circa 1911.

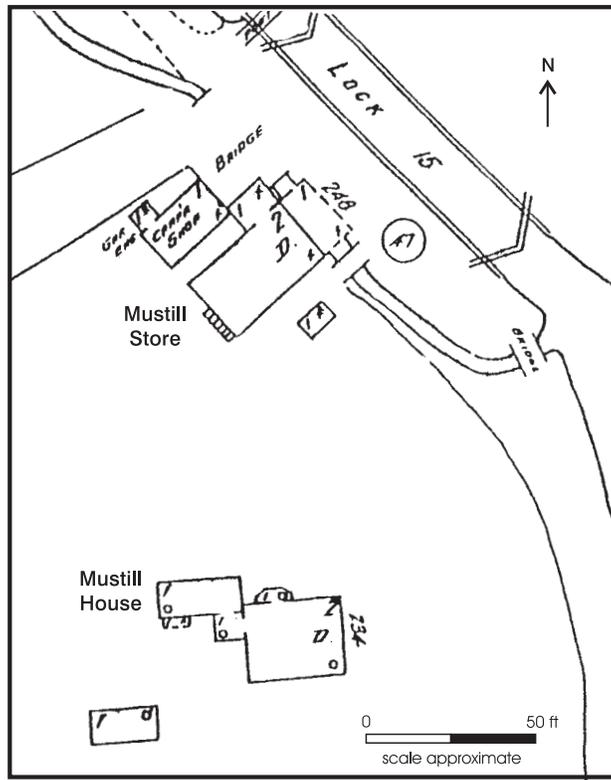


Figure 7. Mustill Store and other features at Lock 15, 1904.

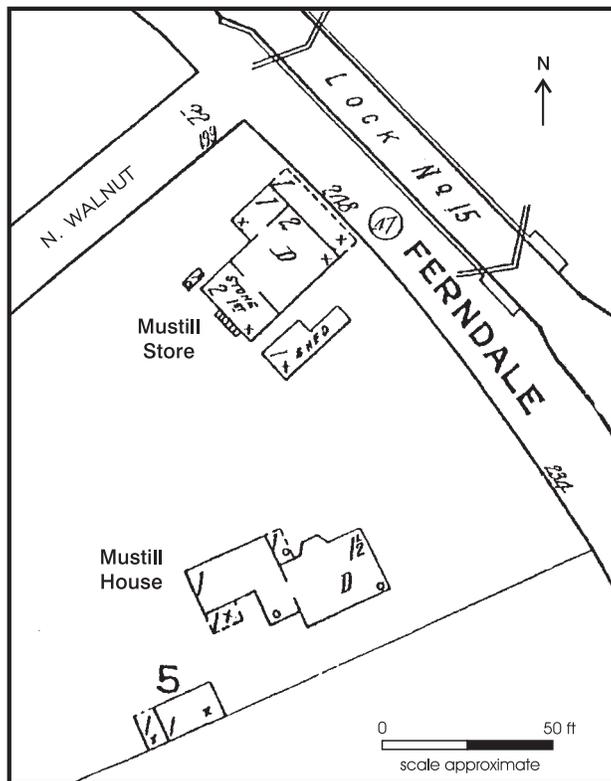


Figure 8. Mustill Store and other features at Lock 15, 1916.

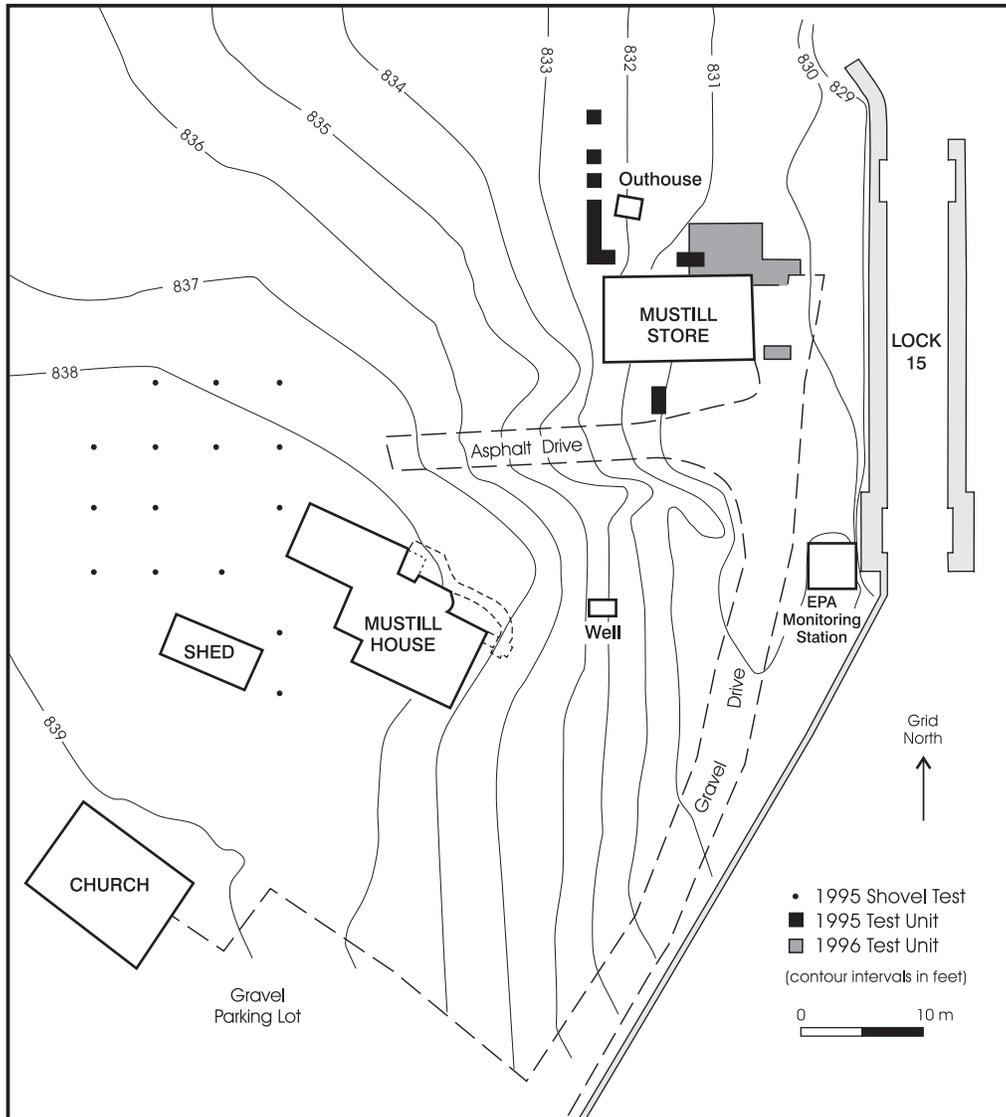


Figure 9. The 1995 and 1996 CCRR excavations at the Mustill site.

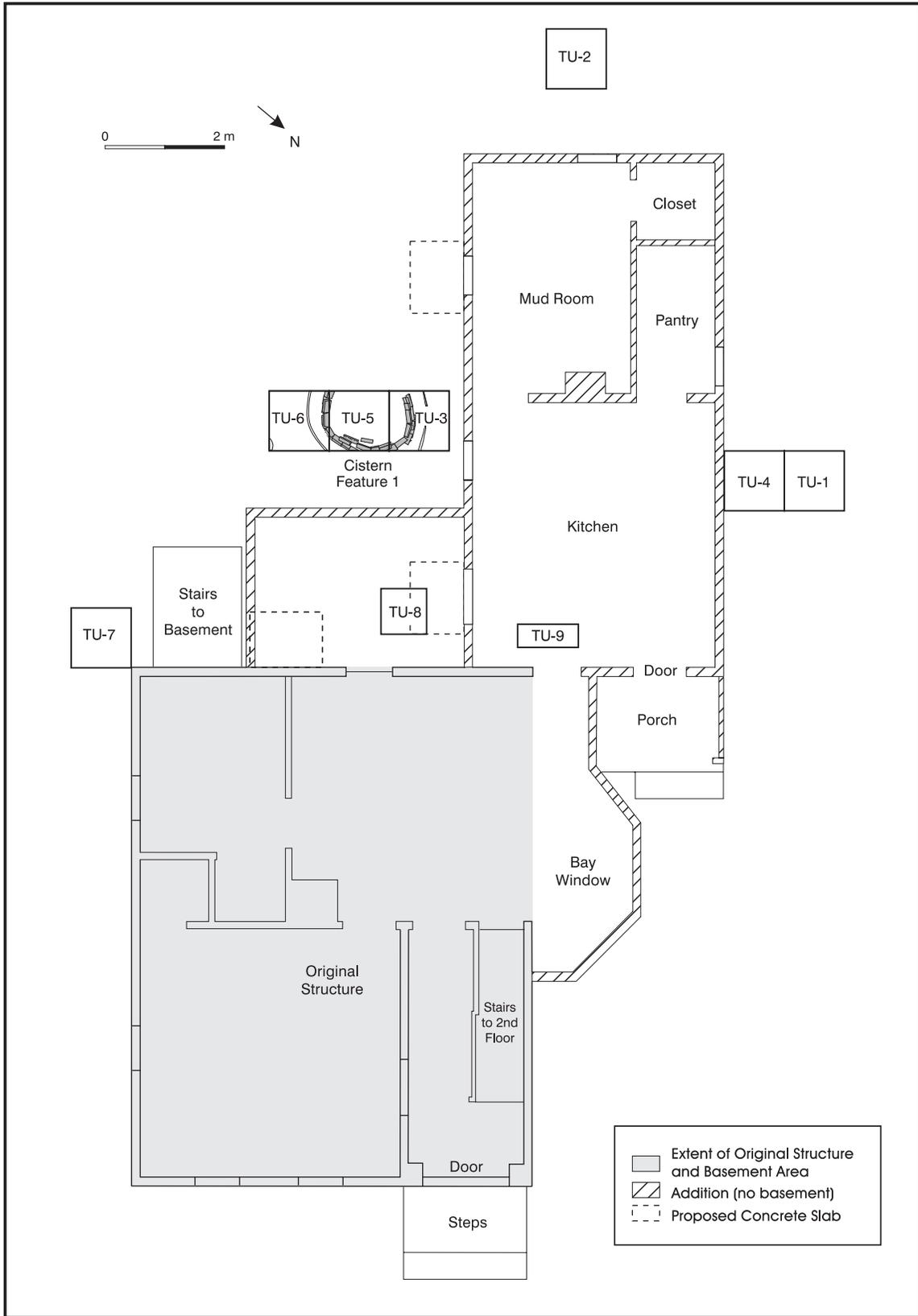


Figure 10. Midwest Archeological Center excavation units at the Mustill House, 1998.

