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ALLEGHENY PORTAGE RAILROAD

THE LEMON HOUSE



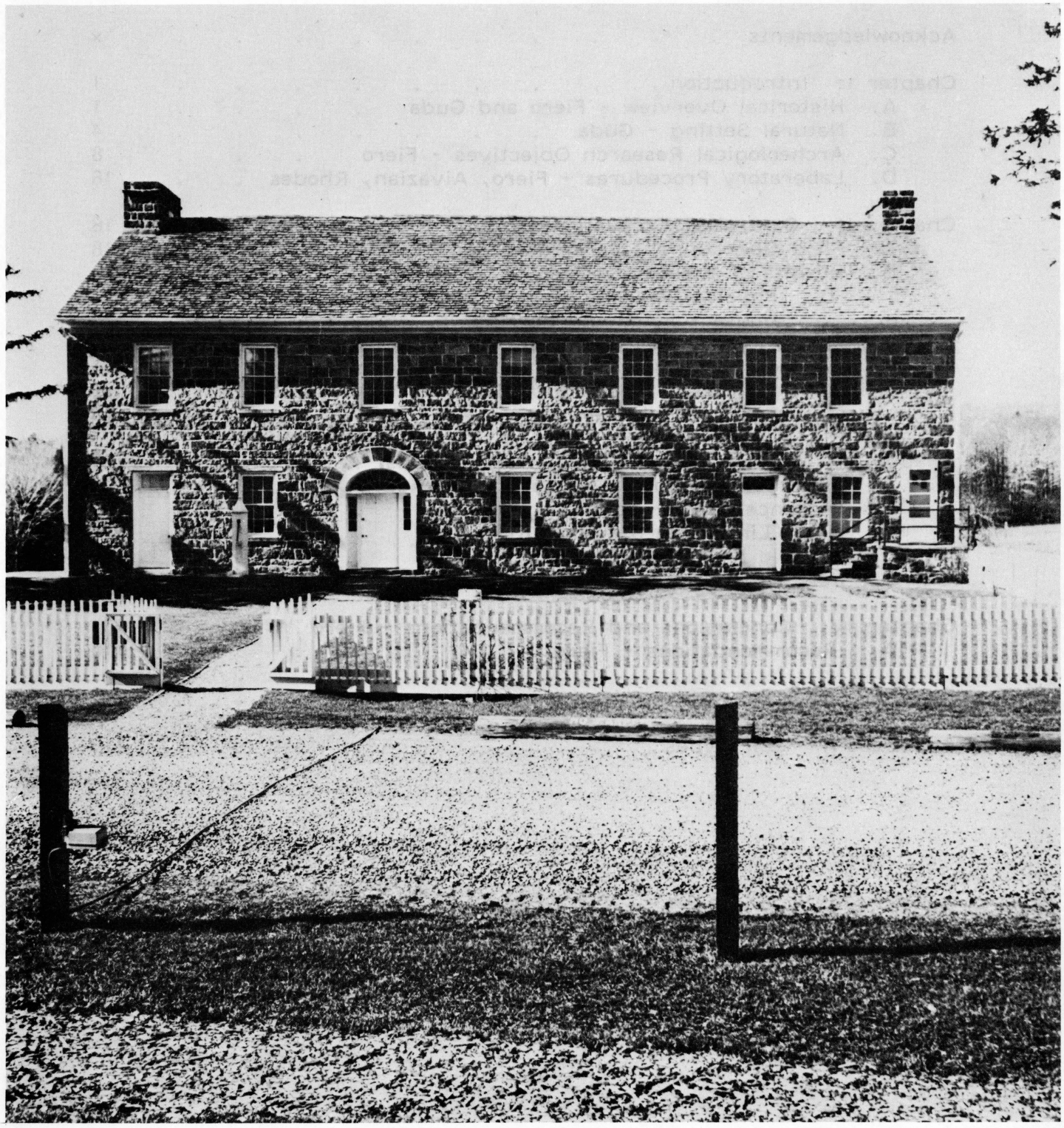
NATIONAL HISTORIC SITE / PENNSYLVANIA

HISTORIC STRUCTURE REPORT
Archeological Data Section

THE LEMON HOUSE
ALLEGHENY PORTAGE RAILROAD NATIONAL HISTORIC SITE
Pennsylvania

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U. S. Department of the Interior / National Park Service



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ABSTRACT

Excavations were carried out around the 150-year-old Lemon House at Allegheny Portage Railroad National Historic Site in 1978, 1980, 1981, and 1982. On the south side of the house, a stone foundation probably dating to the first half of the nineteenth century was uncovered. On the east side of the house, the stone foundation which supports the modern porch was examined. Excavation suggests that the foundation was built soon after construction of the Lemon House. Subsurface evidence also definitely establishes that the west wing on the house is original. The wing was modified and enlarged c. 1900. A trash-filled pit near the wing, filled in c. 1840, was recorded. The artifacts recovered during the excavation are consistent with the changing use of the house from a tavern during the first half of the nineteenth century to a private residence after that date.

The field to the south and west of the house has experienced various modifications from the nineteenth century to the present. Near the house the field has been relandscaped in the twentieth century with the nineteenth century grade below a recent clay deposit. During testing southwest of the house three concentrations of trash and an area with a manure/straw deposit were discovered below the surface. A large stone slab feature was identified during testing north of the house.

ACKNOWLEDGEMENTS

The archeological investigations to be discussed in this report spanned five years. In that time the archeologists associated with this project received the help and cooperation of a great number of people. James Zink was superintendent of Allegheny Portage Railroad National Historic Site when the project began. Randall Cooley is the present superintendent. Both superintendents with their staffs were very cooperative. They helped with equipment, housing, data on the park, and its development while graciously putting up with the disruptions created by subsurface excavations around a building already heavily used.

Each member of the various field crews contributed to the final results of this project and is owed a special debt of gratitude:

1978--Sharon Dooley, Mitchell Hillman, Floyd Kent, and George Myers, Jr.
1980--Lee Ann Decunzo, Joel Fry, Denise Jones, and David Simmons
1981--Cynthia Morrison

Diane Rhodes with the help of Cheryl Suazo and Marianne Musitelli was responsible for the cataloguing and analysis of the artifacts recovered in 1981 and 1982. Evelyn Steinman typed the manuscript.

These people plus many members of the staff of the Denver Service Center made the completion of this project possible.

Kathleen W. Fiero
November 1982

I: INTRODUCTION

Allegheny Portage Railroad National Historic Site is in the Allegheny Mountains of central Pennsylvania in Cambria and Blair counties. It is 20 miles east of Johnstown and 7 miles west of Hollidaysburg (Figure 1). The historic site (Figure 2) was authorized by Congress in 1964 to preserve a portion of the portage railroad, a unique system for transporting people and goods across the mountains. The portage railroad was only one segment of the canal-railroad system, the Pennsylvania Main Line, which connected eastern with western Pennsylvania in the 1830s and 1840s. The remains of the railway on the historic site include the level and inclined planes of plane number six, the excavated foundation of the engine house that was associated with the inclined plane, and the Lemon House (frontispiece), a substantial masonry structure built by Samuel Lemon. This report presents the results of archeological research associated with the rehabilitation of the Lemon House, Denver Service Center, Package 102. In this report the historic period refers to the period from the early 1830s to the early 1850s when the portage railroad was in operation.

A. Historical Overview

This history of the portage railroad and the Lemon family has been investigated by Levy (1969) and Toogood (1972, 1973). The following historical data is condensed from these reports unless otherwise indicated.

The need for a reasonably efficient, fast, and cost effective means of transport between eastern and western Pennsylvania led to the construction of the portage railroad. In the early nineteenth century Pennsylvania realized the need for a transportation system to compete with New York's Erie Canal and Maryland's National Road and Chesapeake and Ohio Canal. The state of Pennsylvania started discussing the possibilities of a canal system to link Philadelphia with Pittsburgh in 1824. Pennsylvania's planning was complicated by the engineering problems presented by the Allegheny Mountains. It was not until March 21, 1831, that this problem was resolved. On that date an act authorizing the Board of Canal Commissioners to contract for a portage railroad was signed. The railroad was to connect the canal extending east from Hollidaysburg with the canal extending west from Johnstown. This portage would cross the mountains "by railway with stationary steam power and a system of planes and levels" (Toogood 1973:3-4). The 36.69-mile railway consisted of ten inclined planes with ten stationary engine complexes that hoisted cars up and down the mountain ridge. Between the inclined planes were horizontal planes where mules or locomotives pulled the cars. Construction contracts for work along this stretch of the Pennsylvania Main Line were negotiated in 1831-32 with the railroad ready for operation in 1834.

Even before the railroad opened, Samuel Lemon was in the area and had opened a tavern at the head of plane number six. In 1826 Lemon purchased more than 286 acres of land in Cambria and Blair counties, land that had been warranted to Thomas Bond in 1784. Levy (1969:5) refers to an 1817 map which shows structures on this property. Tax records in 1826 indicate that Lemon had 20 acres of cleared land and was the owner of a horse and two head of cattle. Soon after purchase Lemon built a two-story log house immediately east of the summit and

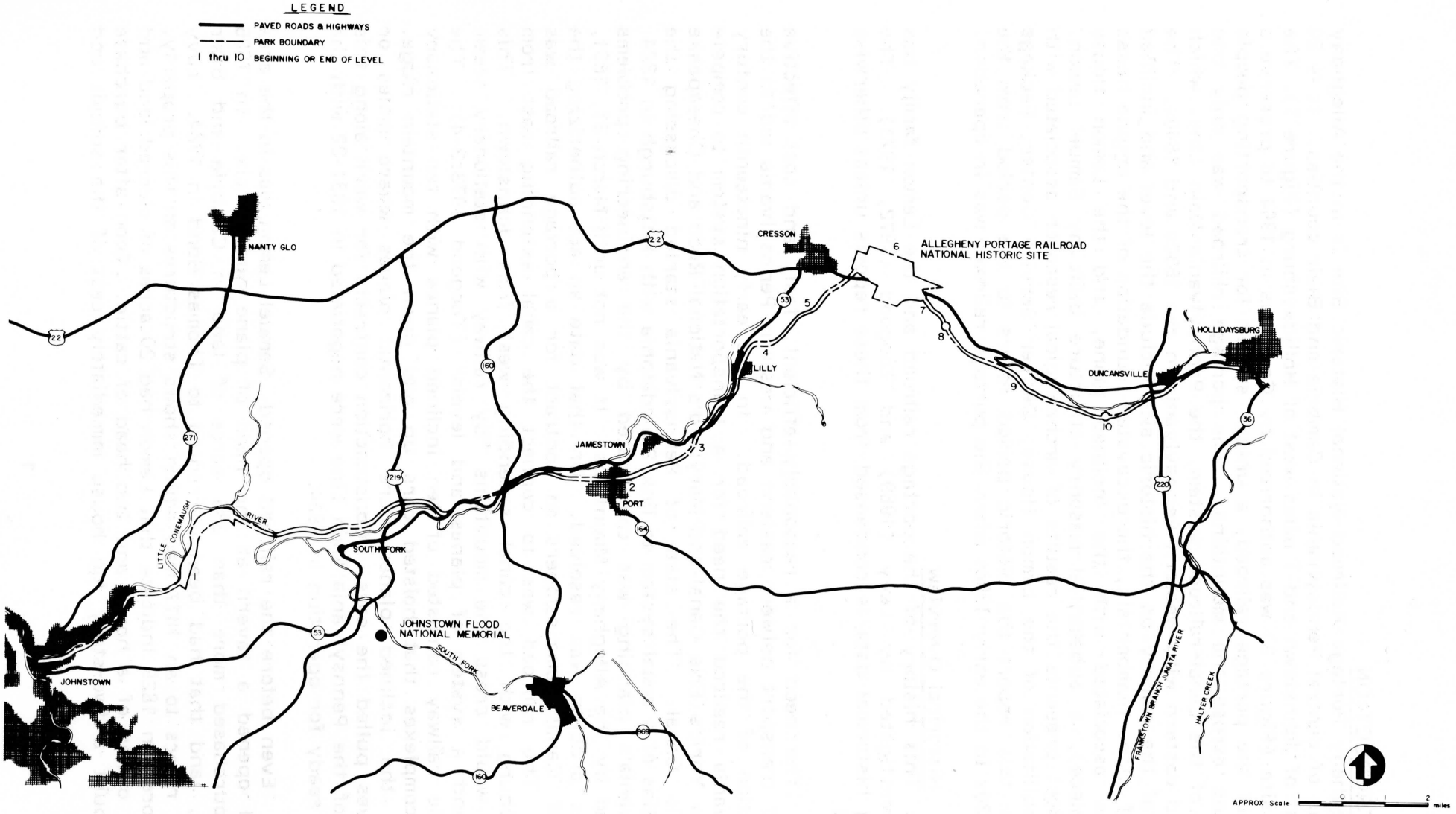


Figure 1. Location of Allegheny Portage Railroad National Historic Site.