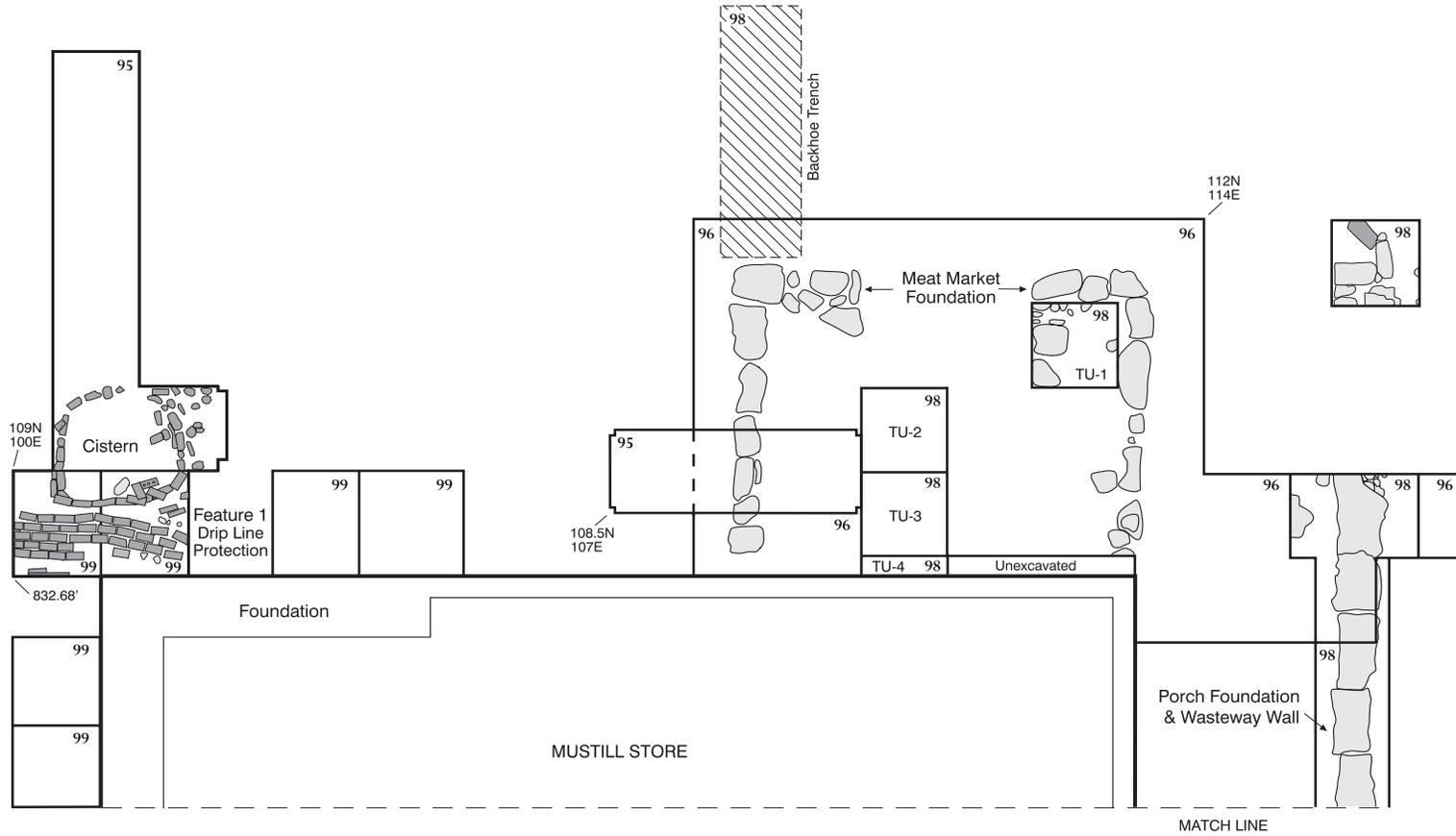


Figure 11. Excavation units at the Mustill Store (northern portion).



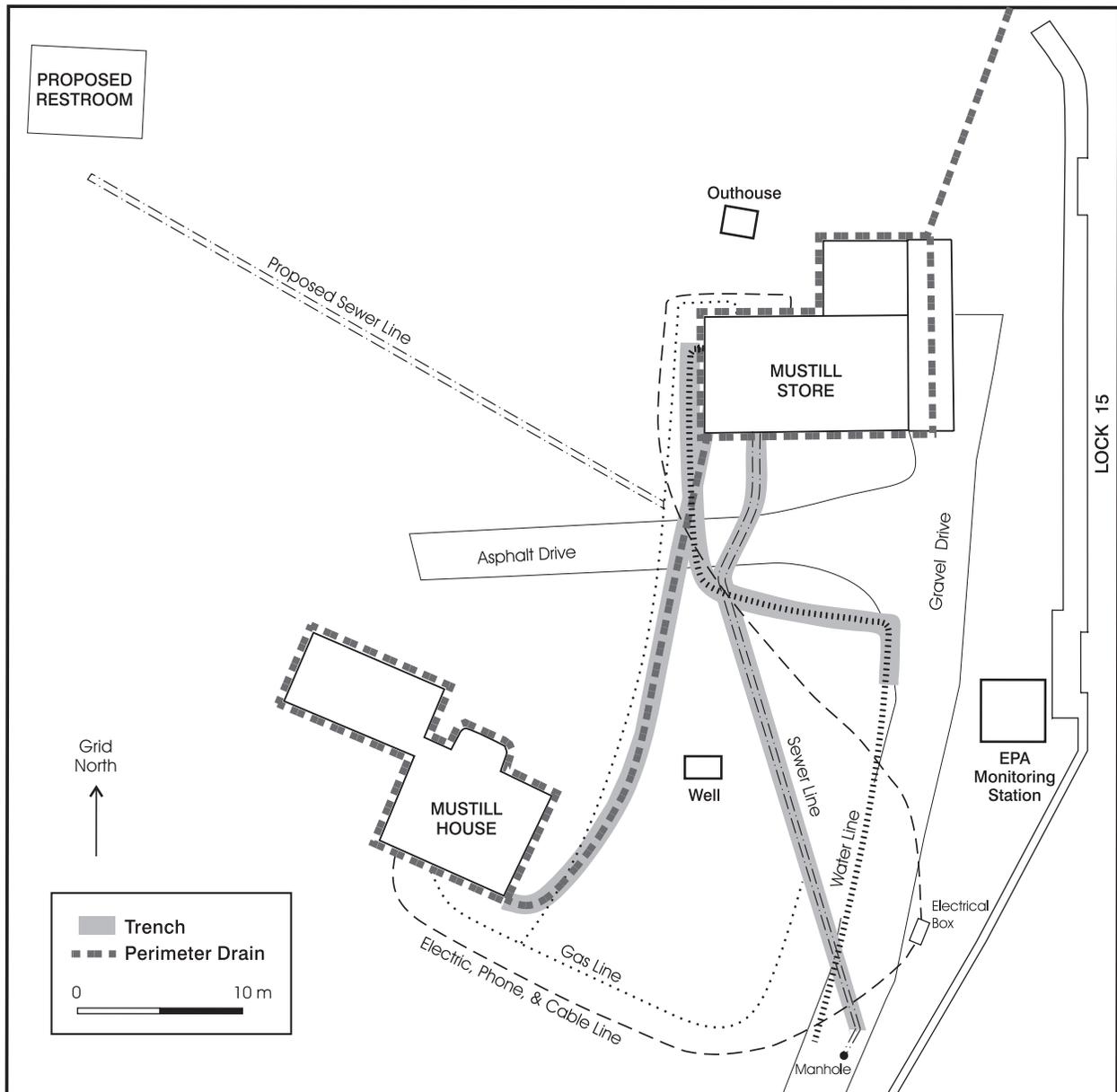
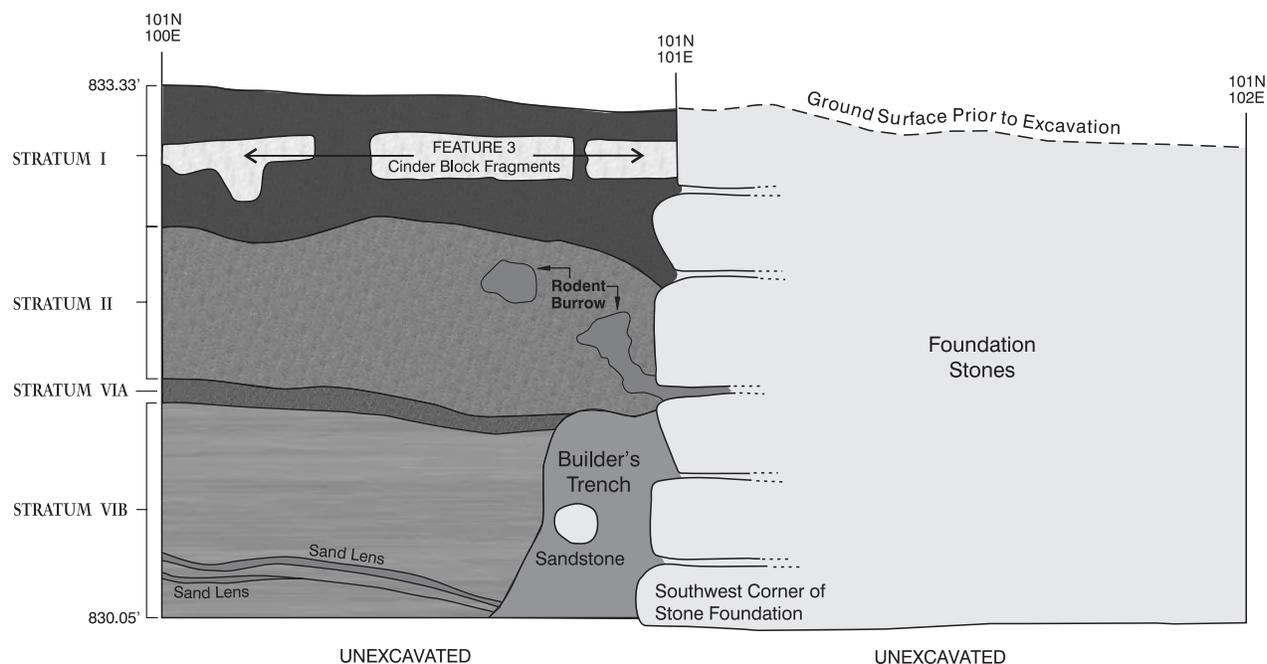


Figure 12. Locations of new utility routes.