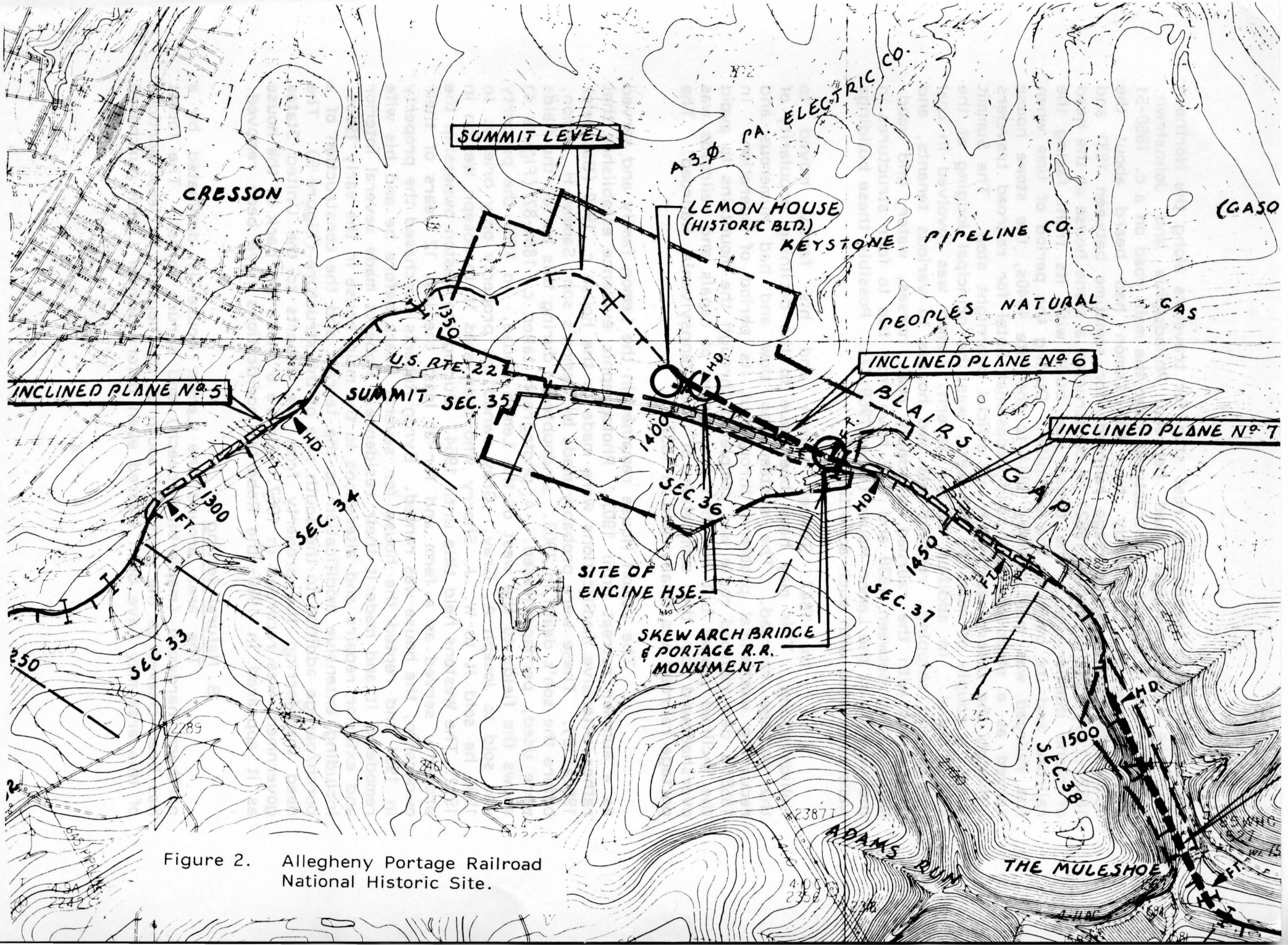


Figure 2. Allegheny Portage Railroad National Historic Site.

operated it as a tavern and rest stop for travelers along the Northern Turnpike, the principal road between Philadelphia and Johnstown. Possibly this is one of the structures near the main road on a c. 1850-51 map (Figure 3). Evidently by 1831 Lemon had heard about the soon-to-be-constructed portage railroad, for sometime between 1831 and 1832 (Levy 1969:7; Cooley 1982) he constructed a stone house at the head of plane number six. The house was built with its front facing the railroad and its back to the turnpike. During the period of time when the railroad was most active, 1834 to the late 1840s, the stone house served as a stopover point and occasional hotel for railroad travelers although the tavern was never an official overnight stop. The Summit Hotel, a couple of miles to the west, was the principal lodging at the summit level. In addition to the tavern, Lemon was involved in coal mining and shipping, renting lots and houses to various tenants, and contracting with the railroad to supply coal, horses, water, and wood. Maps dating between 1830 and 1867 have from two to four structures in the vicinity of the Lemon House (Levy 1969:27). Possibly these buildings were associated with such activities.

In 1847 Samuel Lemon and his family moved to Hollidaysburg. This may have been due to the declining popularity of the portage railroad. The system was slow and had numerous and recurring mechanical problems throughout its period of operation. In 1855 a new railroad route was completed through the mountains to avoid the inclined planes but by then the system of canals and railroads was overshadowed by the completion of the Pennsylvania Railroad. The portage railroad was finally sold in 1857.

The Lemon House remained in the Lemon family and served as a summer retreat until 1907. Photographic evidence establishes that rather extensive modifications were made to the house c. 1900 (Batcheler 1982a:39). These were probably made by Lemon's son, Samuel H. Lemon, before the son's death in 1903. Undoubtedly during this period the fields were used, perhaps leased. A photograph taken c. 1884-87 (Figure 4) shows the fields to the west of the Lemon House. In 1907 the property was sold to Joseph A. Gray. Gray owned the property only briefly. In 1908 he sold it to W. J. Sherry who then sold it to Joseph Weston in 1912. The Westons held title until 1954. During the Weston ownership the property served as a farm and for at least the last 12 years of their ownership, the house was rented. Byron Roberts purchased the property in 1954 and rented the house for several years before he and his wife remodeled it and made it their residence. Roberts made several interior and exterior repairs and alterations to the main house in the early 1960s, including extensive modification to the terrain and the construction of a porch/garage addition to the south side of the structure (Figure 5). The deed transferring the property from the Roberts to the United States government was recorded in 1967. Figure 6 shows the back of the house as it appeared in 1980--the Roberts' modifications have been removed.

B. Natural Setting

The area around the Lemon House is dominated by a northern hardwood (maple-birch-beech) and spruce forest. The forest has been cleared to the west and south of the house. At least portions of this area may have been cleared even before Samuel Lemon purchased

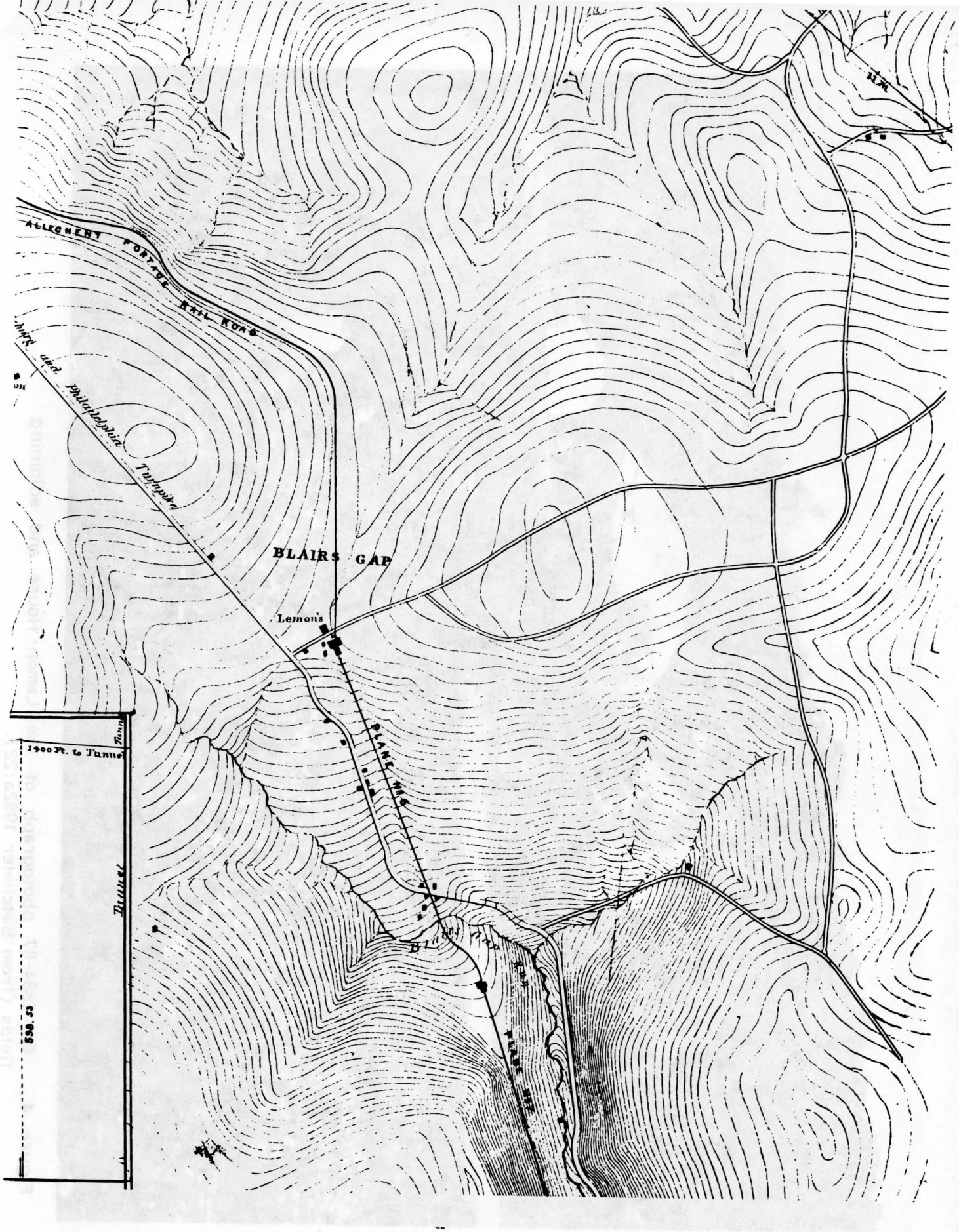


Figure 3. C. 1850-51 map of the area around Lemon's (from Batcheler 1982a:16).



Figure 4. C. 1884-87 photograph of the Lemon House and adjoining fields (from Batcheler 1982a:22).



Figure 5. 1968 photograph of the Lemon House (from Batcheler 1982a:46).

property in 1826 because tax records from that year state that Lemon owned 20 acres of cleared land. This land probably served as agricultural fields. Today the open field is covered with a variety of pasture and meadow grasses, wild strawberries, blackberry and raspberry bushes, golden rod, Queen Anne's lace, and multi-floral roses. An abandoned cluster of apple trees is in the southern section of the field. The Park Service has recently planted several trees in the field.

Wildlife in the area includes woodchuck, rabbit, white tail deer, wild turkey, raccoon, and grey squirrel. The Lemon House is at an elevation of 2,340' above mean sea level. A general description of the soil types of the area are listed in Appendix A.

C. Archeological Research Objectives

Since 1964 when Allegheny Portage Railroad National Historic Site was established by Congress, a program of research and restoration has been taking place (Larrabee 1967, Levy 1969, Gruber n.d., Toogood 1973). One aim of the program has been to restore the Lemon House, now used as park headquarters and visitor center, to its original appearance. Various historical and architectural surveys have been undertaken for the structure (Toogood 1972; Souder 1972; Batcheler 1982a). Also, starting in 1978, archeological investigations have been carried out around the building in an effort to solve various problems raised by the earlier surveys and to determine the effect of restoration on subsurface resources. The objectives for the archeological investigations necessitated controlled excavations along the north, south, and east sides of the house. In addition, the need to replace outdated utility lines, to rebuild a portion of an exterior wall, and to modify the configuration of the parking lot and entrance road resulted in the examination of additional areas around the house. This report will discuss the findings of each of these phases of archeological research.

The excavations associated with the various needs of the project took place in 1978, 1980, 1981, and 1982. Bryan Aivazian of the National Park Service was in charge of the research in 1978, Michael Parrington of the Museum Institute for Conservation Archaeology of the University Museum, Philadelphia was under contract to the National Park Service for the work in 1980, and Kathleen Fiero of the National Park Service was the research archeologist for the project in 1981 and 1982. Juliette Guda and Beth Acuff of the National Park Service handled various aspects of the 1981-82 work under the supervision of Kathleen Fiero.

The excavation in 1978 took place in a two-week period in June 1978 with a preliminary report on the findings submitted in August 1978. In Aivazian's report (1978:4-5) the four objectives of the 1978 excavations were outlined:

> 1. There is an original (Souder 1972:3; Batcheler 1982a:80) first floor exterior door many feet above the historic grade on the south side of the house (Figure 6). At present there is no associated porch or balcony with this doorway nor was there one on the earliest known photographs of this side of the house (Batcheler 1982a; Figures 3, 7, 8). Research was therefore directed toward discovering whether subsurface remains of an historic porch

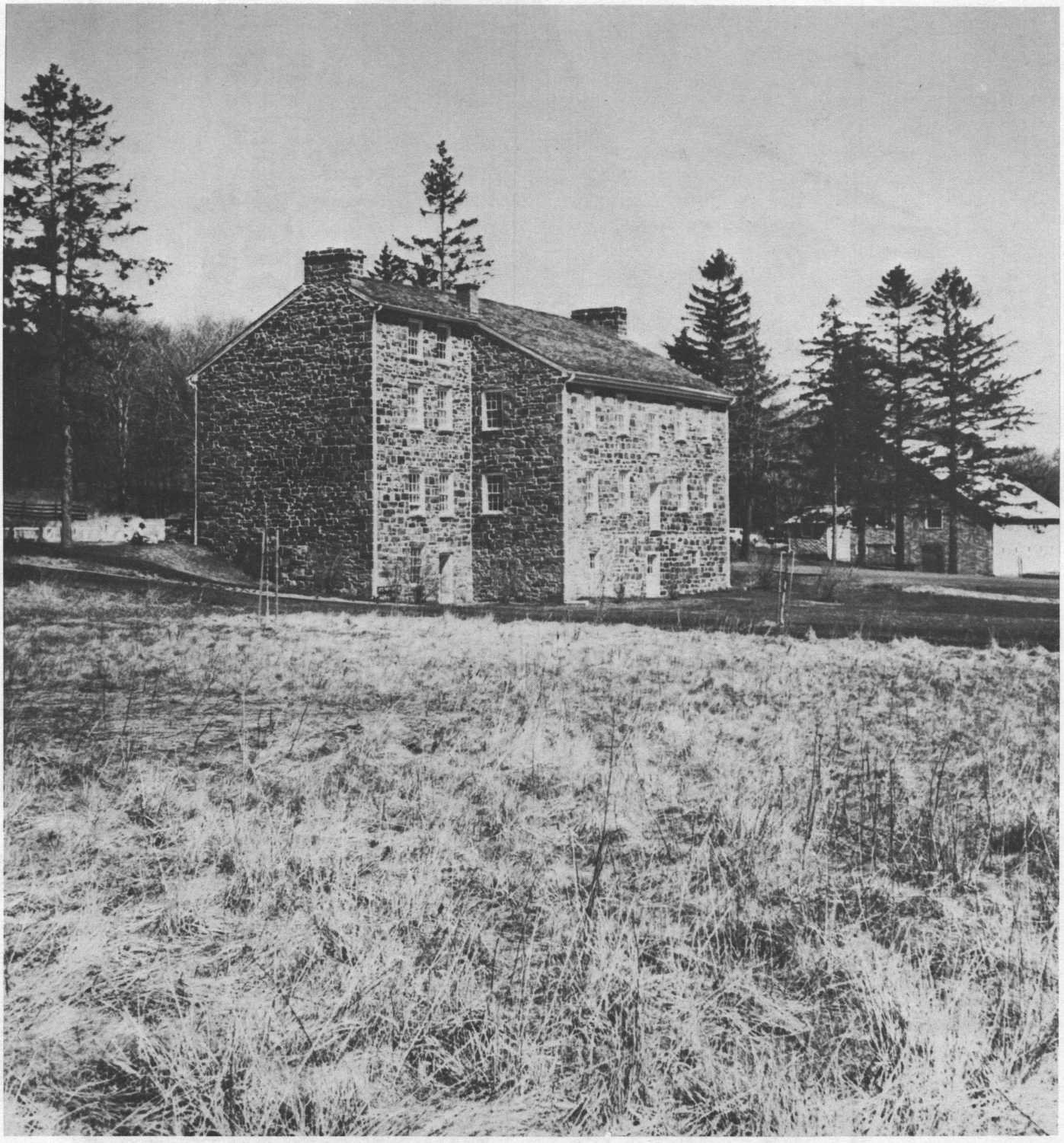


Figure 6. 1980 photograph of the Lemon House (from Batcheler 1982a:48).

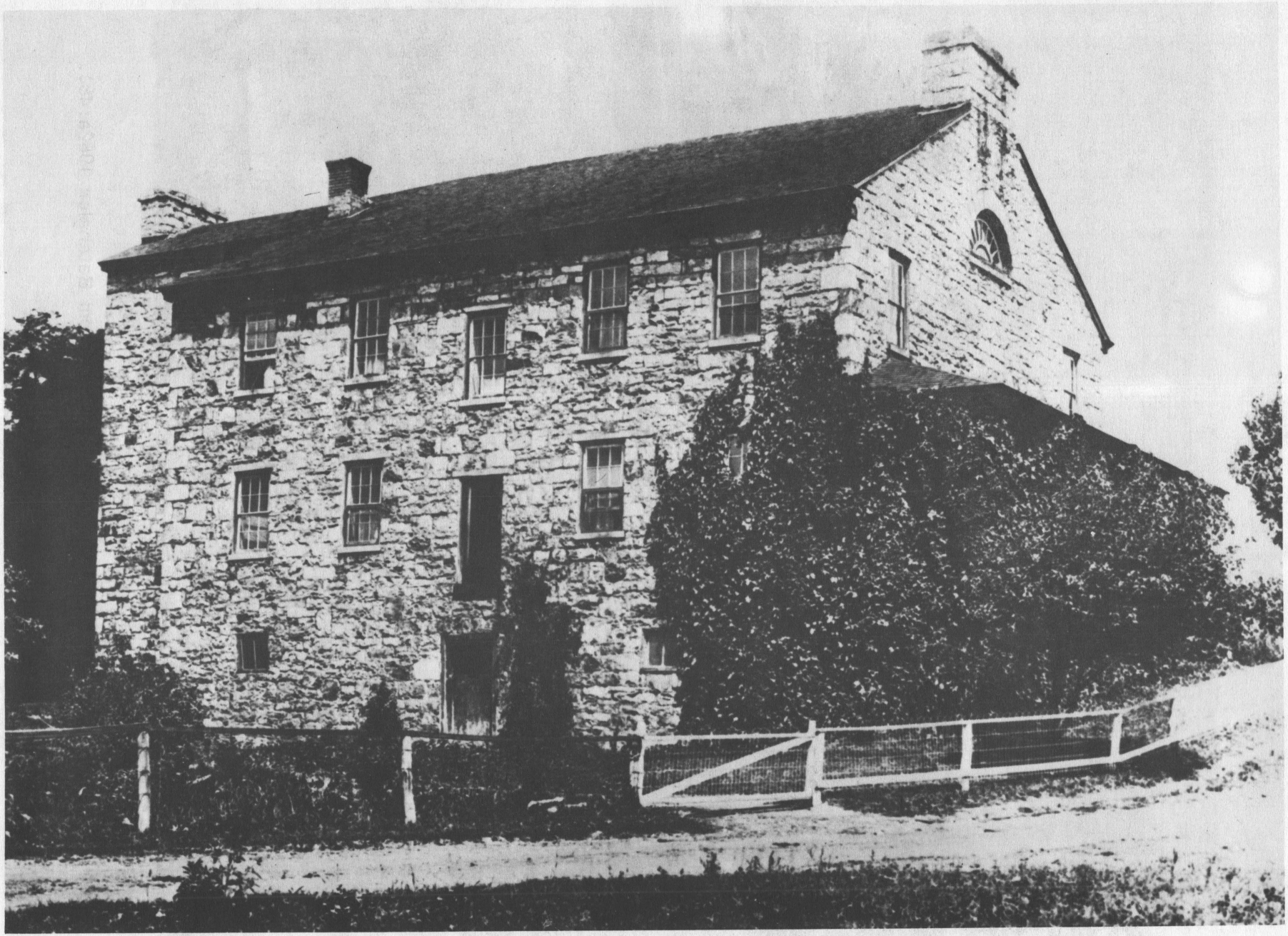


Figure 7. Post-1903/pre-1933 photograph of the Lemon House (from Batcheler 1982a:40).