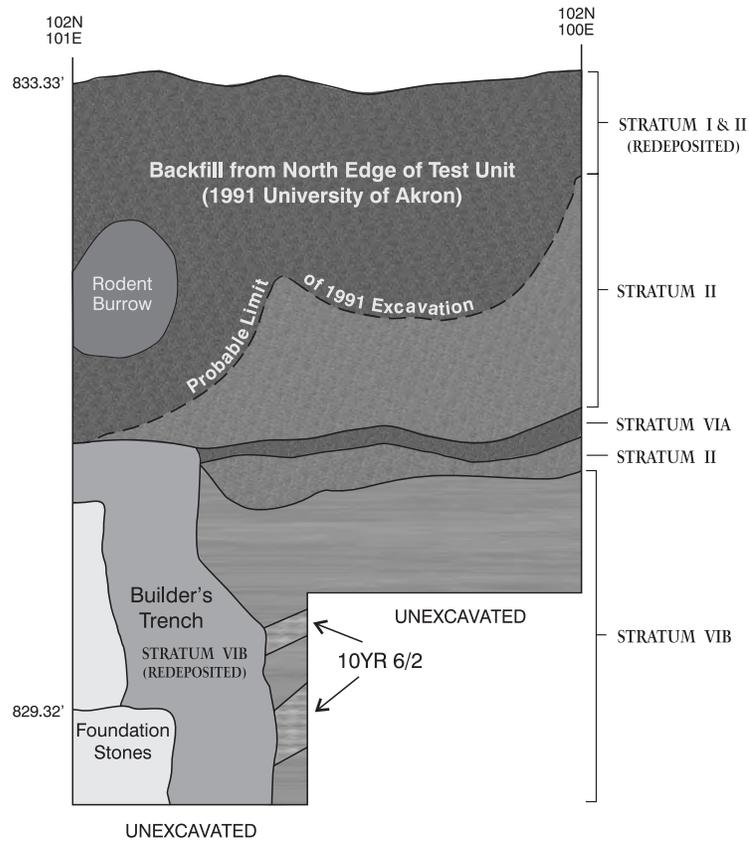
Figure 13. Test excavations in progress, 1999.



**STRATA**

- I - 10YR 2/1, Black Fine Sandy Loam
- II - 7.5YR 4/6, Strong Brown Sandy Loam with Pea Gravel
- VIA - 5Y 2/1, Black Sandy Loam (historic grade prior to store construction)
- VIB - 7.5YR 3/4, Dark Brown Clay Loam with Orange and Gray Clay Laminations
- Builder's Trench - 7.5YR 4/6, Strong Brown and 7.5YR 3/4, Dark Brown Clay Loam
- Sand Lens - 2.5YR 4/8, Very Compact Red Cemented Sand

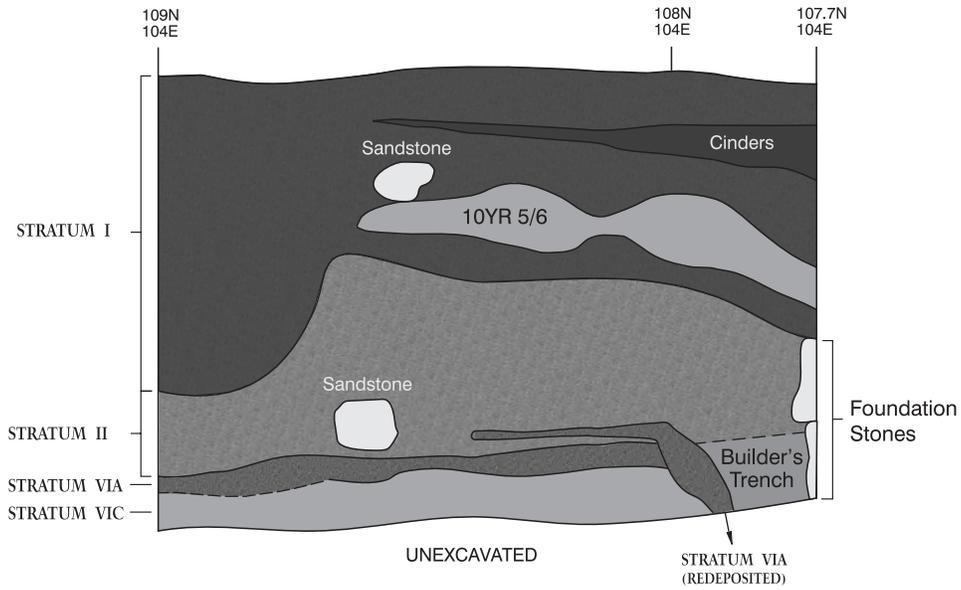
Figure 14. Profile, 101N 100-102E.



**STRATA**

- I & II - 10YR 2/1, Mixed Black Fine Sandy Loam and 10YR 4/6 Strong Brown Sandy Loam
- II - 10YR 4/6, Strong Brown Sandy Loam
- VIA - 5Y 2/1, Black Sandy Loam (historic grade prior to store construction)
- VIB - 2.5YR 4/3, Olive Brown Mottled Silty Clay with Orange, Buff and other Colors, Laminated with 10YR 6/2, Light Brownish-gray Silty Clay with Orange Mottles.
- Builder's Trench - 10YR 6/2, Light Brownish-gray

Figure 15. Profile, 102N 100-101E.



- STRATA**
- I - 10YR 2/1, Black Fine Sandy Loam with Cinders and 10YR 5/6, Yellow Clay
  - II - 10YR 4/6, Strong Brown Loam
  - VIA - 5Y 2/1, Black Loam (historic grade prior to store construction)
  - VIC - 10YR 6/0, Gray Clay

Figure 16. Profile, 107.7-109N 104E.

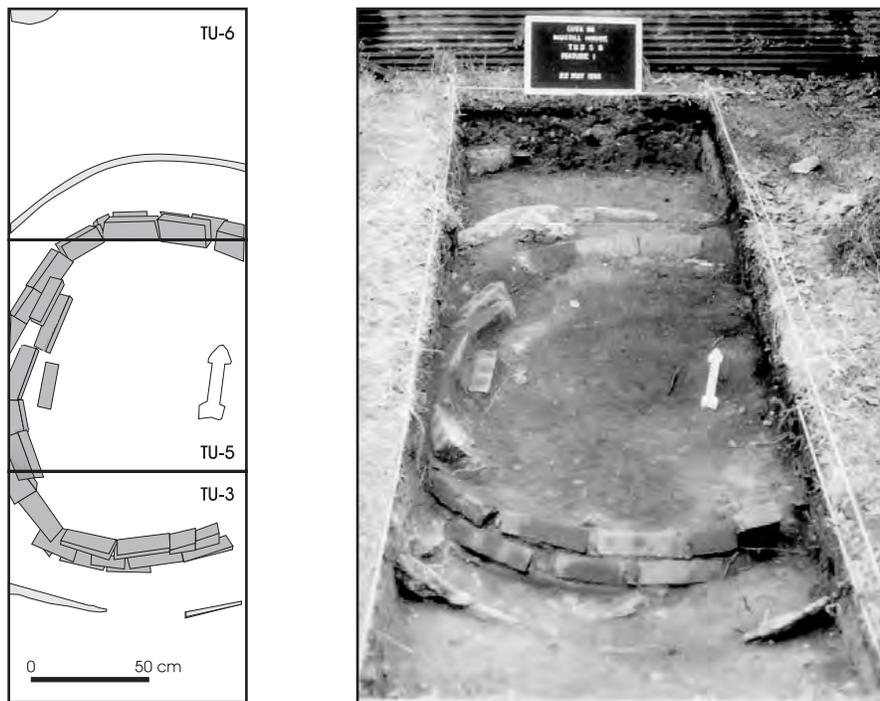


Figure 17. Mustill House Feature 1, cistern.

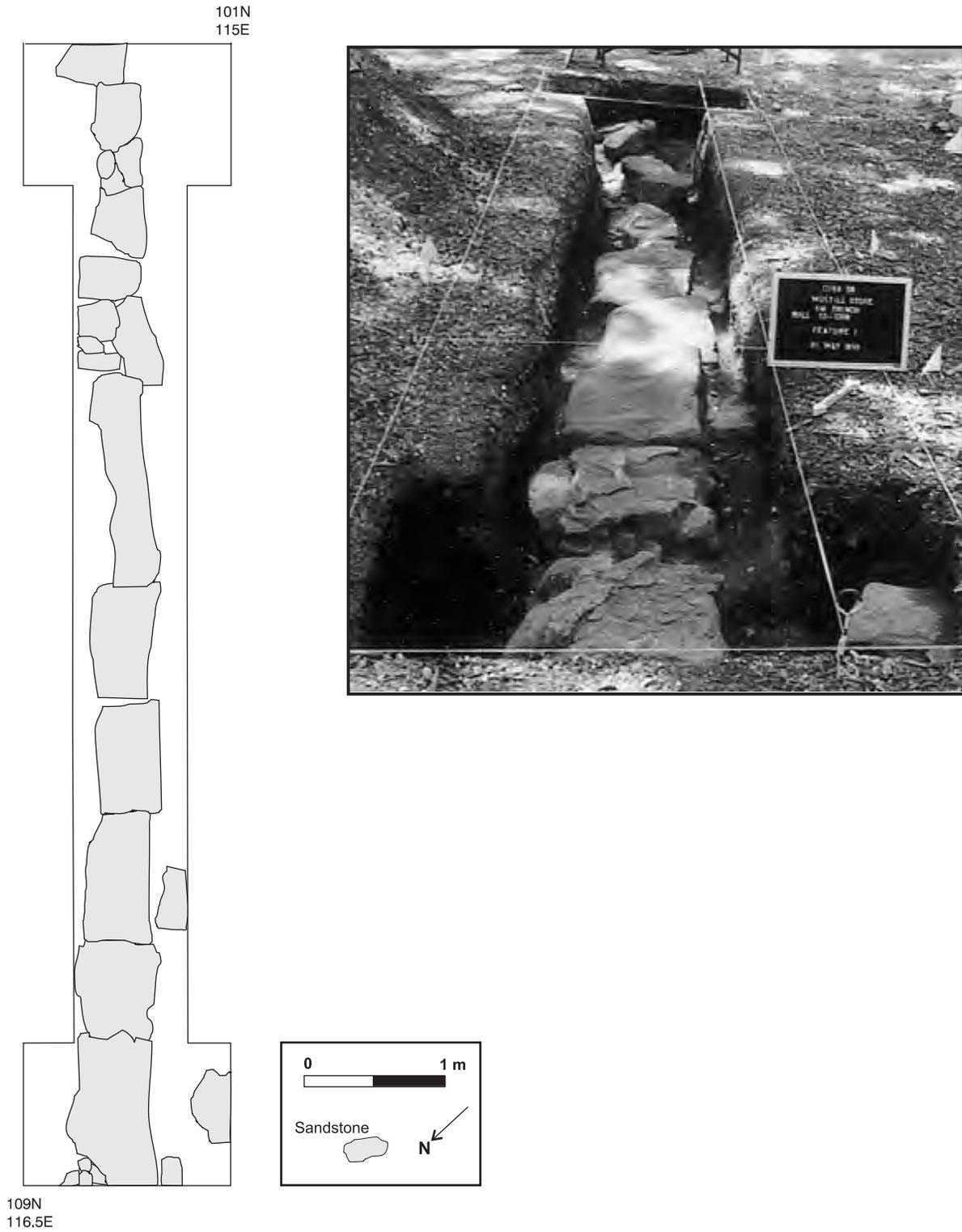


Figure 18. Mustill Store porch foundation and wasteway wall.