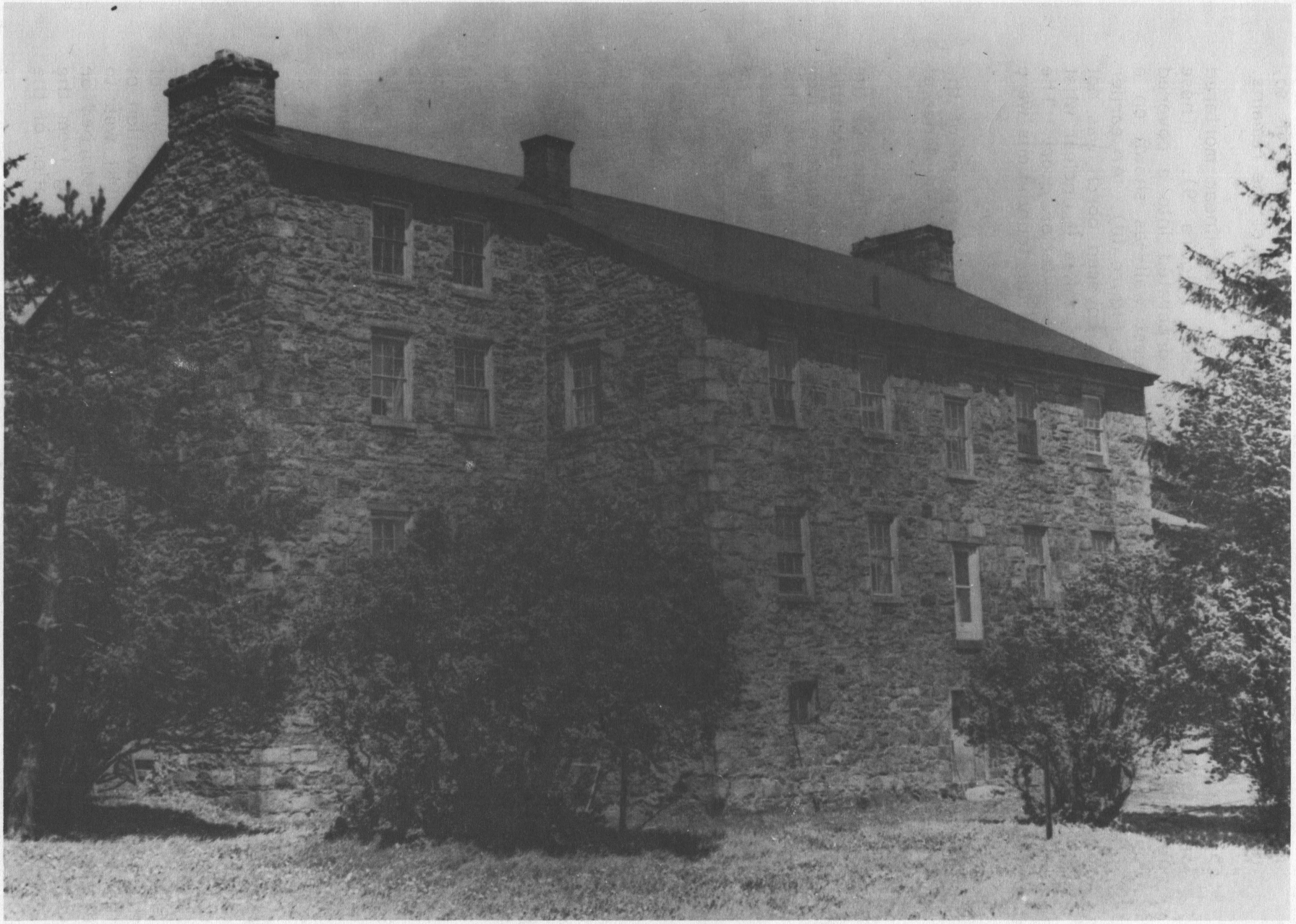


Figure 8. Post-1933 photograph of the Lemon House (from Batcheler 1982a:42).

foundation existed on the south side of the house and if so, determine the configuration and date of construction of the remains.

2. On the east side of the Lemon House, three linear mortared stone foundations support a wooden deck (Figure 9). These foundations were in existence in 1903--incorporated into a covered porch extending the full length of the east wall--as shown on a photograph of that date (Batcheler 1982a:38; Figure 10). An earlier photograph (Figure 11) establishes that the covered porch was not an original feature of the house, but a fence makes it unclear what type of feature was then associated with the exterior door. The objective in this area was to determine whether the foundations were an original construction feature.

3. A third project objective was to examine the character of the walkways on the north side of the house and to look for evidence of earlier paths.

4. The final objective was to locate archeological evidence of the original fence lines around the house. Because it seemed probable to Aivazian that the presence of tree roots would have disturbed or destroyed evidence of fence lines, no excavations relating to this project objective were carried out. Another factor in the decision not to undertake detailed excavations in this area was the multiplicity of fence lines through time shown on photographs on file at the park.

In 1978 testing was done on the north, south, and east sides of the house. The excavations on the south side of the house were confined to the southwest corner of the structure. A substantial stone foundation was uncovered together with two stone-packed post supports (Aivazian 1978:9). The results of the excavations indicated that further archeological work was necessary to completely expose the feature. A contract to carry out this additional research along the south side of the house was awarded under terms of purchase order No. PX-2000-D-024. The scope of the contract also included investigation of the relationship between the west wing of the Lemon House and the main portion of the structure. This purchase order was amended on August 12, 1980, to enable the contractor to analyze the results of the 1978 excavations and to incorporate them into the report on the 1980 work (Parrington 1980). The 1980 fieldwork took place in May with the final report dated December 1980.

The excavations in 1980 established that the stone foundation extended the full length of the south wall of the house, but the configuration of the foundation at the southeast corner of the house was not completely researched. The question remained of whether the foundation extended past the southeast corner of the house and if, in fact, it might extend along the house's east wall. Consequently, one of the objectives of the 1981 excavation was to complete the excavation of the subsurface stone foundation. The second objective in 1981 was to established whether significant cultural resources would be disturbed or destroyed by either the construction of a sewer line extending from the Lemon House east for approximately 4,000' or the relocation of the

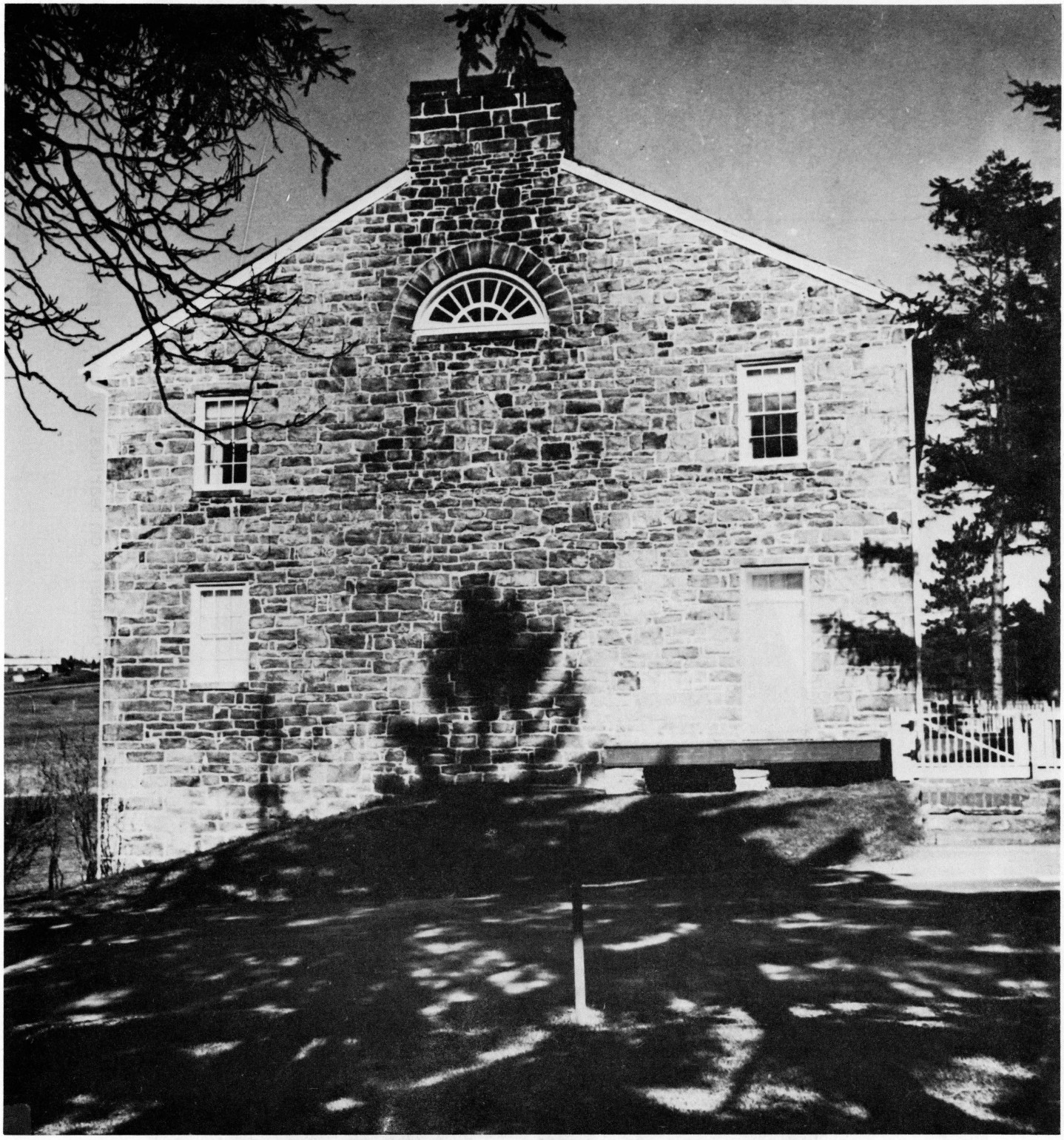


Figure 9. 1980 photograph of the east side of the Lemon House (from Batcheler 1982a:50)

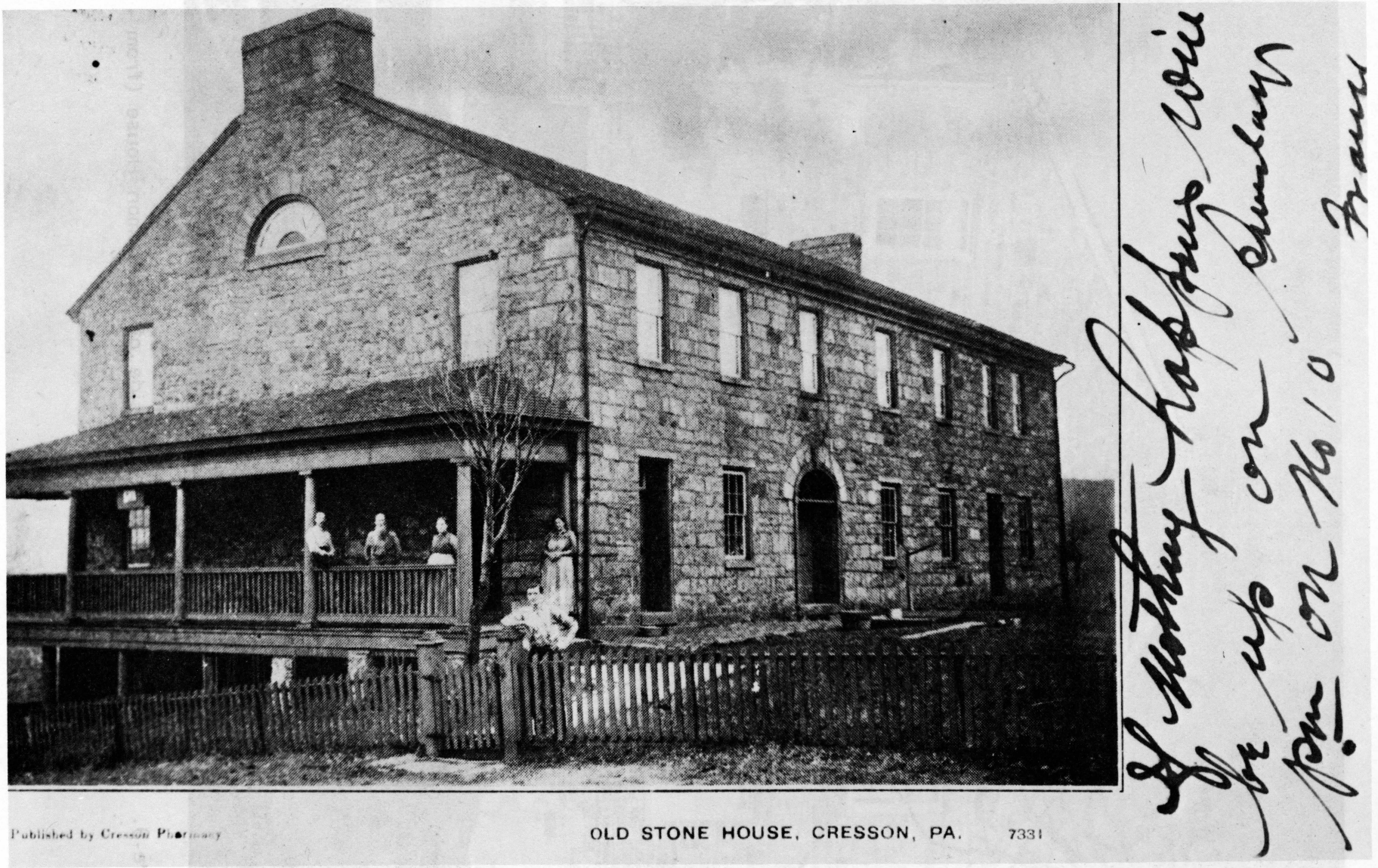


Figure 10. Picture postcard of the Lemon House. Postmark on earliest known copy, 1903 (from Batcheler 1982a:38).

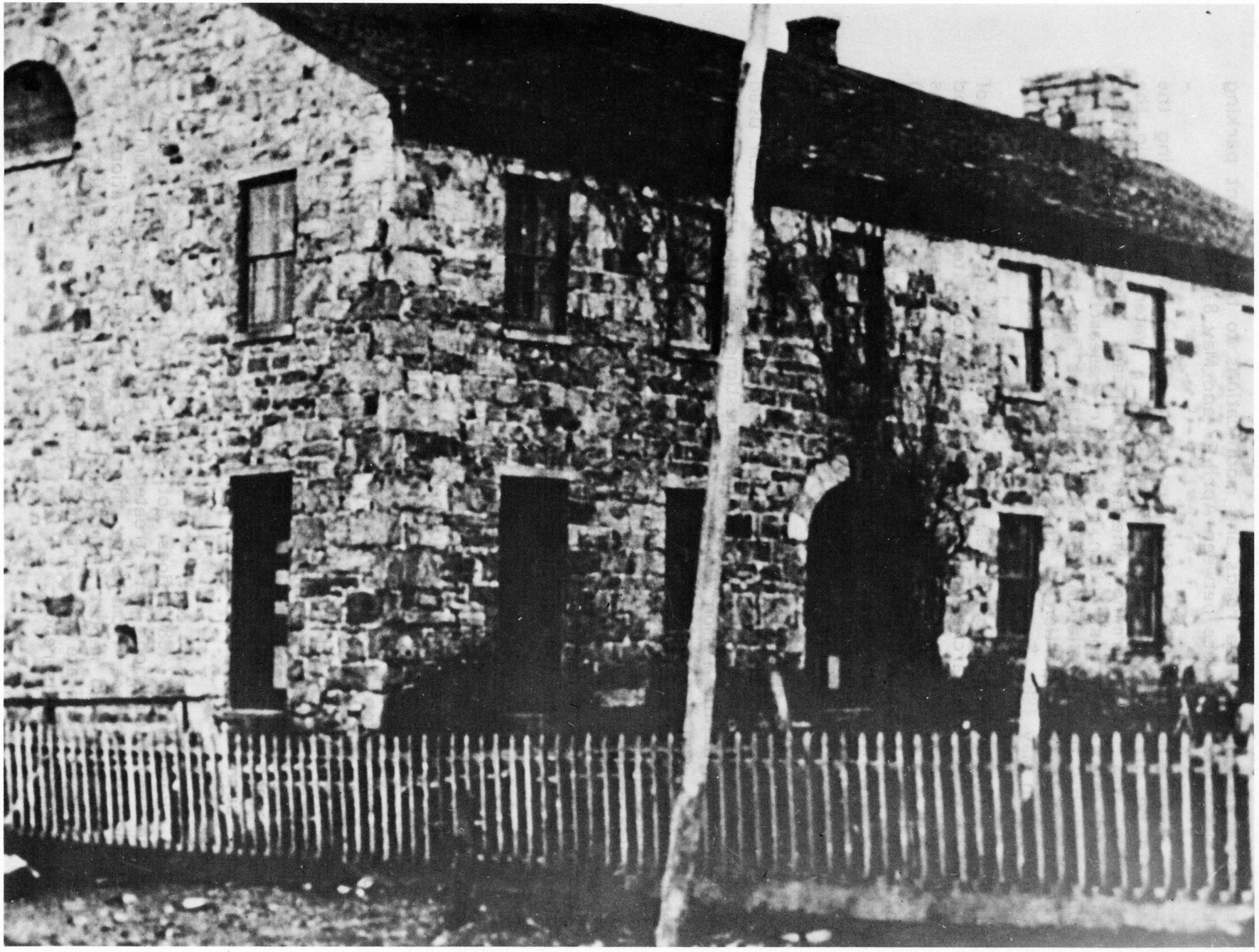


Figure 11. Undated photograph of the Lemon House (from Batcheler 1982a:36).

entrance and picnic area roads and modifications to the present parking lot. This work took place between April 27 and May 8, 1981.

In August 1981 a week was spent at the park examining the area to be disturbed by the installation of a water line. Again the objective was to determine whether significant resources would be disturbed by this construction. Further research in areas to be disturbed by the installation of electrical lines and the demolition and reconstruction of a portion of the west wall of the Lemon House was conducted in May 1982.

This report incorporates the results of all of these phases of research with five archeologists, several laboratory technicians, and seven different authors contributing to this final document. Sections were taken from reports of each of these authors. The author(s) primarily responsible for a specific section of this report is listed in the table of contents. The work of each of these authors was modified to a lesser or greater extent by Fiero and she takes full responsibility for the organization of this report.

In this report the research has been organized into two chapters. Chapter II covers those phases of the project which used controlled excavation in answering questions about the historic configuration of the Lemon House. The second chapter on research, Chapter III, contains the data generated by the application of test pits and monitoring to particular areas to be disturbed by construction around the house and in the adjoining fields. The method used in coming to a particular conclusion and the results of the research is given in each of these chapters. The final chapter contains general conclusions and recommendations concerning the archeological resources associated with the Lemon House and the adjoining fields.

D. Laboratory Procedures

All the artifactual material from the 1978 excavations was cataloged in Denver after the excavation was completed. Each artifact was washed and given a unique number. Glass and ceramic artifacts were placed in plastic bags, labeled with their unique number or numbers. Each artifact was cataloged as to excavation unit, layer, depth, and then a brief description of the type of artifact was given. Only material recovered from archeologically significant deposits is included in the artifact summary in Chapter II. For the purposes of this report, "significant" is defined as material excavated from below the level of the clay fill introduced onto the site when the concrete block garage was built, c. 1960, or material from below layers which contain obviously late material such as plastic. The material from these late layers was cataloged.

Parrington (1980) does not state how the artifacts retrieved from the 1980 excavations were treated. A list of the artifacts from each unit and provenience from both the 1978 and 1980 excavations was included in the 1980 report (Parrington 1980:61-86). These lists have been used to generate the artifact summary for the 1978 and 1980 research found in this report.

The artifacts from the 1981 and 1982 excavations were bagged by unit and layer in the field and sent to the Denver Service Center where they were inventoried and separated by material. Nonperishable artifacts were washed and rinsed in tap water, perishable items were dry brushed. Special conservation treatments were used only as needed. A few selected metal items were treated with a solution of glycolic acid to remove oxidation and salts so the artifact could be identified. Numbers were assigned to artifacts consecutively by material type: ceramics, glass, bone, etc. Alphabetical suffixes denoting material were combined with the item number, park acronym, package, and provenience to provide a unique number for each item (i.e., ALPO 102.SQ48.L7.280g). New breaks were mended before to assignment of numbers, items with old breaks were given discrete numbers, and analyzed separately with the crossmend noted on the catalog form.

All artifacts were counted except crumbly or amorphous pieces (i.e., rotten wood, mortar, scrap bone, insulation) which were recorded by their weight in grams. Measurements to the tenth of an inch were taken of specific items such as molding and machine parts and to sixty-fourths of an inch for kaoline pipe stem bores. A curvature chart was used to determine and record the approximate circumference of ceramic and glass items. The definitions used by Price (1979) were followed in distinguishing whiteware and pearlware. Hard whiteware was classified as semi-porcelain.

The artifact classification system used by the Denver Service Center (Comer 1979) and based on the system developed by South (1977:95, 96) was employed in organizing all artifacts from the 1978, 1980, 1981, and 1982 excavations. A few additions and changes were made to this system to accommodate artifacts not previously classified by the taxonomy and to meet the specific needs of this project. Artifacts were grouped first by function, i.e., plates and bowls as dishes in the kitchen group, construction-related tools in the activities group, with a secondary division by material. The possibility exists for considerable overlap among classes and groups where items may have had more than one function. For example, a redware sherd may have been from a storage container or a plant pot. Wherever possible a classification consistent with the probable function of the item during its period of use in this rural area of western Pennsylvania was made. In some cases, however, it was only possible to note material type and to list the function as unknown.

The artifacts and catalog cards as well as field notes, maps, and photographs from each of the phases of this project are stored at the park.

II: CONTROLLED EXCAVATIONS AROUND THE LEMON HOUSE

A. Field Operations

The 1978 excavations took place from June 5 until June 18 with an average work force of five. All excavation was carried out by hand and all deposits were sifted through 1/4" mesh hardware cloth with the exception of the late twentieth century deposits on the south side of the Lemon House. These deposits were not screened. All excavation units were laid out in relation to the house. Two points on the house were used for vertical reference. For the excavations to the south of the house, the vertical reference datum was 0.92' (11") below the "'Phillips head screw in the right side of the downspout drain support strap' at the main southwest corner of the house" (Parrington 1980:6). This datum was also used on the south side of the house during the 1980 and 1981 excavations although the actual reference point was the screw head itself. The 1978 excavation levels have been adjusted to conform with vertical datums used in 1980 and 1981. The datum (screw head) is 0.8' above the level of the basement door sill on the south Lemon House wall. For the excavations to the east of the house in 1978, a datum point was established 2.08' (25") below the wooden deck on that side of the house.

During the 1978 excavations, nine units were examined (Figure 12). Excavation units 2, 3, 4, 5, 8, and 9 were along the south wall of the Lemon House. Each of these units measured 4' by 4' except units 4 and 9 which measured 4' by 2'. Three other units were excavated. Excavation unit 1 was along the east side of the house and measured 4' by 4', unit 7 was on the north side of the house between the wall and the path and measured 5' by 1.67', and unit 6 was c. 38' north of the house and measured 6' by 2'.

In excavating the units, a mixed strategy employing both natural and arbitrary levels was used. Each natural stratum was given an alphabetic designation beginning with A for the topsoil and advancing one letter with each successive stratum encountered. Whenever a stratum extended beyond 0.5' in depth, it was broken down into arbitrary layers of 0.5' each. For example, a 1.25' B stratum would be divided into a 0.5' B-1, a 0.5' B-2, and a 0.25' B-3. When investigation of a new area began, the first excavation unit was dug in arbitrary 0.25' layers. This was done to give close control over the stratigraphy initially, while still retaining the ability to combine the 0.25' layers into a natural stratum. Laboratory work was not conducted in the field. To help reduce the probablity of artifact deterioration in the time between recovery in Pennsylvania and analysis in Denver, all artifacts were kept in zip lock plastic bags.