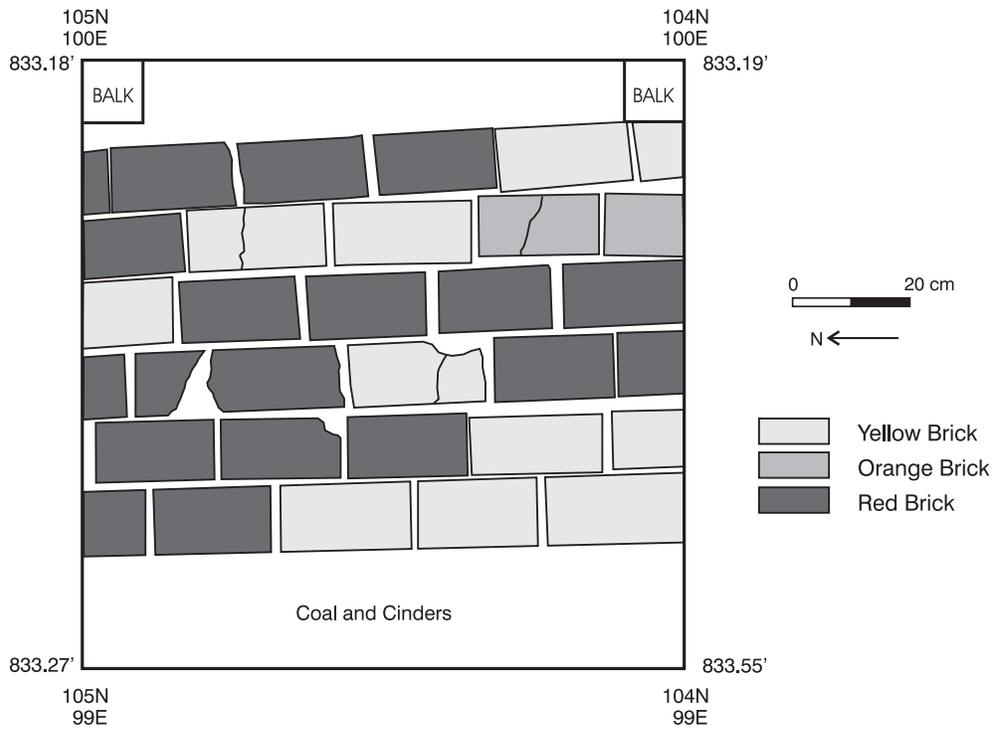


Figure 19. Mustill Store Feature 6, brick walkway along west façade.



Figure 20. Mustill Store Feature 1, drip line protection.

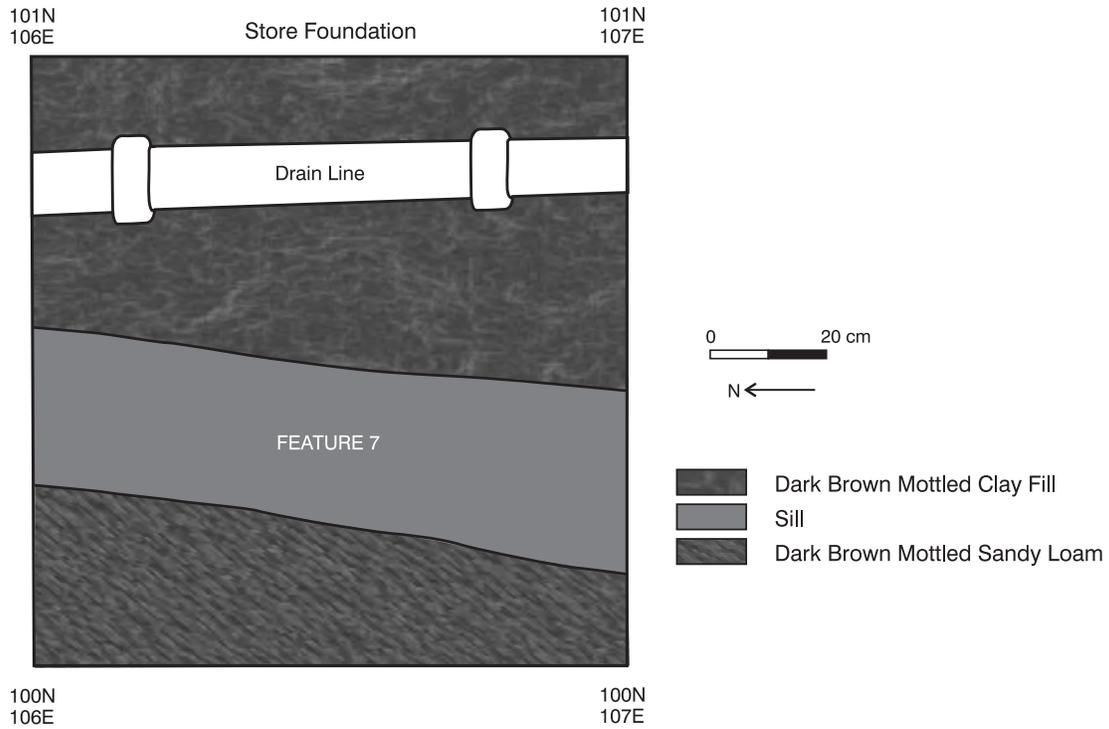


Figure 21. Mustill Store Feature 4, drainage pipe along south façade.

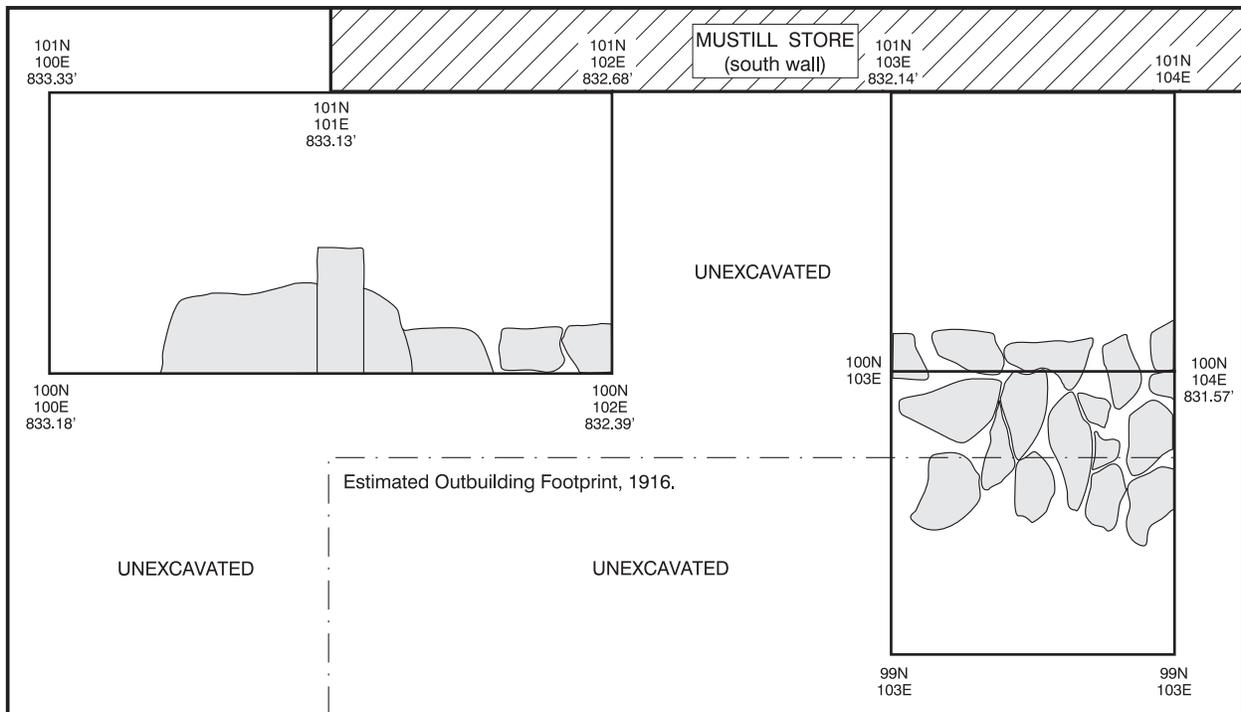


Figure 22. Mustill Store Feature 5, outbuilding foundation, south façade.

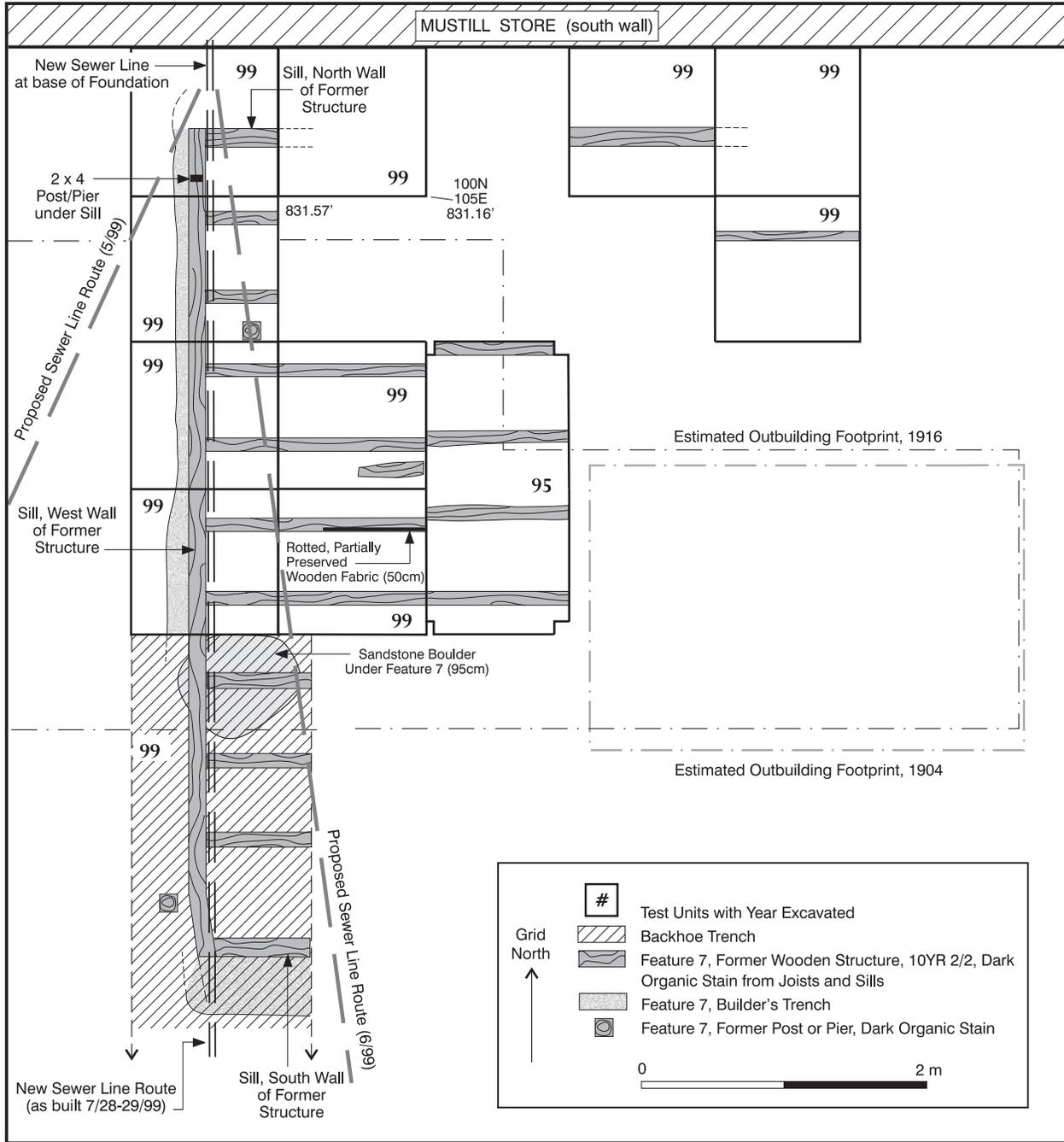
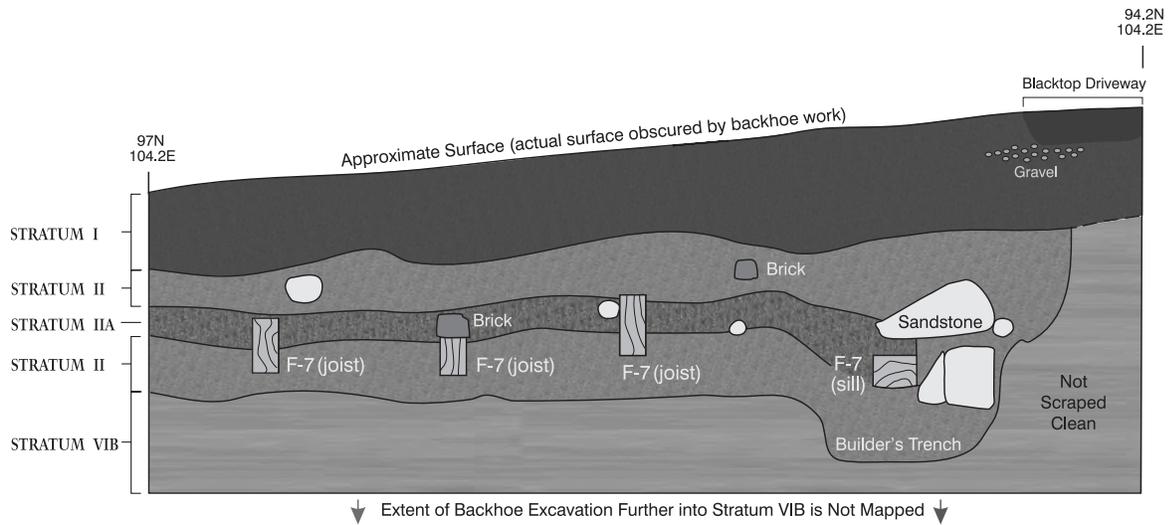


Figure 23. Mustill Store Feature 7, plan view.



**STRATA**

- I - 10YR 2/1, Black Fine Sandy Loam
- II - 7.5YR 4/6, Strong Brown Sandy Loam with Pea Gravel
- IIA - Dark Brown Sandy Loam (contains more rocks than depicted)
- VIB - Laminated Clays of 2.5YR 5/4 Gray, 2.5YR 5/4 Olive Clay, and Bands of 2.5YR 4/8 Strong Reddish Sandy Clay

Feature 7(F-7) - Former Wooden Structure, 10YR 2.2, Dark Organic Stain from Joists and Sill

Figure 24. Mustill Store Feature 7, profile.



Figure 25. Mustill Store Feature 7, structural traces in test unit.

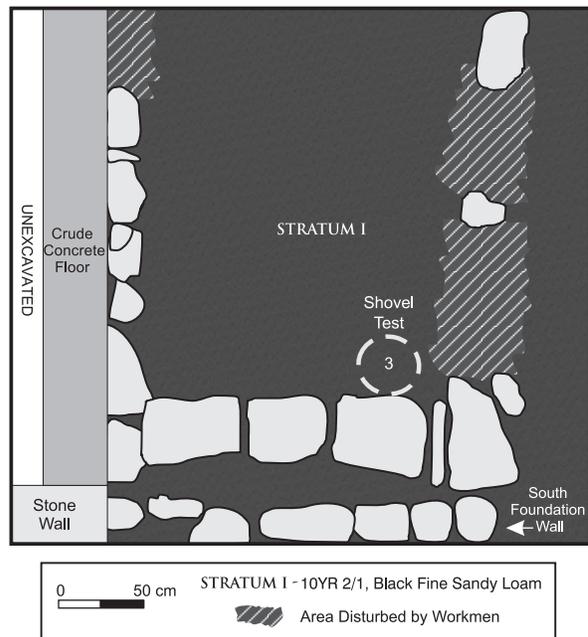


Figure 26. Mustill Store Ramnytz-era repair bay.

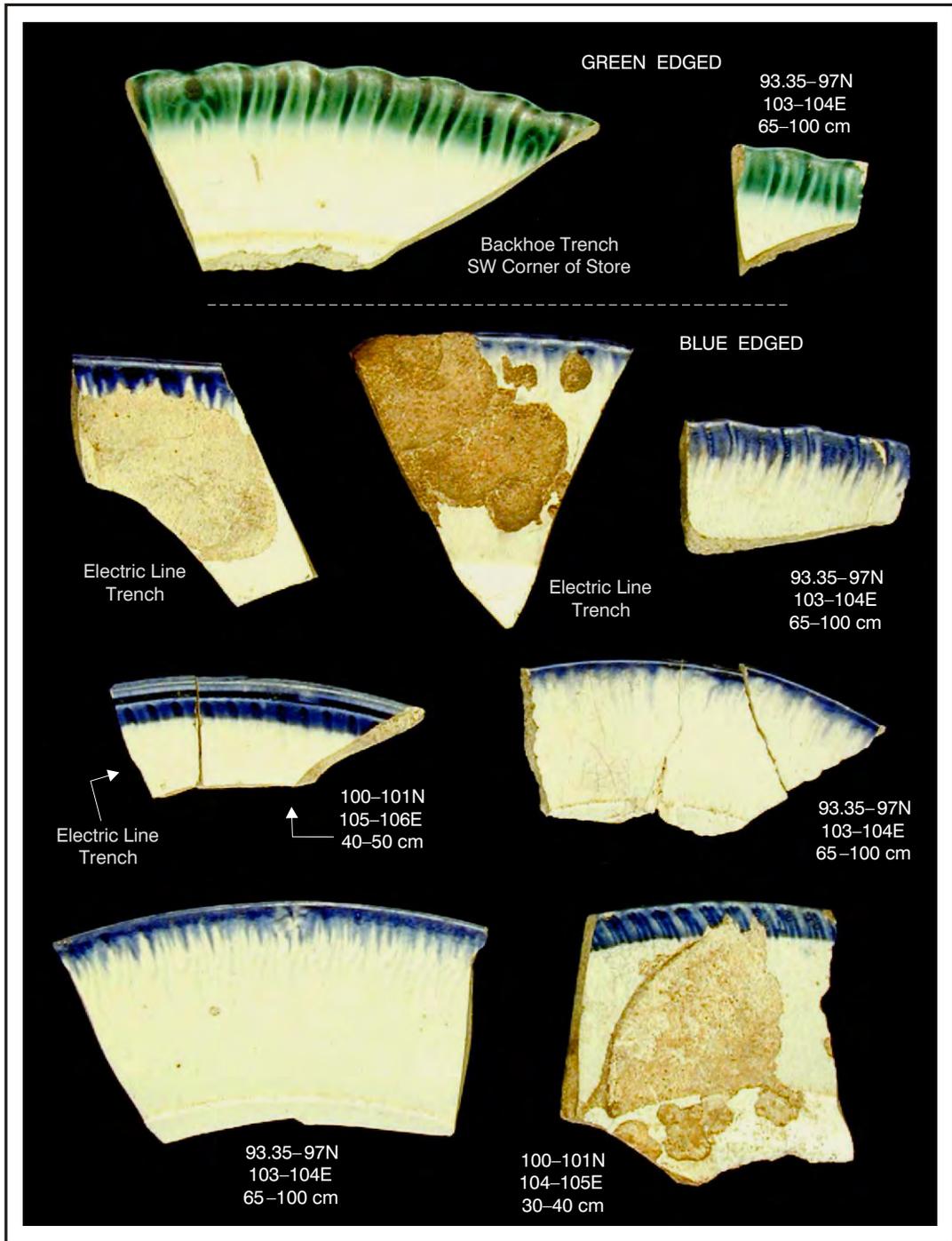


Figure 27. Green (above dashed line) and blue (below dashed line) edge-decorated whiteware sherds.