In 1980 excavation took place between May 14 and May 19 with a work force of five. All excavation was carried out by hand and all cultural deposits were screened. Seventeen units were excavated (Figure 12). Units 10, 11, 14, 15, 16, 18, 19, 24, 36, 42, and 47 measured 4' by 4', units 9 and 23 measured 2' by 2', unit 44 measured 1' by 4', and unit 45 measured 3' by 4'. All of the above units were on the south side of the house. One excavation unit, unit A, was in the angle where the west wing projects from the west wall of the Lemon House and measured 5' by 5'. The final excavation unit, designated B, was on the north side of the house between the path and the north wall of the building, and

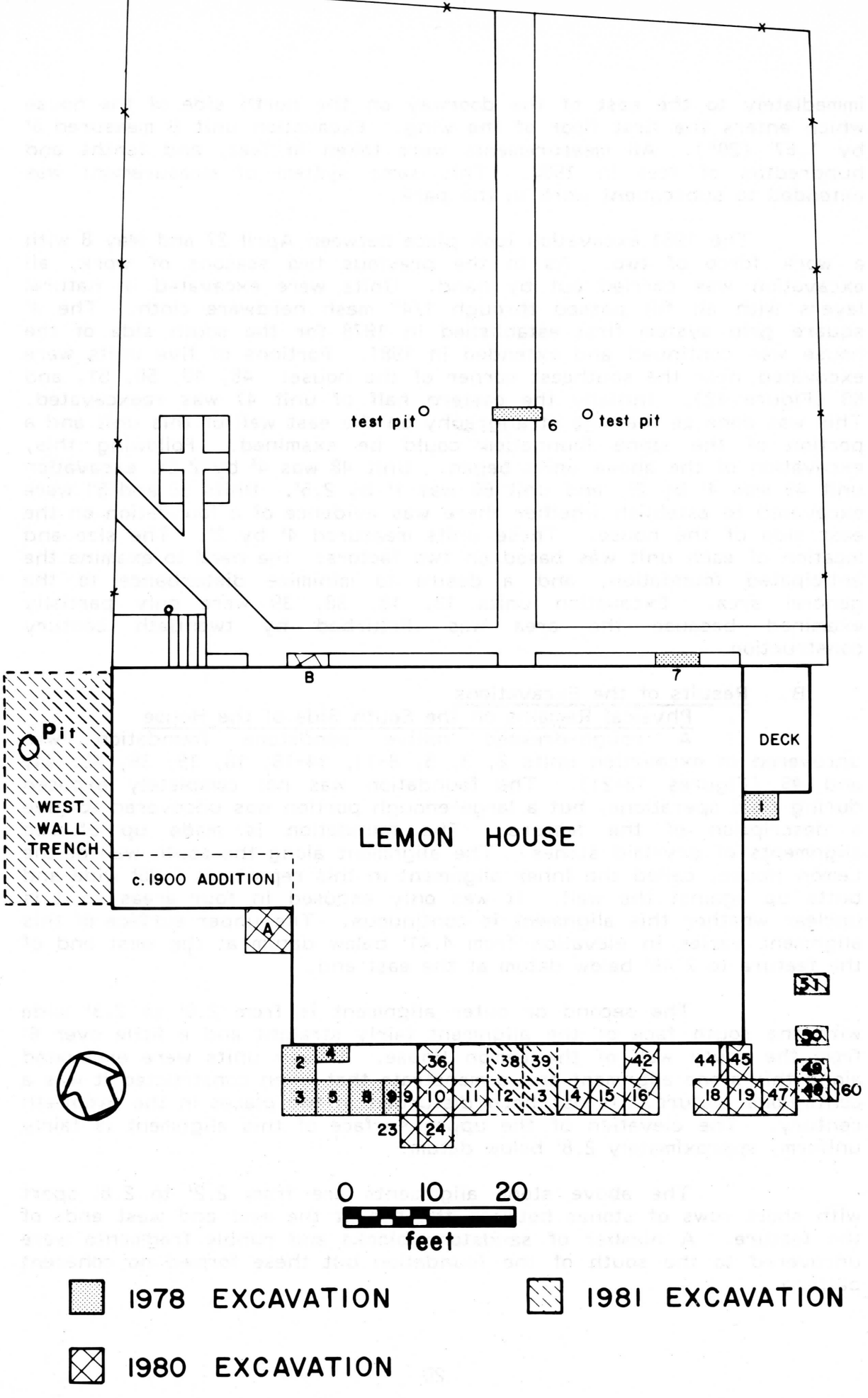


Figure 12. Lemon House excavation plan (based on Parrington 1980:4).

immediately to the east of the doorway on the north side of the house which enters the first floor of the wing. Excavation unit B measured 5' by 1.67' (20"). All measurements were taken in feet, and tenths and hundredths of feet in 1980. This same system of measurement was extended to subsequent work in the park.

The 1981 excavation took place between April 27 and May 8 with a work force of two. As in the previous two seasons of work, all excavation was carried out by hand. Units were excavated in natural layers with all fill passed through 1/4" mesh hardware cloth. The 4' square grid system first established in 1978 for the south side of the house was continued and extended in 1981. Portions of five units were excavated near the southeast corner of the house: 48, 49, 50, 51, and 60 (Figure 12). Initially the eastern half of unit 47 was reexcavated. This was done so that the stratigraphy on the east wall of this unit and a portion of the stone foundation could be examined. Following this, excavation of the above units began. Unit 48 was 4' by 2.5', excavation unit 49 was 4' by 2', and unit 60 was 1' by 2.5'. Units 50 and 51 were excavated to establish whether there was evidence of a foundation on the east side of the house. These units measured 4' by 2'. The size and location of each unit was based on two factors: the need to examine the anticipated foundation, and a desire to minimize disturbance to the general area. Excavation units 12, 13, 38, 39 were only partially examined because the area was disturbed by twentieth century construction.

B. Results of the Excavations

1. Physical Remains on the South Side of the House

A rough-dressed native sandstone foundation was uncovered in excavation units 2, 3, 5, 8-11, 14-16, 18, 19, 36, 42, 44, and 45 (Figures 13-21). The foundation was not completely exposed during field operations, but a large enough portion was uncovered to give a description of the feature. The foundation is made up of two alignments of dry-laid stones. The alignment along the south wall of the Lemon House, called the inner alignment in this report, is 1.25' wide and butts up against the wall. It was only exposed in four areas so it is unclear whether this alignment is continuous. The upper surface of this alignment varies in elevation from 4.41' below datum at the west end of the feature to 2.46' below datum at the east end.

The second or outer alignment is from 2.0' to 2.3' wide with the south face of the alignment fairly straight and a little over 6' from the south wall of the Lemon House. Eleven units were excavated along this stone alignment and demonstrate that when constructed it was a continuous feature. It has been disturbed in two places in the twentieth century. The elevation of the upper surface of this alignment is fairly uniform, approximately 2.8' below datum.

The above stone alignments are from 2.2' to 2.8' apart with short rows of stones between the two at the east and west ends of the feature. A number of sandstone blocks and rubble fragments were uncovered to the south of the foundation but these formed no coherent pattern.

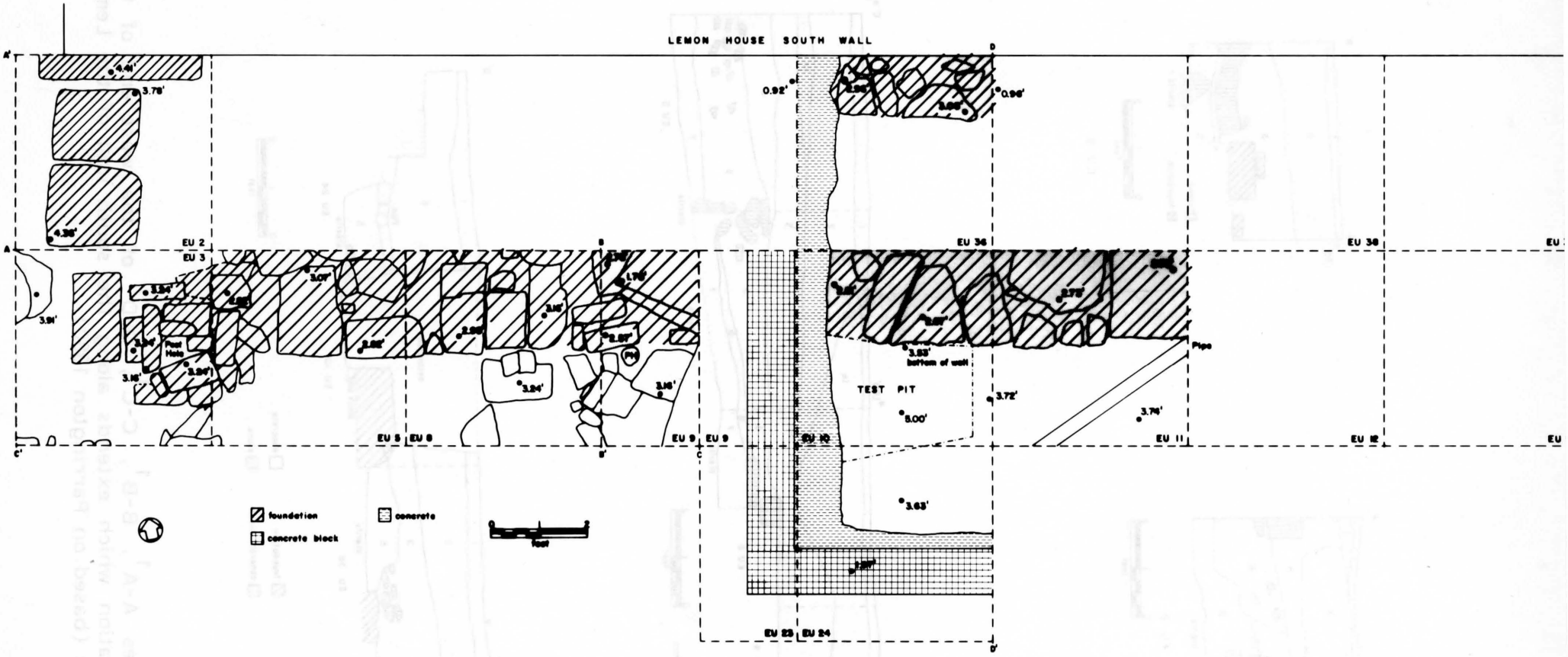


Figure 13. Plan drawing of the west end of the stone foundation which extends along the south wall of the Lemon House (modified from Parrington 1980).

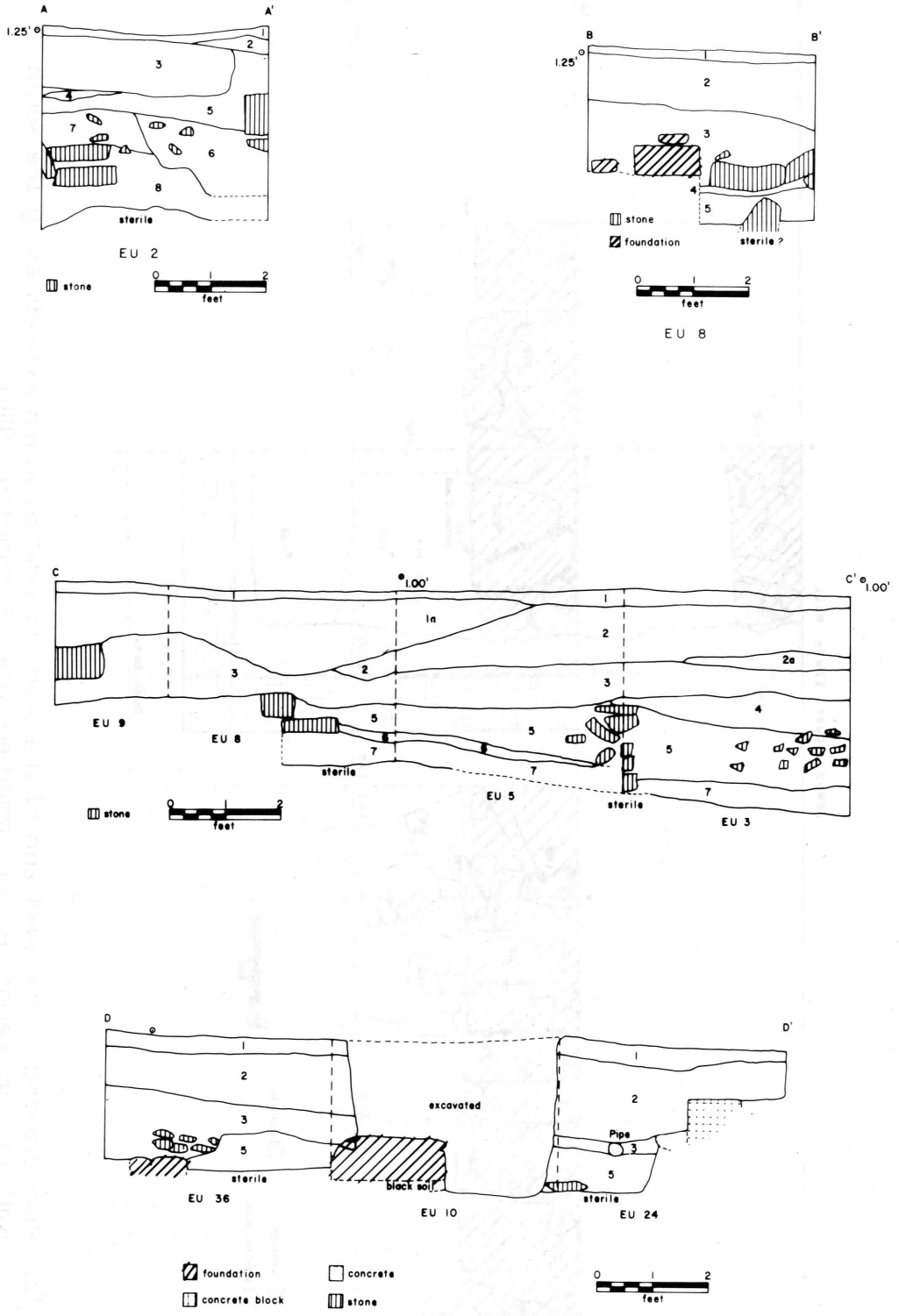


Figure 14. Profiles A-A^1, B-B^1, C-C^1, D-D^1 of the west end of the foundation which extends along the south wall of the Lemon House (based on Parrington 1980).

Soil types represented in profiles

A-A[1]	Layer 1.	Top soil
	Layer 2.	Yellow clay
	Layer 3.	Red-black loam with coal slag and ash
	Layer 4.	Orange clay
	Layer 5.	Sandy loam
	Layer 6.	Yellow clay
	Layer 7.	Orange loam
	Layer 8.	Grey-brown loam
B-B[1]	Layer 1.	Top soil
	Layer 2.	Orange clay
	Layer 3.	Dark brown loam
	Layer 4.	Brown loam and orange clay
	Layer 5.	Grey clay
C-C[1]	Layer 1.	Top soil
	Layer 1a.	Orange clay
	Layer 2.	Dark brown ashy loam
	Layer 2a.	Orange clay
	Layer 3.	Dark brown sandy loam
	Layer 4.	Mottled orange loam
	Layer 5.	Grey-brown loam
	Layer 6.	Black silt containing organic material
	Layer 7.	Grey clay
D-D[1]	Layer 1.	Top soil
	Layer 2.	Brown loam fill with layers of white ash
	Layer 3.	Dark brown loam with a discontinuous clay lens at bottom
	Layer 5.	Dark brown loam with flecks of yellow clay and sandstone fragments

Soil types represented in profiles

E-E[1] Layer 1. Top soil
Layer 2. Brown loam fill with layers of white ash
Layer 3. Dark brown loam with a discontinuous lens of clay at bottom
Layer 5. Dark brown loam with flecks of yellow clay and sandstone fragments
Layer 6. Orange clay

F-F[1] Layer 1. Top soil
Layer 2. Brown loam fill with layers of white ash
Layer 3. Dark brown loam with a discontinuous lens of clay at bottom
Layer 5. Dark brown loam with flecks of yellow clay and sandstone fragments

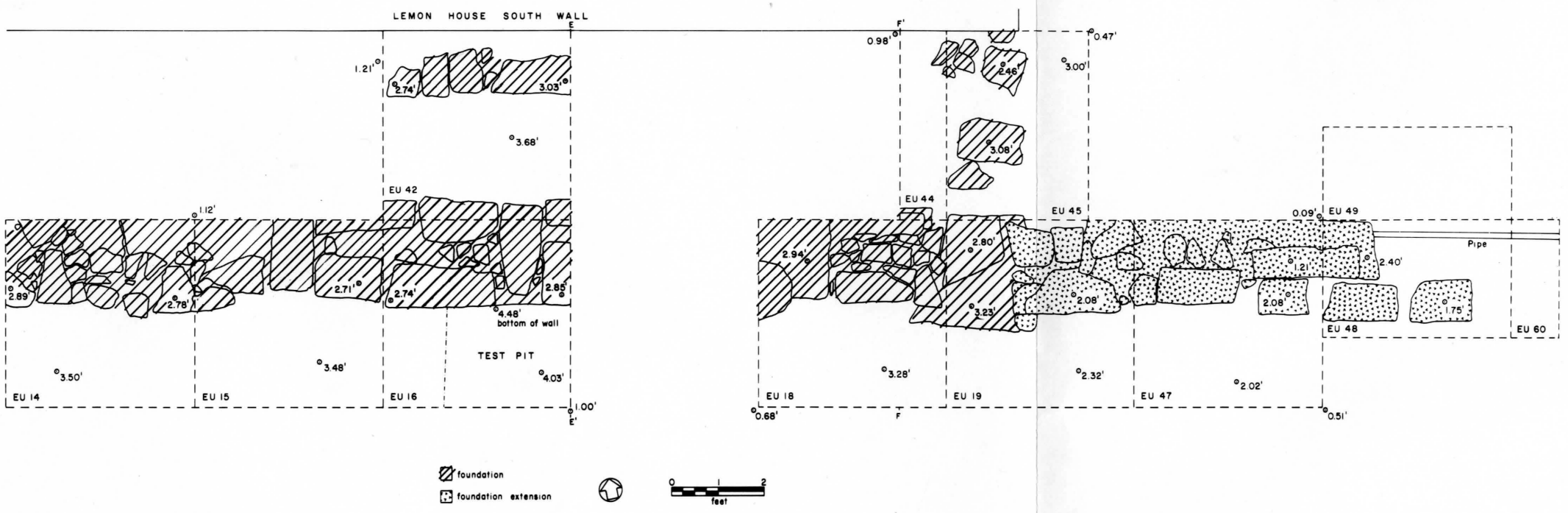




Figure 15. Plan and profile drawings of the east end of the stone foundation and the foundation extension which extends along the south wall of the Lemon House (based on Parrington 1980 except for data on excavation units 48, 49, 60).



Figure 16. Overhead view of excavation units 2, 3, 4, 5, 8, and 9 showing the west end of the stone foundation, photograph by Aivazian.



Figure 17. View of excavation units 9, 10, 11, 23, 24, and 30 showing outer stone foundation alignment and the concrete block garage wall, scale 6', photograph by Joel Fry (from Parrington 1980:34).



Figure 18. View of excavation units 10 and 11 showing outer stone foundation alignment with concrete block wall in foreground, scale 6', photograph by Joel Fry (from Parrington 1980:26).



Figure 19. View of excavation units 14, 15, 16, and 42 showing outer stone foundation alignment, scale 6', photograph by Joel Fry (from Parrington 1980:27).

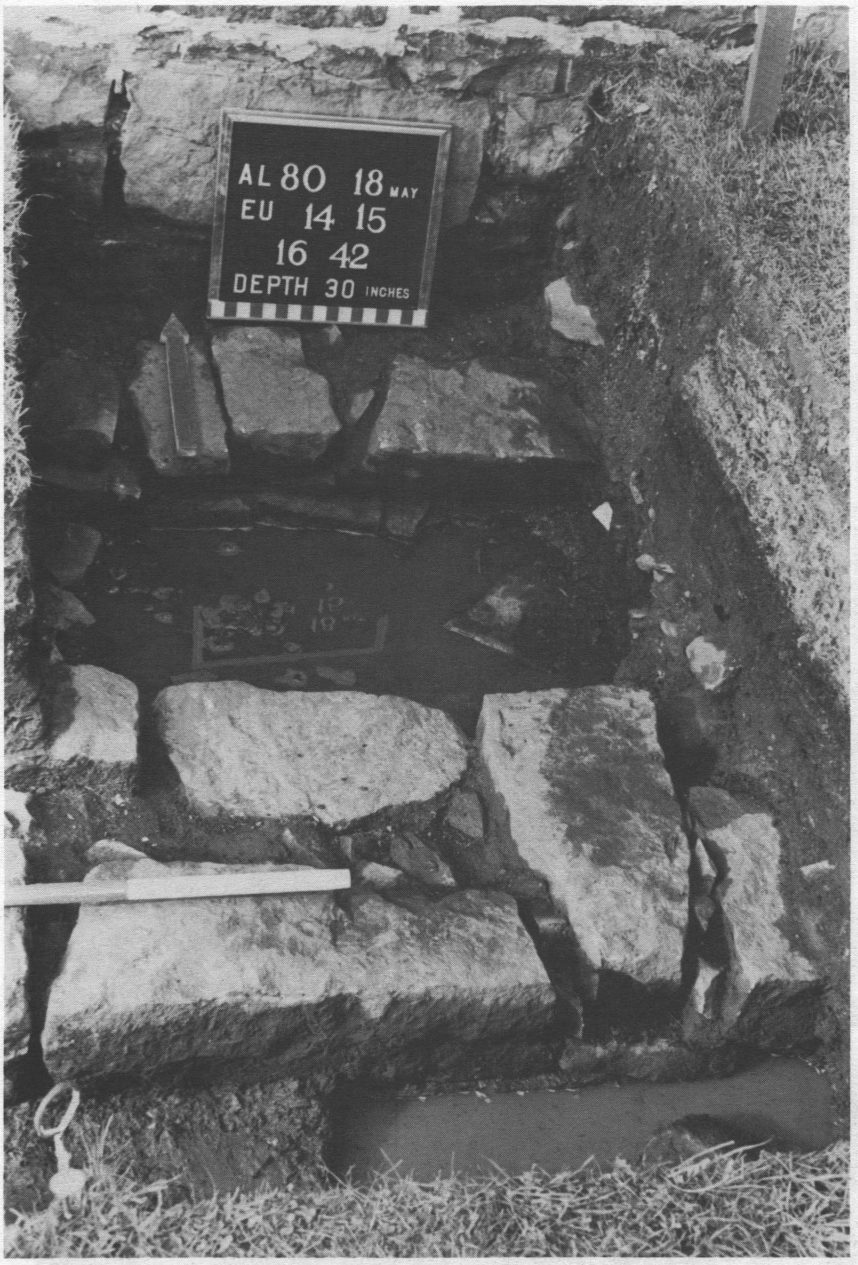


Figure 20. View of excavation units 16 and 42 showing inner and outer stone foundation alignments, photograph by Joel Fry (from Parrington 1980:32).



Figure 21. View of excavation units 19, 44, and 45 showing the east end of the outer stone foundation alignment and the extension, scale 6', photograph by Joel Fry (from Parrington 1980:33).

The stratigraphy (Figures 14, 15) around the foundation was relatively consistent except in those areas which experienced extensive modifications in the twentieth century. Typically the foundation rested on a sterile clay deposit. Above this and around the foundation stones was a lens of brown to very dark brown loam--designated layer 5 in the Parrington report (1980)--with inclusions of yellow, orange, and grey clay lenses in some areas. Resting on this loam deposit and extending over the foundation were lenses of brown to dark brown loam with layers of ash and orange clay running through this stratum--layer 3 in the Parrington report (1980). Above this was a 0.33' to 0.5' lens of sod and topsoil. Near the west end of the foundation and just below the topsoil, there was a thick lens of orange clay deposited in the twentieth century.