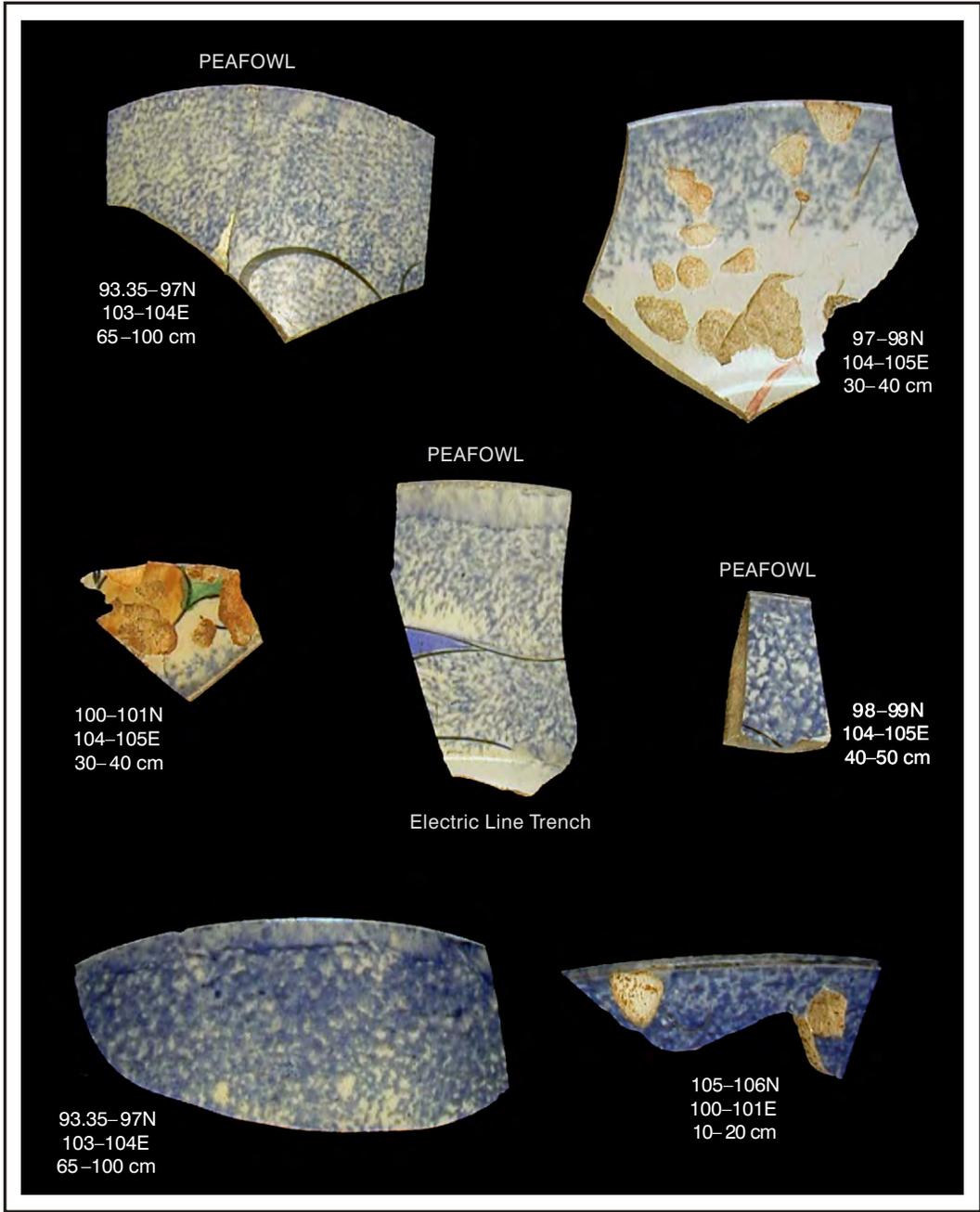


Figure 28. Sponge-decorated whiteware sherds.

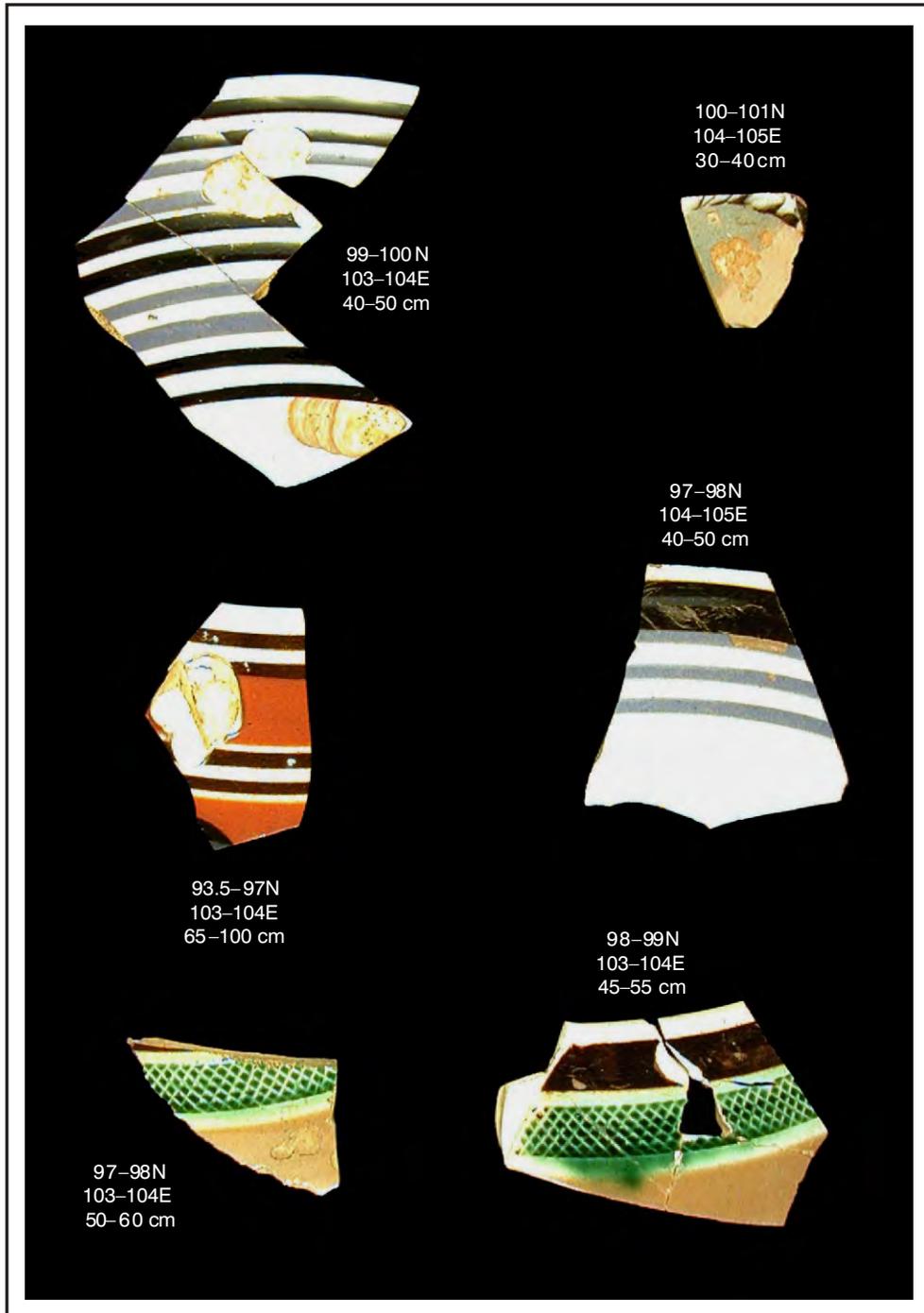


Figure 29. Annular-decorated whiteware sherds.



Figure 30. Hand-painted whiteware sherds.

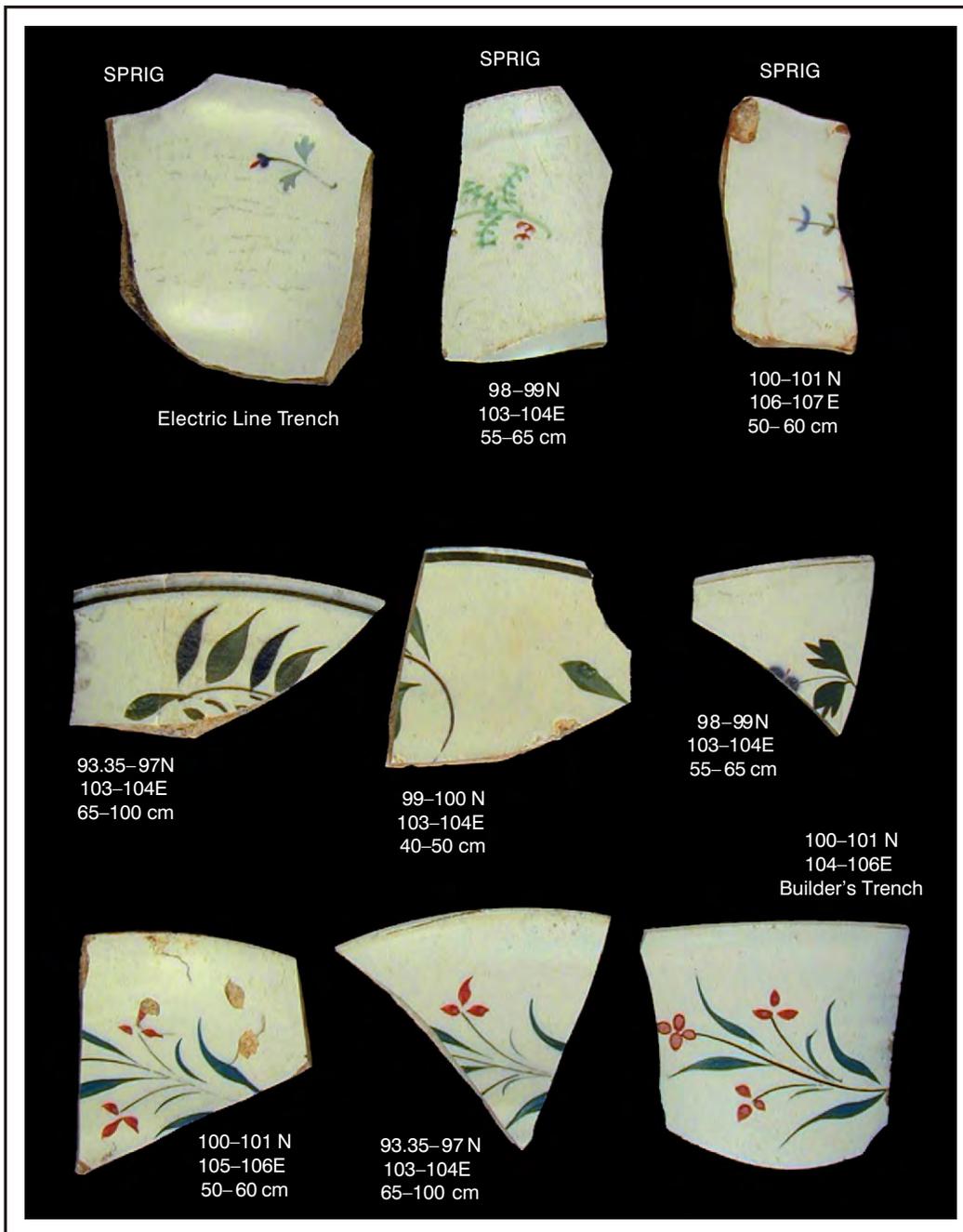


Figure 31. Hand-painted whiteware sherds.

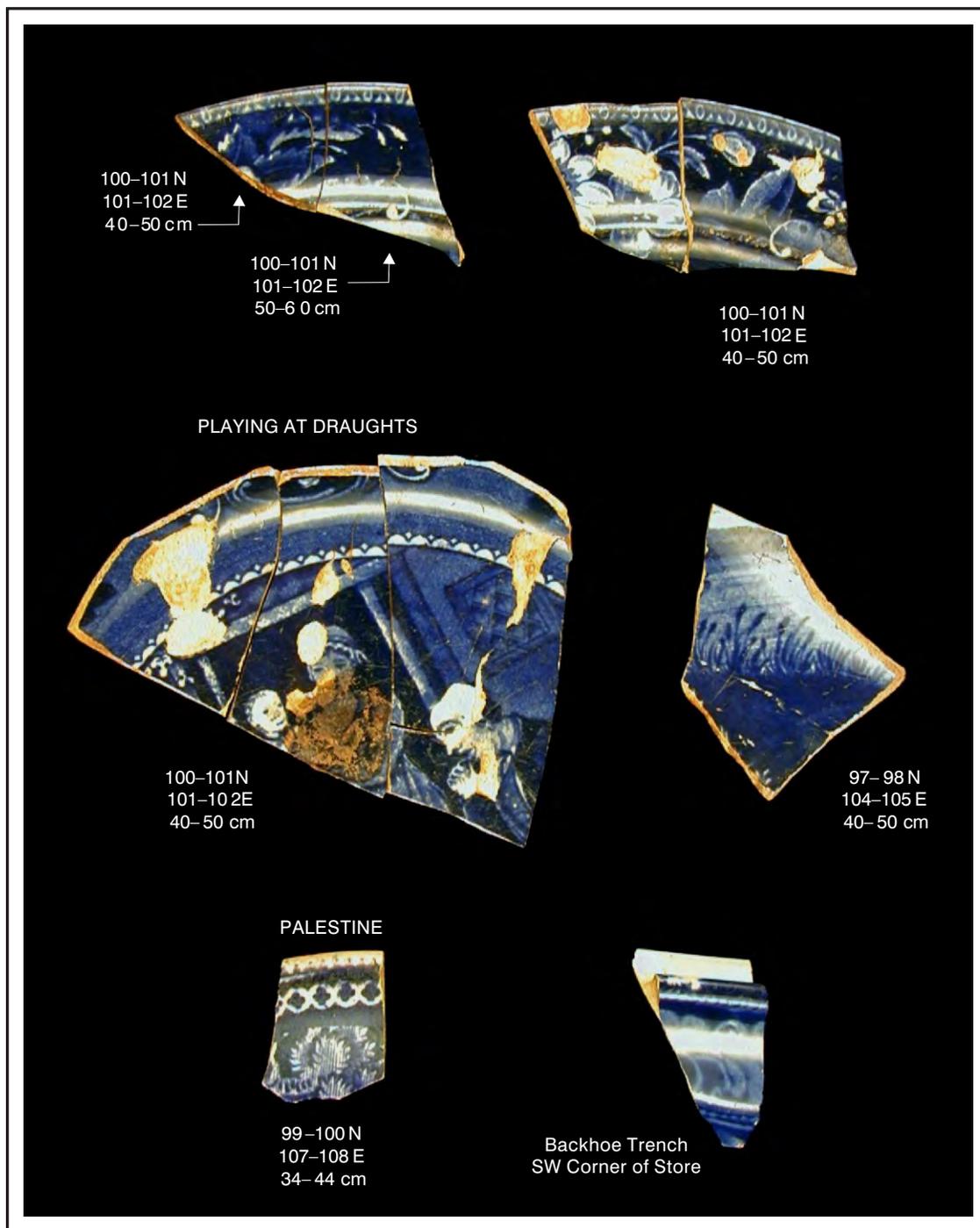


Figure 32. Dark blue transfer-printed sherds.

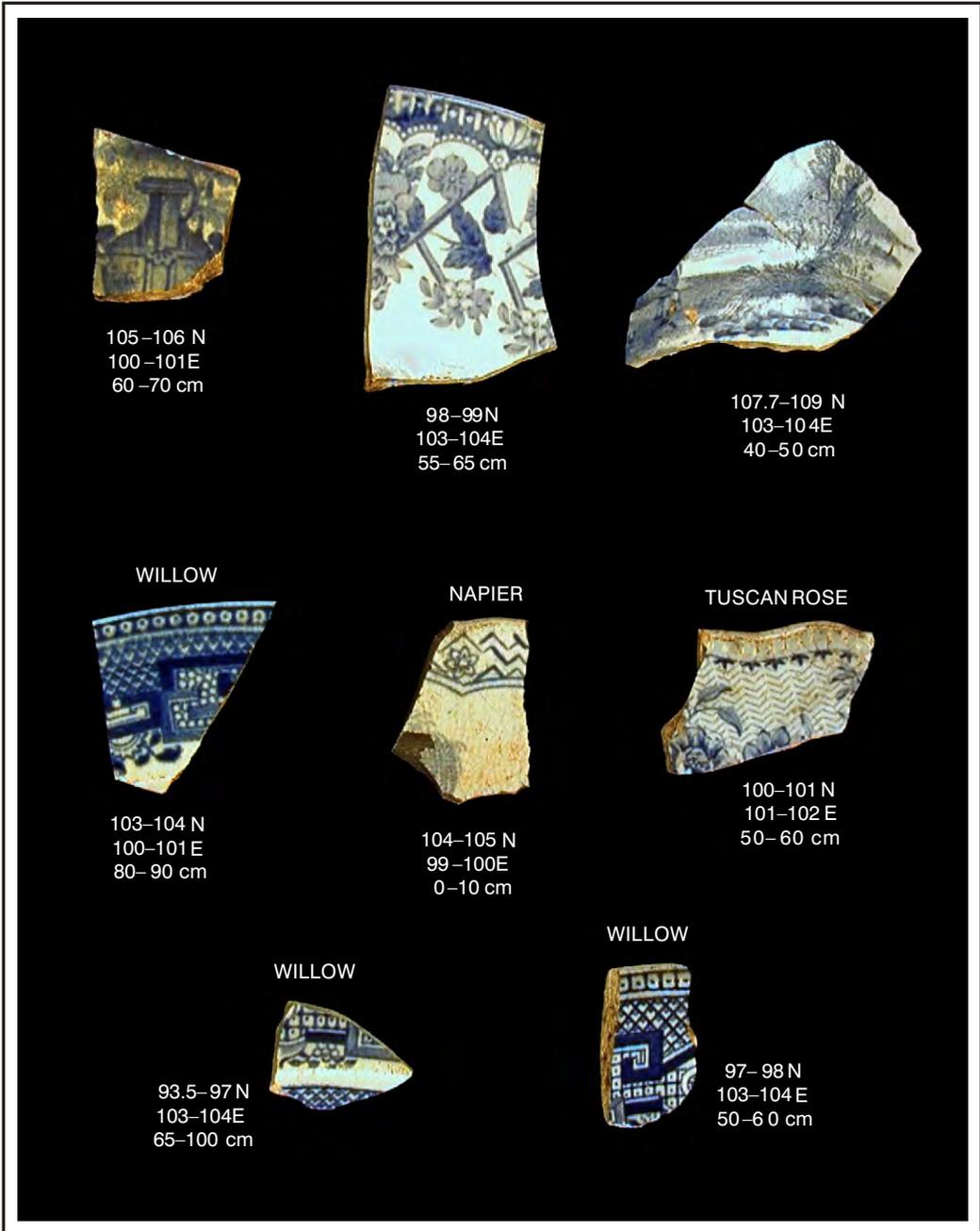


Figure 33. Blue transfer-printed sherds.

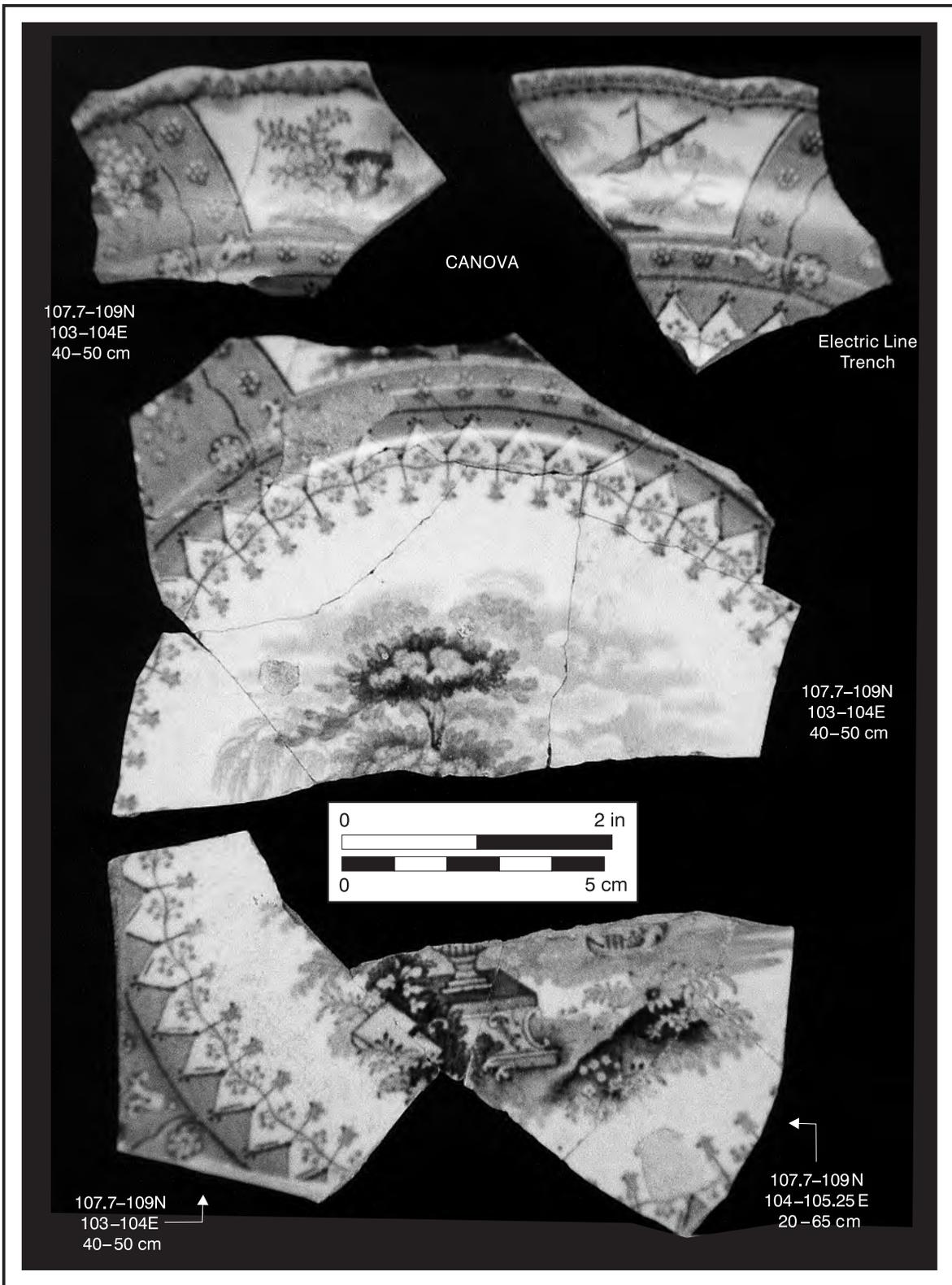


Figure 34. Blue transfer-printed sherds, Canova pattern.

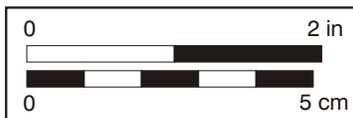
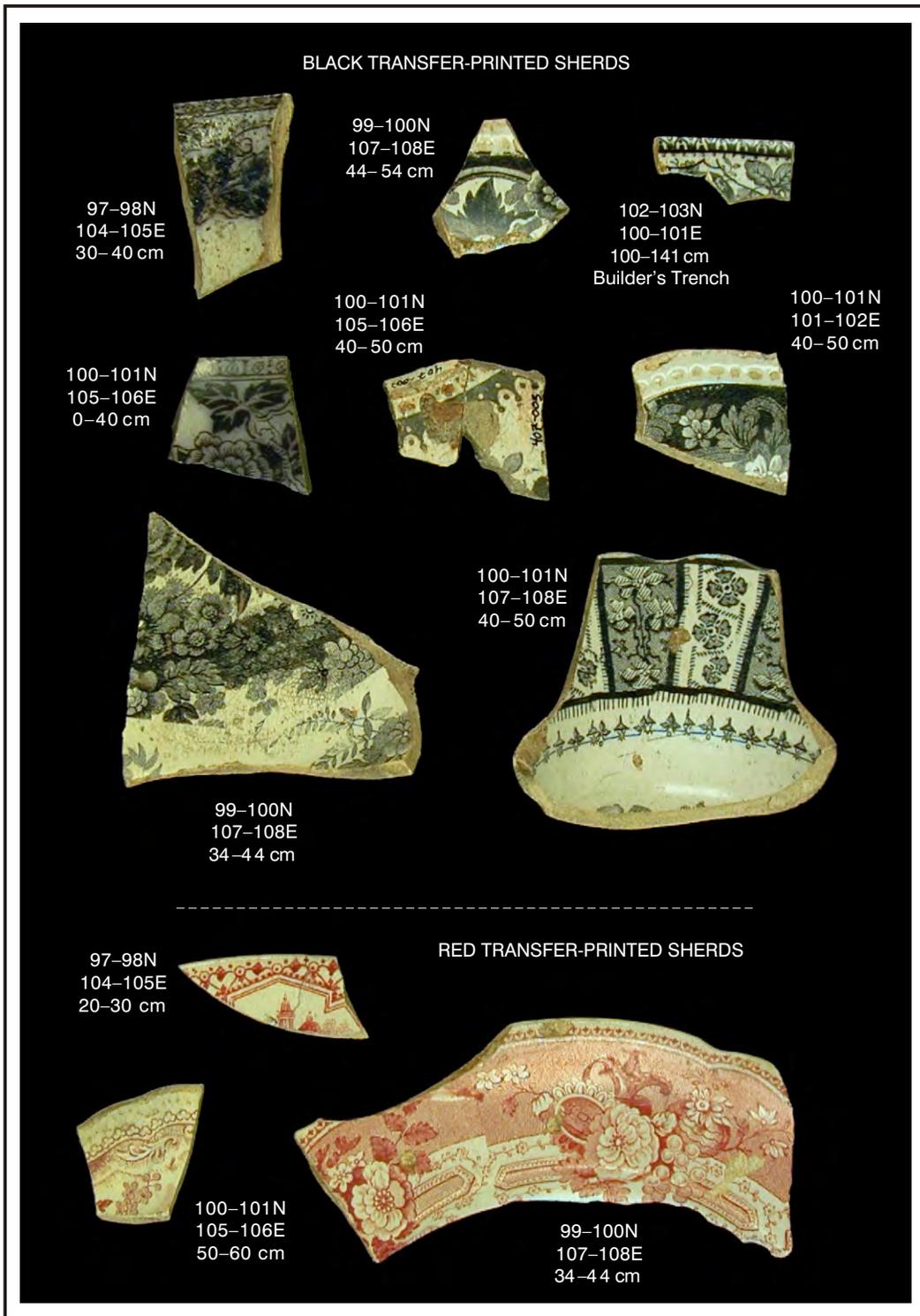


Figure 35. Red (below dashed line) and black (above dashed line) transfer-printed sherds.

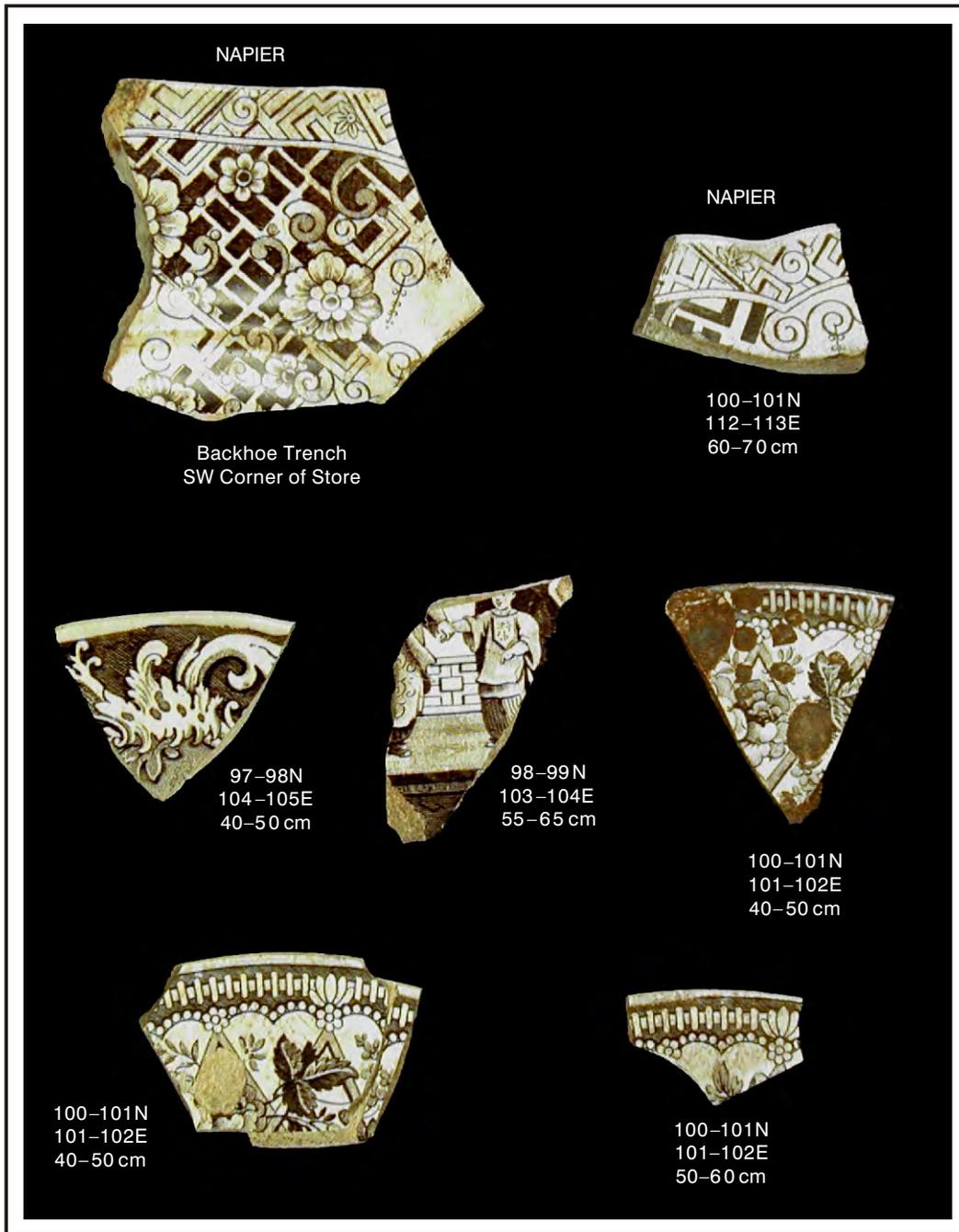


Figure 36. Brown transfer-printed sherds.

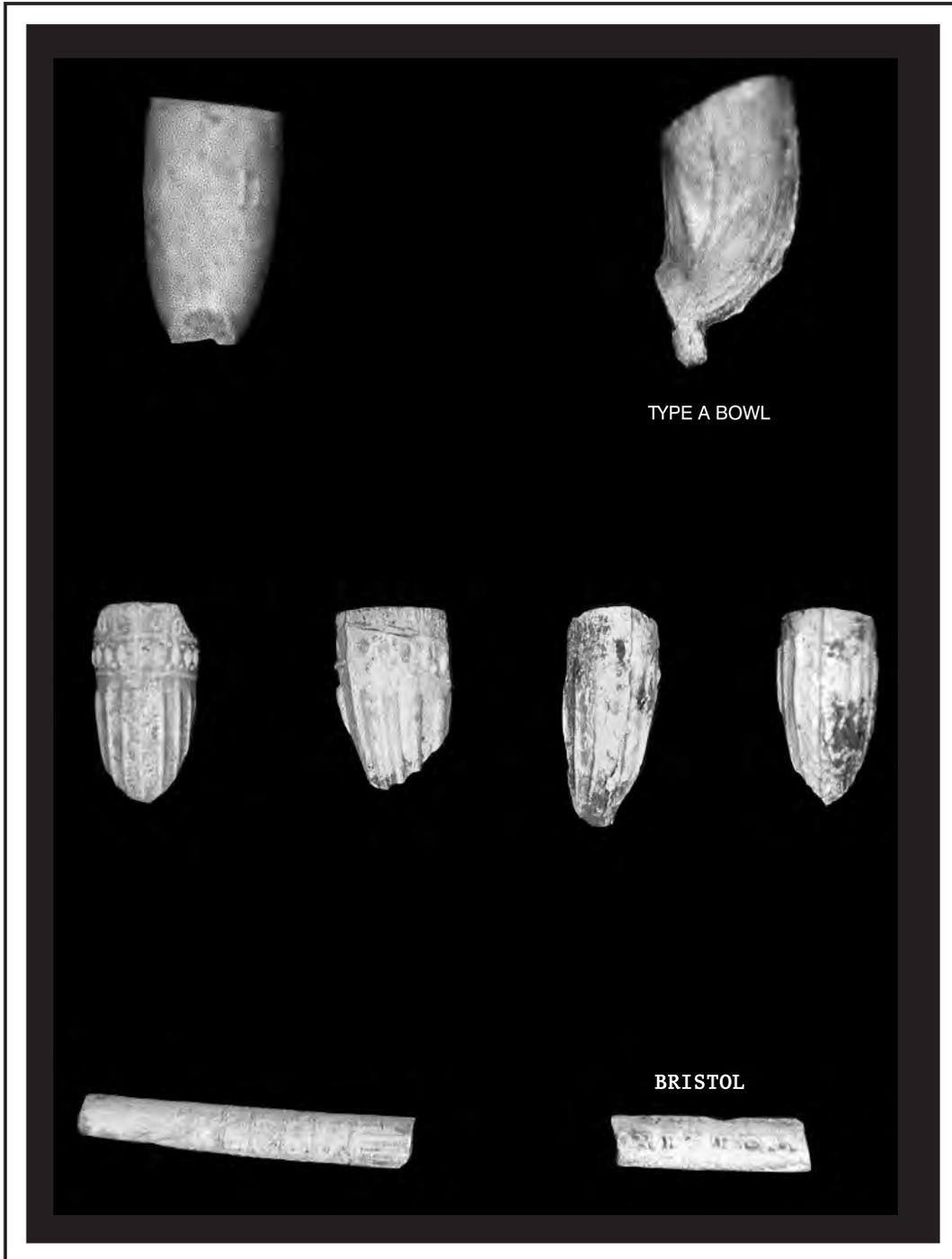


Figure 37. Tobacco pipes.