Because of the height of the water table, it was only possible to uncover the bottom course of the outer alignment in two locations, in units 10 and 36, and in units 16 and 42. In unit 10 (Figure 14) the bottom of the foundation was 0.86' below the top. In this unit the bottom course of the foundation was resting on a c. 0.17' thick layer of black soil which was above sterile orange clay. On the north side of this same stone alignment in unit 36, the sterile orange clay layer butted against the wall.

In excavation unit 16 (Figure 15) the test pit established that the foundation was 1.63' high. On the south side of the foundation the sterile orange clay had been cut into to a depth of c. 0.5' and the foundation stones were placed in the trench formed by this cut. On the north side of the foundation in excavation unit 42, the sterile orange clay butted up against the wall of the foundation. The test pit in unit 16 was continuously flooded during excavation as the water table was c. 0.5' below the top of the wall. Consequently, it was not possible to determine if the black soil layer found under the wall in unit 10 also existed in unit 16.

The less substantial stone alignment along the south wall of the Lemon House consisted of up to two courses of flat sandstone slabs dry laid and cut into sterile orange clay. In excavation unit 45 this feature was more irregular than in units 36 and 42. This may have been caused by a modern utility trench which was present in the unit and in unit 42. In unit 45 the feature was 1.5' high, the bottom of the feature was 2.63' below datum, and was resting on sterile brown clay.

There was evidence of a posthole in excavation units 3 and 9 (Figure 22). The stones immediately to the east of the southwest corner of the foundation were jumbled and some of these were used to support a 0.33' (4") diameter wooden post which was 6' from the south wall of the Lemon House and 2' east of the corner of the foundation. Another stone-packed posthole which held a 0.33' diameter post was located 9.5' east of the above posthole and 6.25' south of the Lemon House wall.

At the east end of the foundation, the outer alignment of stones continues for approximately 10' beyond the corner of the house (Figures 15, 23-26). Although there are stones to the north and east of the end of the alignment, they form no pattern and are much deeper than

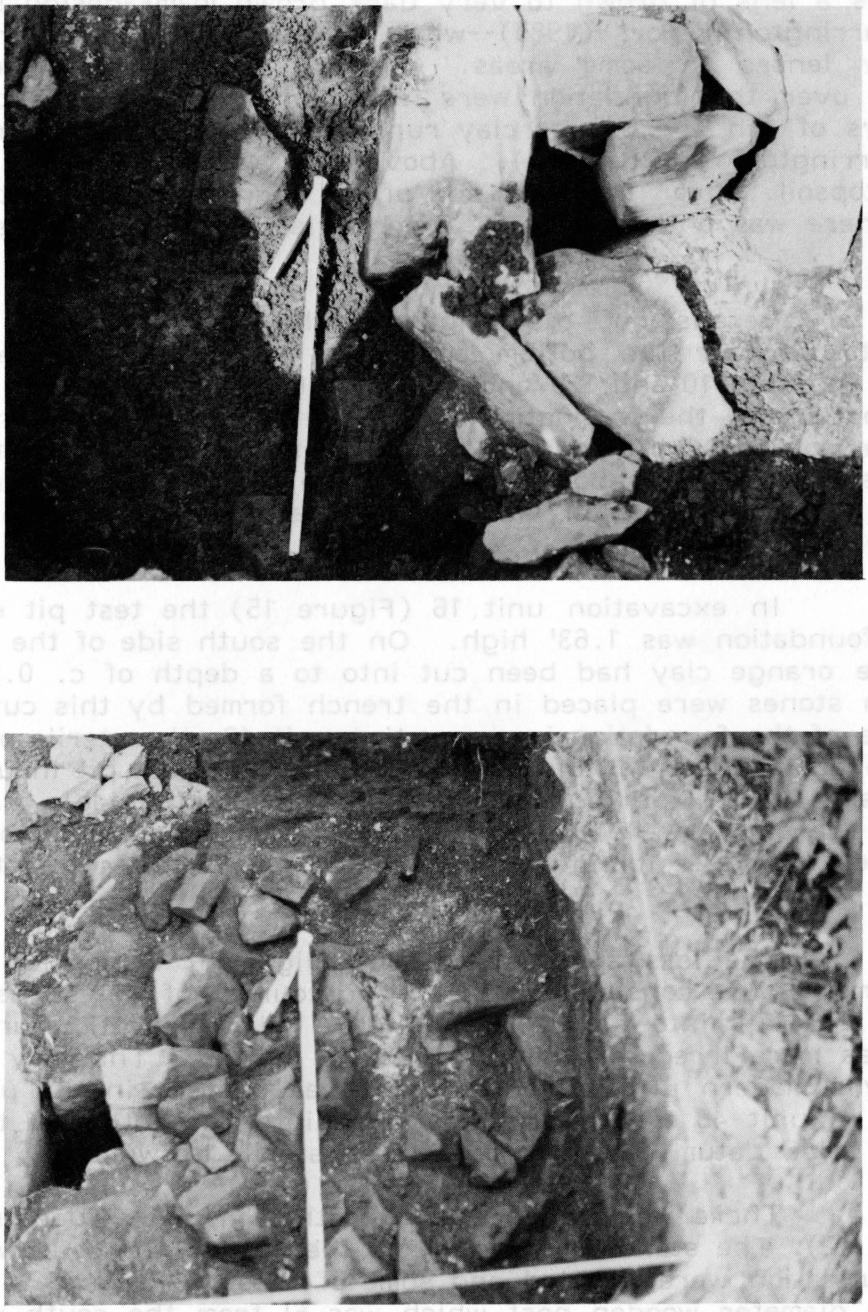


Figure 22. Photographs of the postholes uncovered near the stone foundation. Upper photograph is of excavation unit 3. Lower photograph is of excavation unit 5. Photographs by Aivazian.



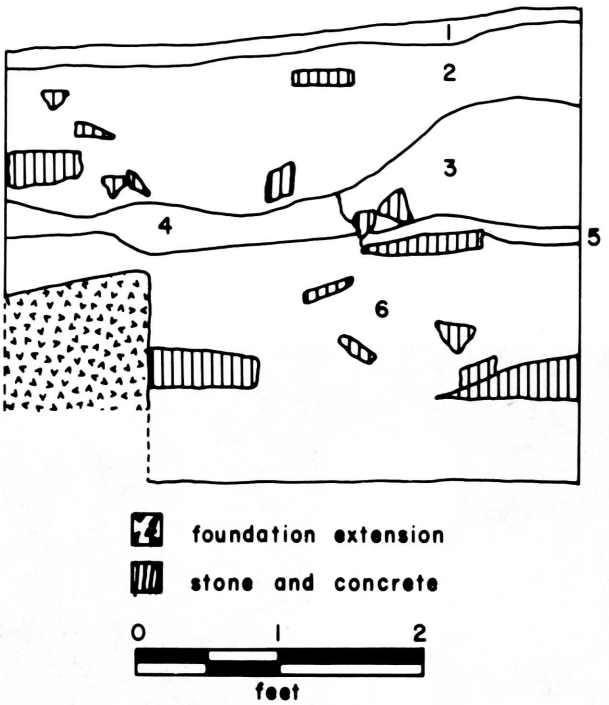
Figure 23. View of excavation units 18, 19, and 47 from the east showing outer stone foundation alignment, scale 6', photograph by Joel Fry (from Parrington 1980:28).



Figure 24. View of excavation units 47, 48, 49 from the east showing the extension to the outer stone foundation alignment.



Figure 25. View of excavation units 47, 48, 49, 60 from the southeast showing the extension to the outer stone foundation alignment.



Soil types represented in profile

Layer 1. Sod
Layer 2. Brown sandy loam with gravel
Layer 3. Brown sandy loam with inclusions of brown and orange clay, and brick fragments, stones, slag
Layer 4. Brown sandy loam with inclusions of cinders, ash
Layer 5. Dark brown sandy loam
Layer 6. Dark brown loam

Figure 26. North profile of excavation unit 48.

the stones making up the feature. In this 10' section, called a foundation extension in this report, the stones are smaller and more irregular than those to the west making up the foundation, there is some evidence of mortar between the stones and the upper surface of the feature is up to a foot higher than the upper surface of the foundation. After excavating units 19 and 47, Parrington (1980:38) concluded that these stones were part of the alignment of stones making up the outer portion of the foundation. The excavation of units 48 and 60 in 1981 and the close examination of the data from the 1978 and 1980 excavation suggests that this is not the case. The differences mentioned above and the fact that a 1.5" (0.125') diameter iron pipe runs underneath at least one of the stones making up this extension suggests that the extension is a later addition to the porch foundation. Admittedly there is no obvious break in the outer foundation alignment at the southeast corner of the house. In fact at least the upper surface of the foundation must have been exposed when the addition was built--the extension is in such perfect alignment east-west with the foundation. Also the width of the foundation and the extension is approximately the same. Unfortunately the available evidence on the stratigraphy in unit 19 does not address whether the extension is a later addition and it was not possible to follow the route of the iron pipe without disturbing the feature. How far it extends west and where, and if, it enters the house is unknown. It does not line up with any of the utility pipes uncovered during excavations in 1978 or 1980. "Sun-colored" vessel glass produced during the period 1880-1914 (Kendrick 1971) was found beneath one of the upper stones of the extension suggesting a late nineteenth, early twentieth century date for the feature.

In units 9, 10, 23, 24, and 36 a concrete block wall and concrete foundation were recorded. This feature had cut through and destroyed portions of the earlier stone foundation. The block wall was aligned north-south along the east side of units 9 and 23 and formed a right-angle corner 11' from the south wall of the Lemon House in units 23 and 24. The area to the south and west of the block wall was packed with an orange clay fill which corresponds with the clay layer uncovered below the topsoil in units 5, 8, and 9. This feature is what remains of a concrete block garage built by the last private owners of the Lemon House, the Roberts family, who owned the property from 1954 to 1967.

Excavation units 12, 13, 38, and 39 were only partially examined. It was clear after removing the modern asphalt walkway and its crushed stone base that the whole area was disturbed. A sewer pipe crosses the area and during its installation the foundation stones which had crossed this area were disturbed or removed.

Units 50 and 51 were excavated to establish whether there was evidence of a foundation along the east wall of the house. No such evidence was uncovered. The area tested by unit 50 was disturbed by a concrete block foundation to a retaining wall built by the Roberts. In unit 51 there was no evidence of a feature (Figure 27). Recent artifacts such as aluminum foil and plastic sherds were found in association with a packed jumble of stones. These were from 0.67' to 2.58' below the surface. Below this was a sterile orange clay deposit.



Figure 27. View of unit 51 from the east.

The basic culture-bearing nineteenth century deposits around the foundation are the very dark brown loam labeled layer 5 by Parrington and the brown to dark brown loam labeled layer 3 by Parrington. Above this the deposits contained plastic and other twentieth century artifacts. Layer 5 is found around the foundation while layer 3 overlies layer 5 and extends over the foundation. In neither stratum was there evidence of a construction trench.

Layer 5 contained several artifacts whose date of manufacture could be determined. A sherd of ironstone pottery from excavation unit 16 was stamped with the maker's name, Charles Mergh, and this particular form of the stamp was in use from 1835-49 and 1851-61 (Godden 1971:77). The other significant sherd was a fragment of a plate with a red transfer print decoration surrounding a cartouche with the letters "[CA]LEDONIA." Caledonia was one of the steamships launched by Samuel Cunard in 1840 to transport mail across the Atlantic (Larsen 1975:182). A series of plates and other ceramic utensils were manufactured and sold by J and T Edwards of Burslem to commemorate this innovation between 1841 and 1843 and these designs consisted of interior views of the ships, with medallions of the ships with the ships names around the borders (Larsen 1975:182-84). The medallions on illustrations of these ceramics seem comparable to the sherds from the Lemon House. It seems appropriate that an artifact commemorating one nineteenth century transportation innovation should be found at the site of another.

These two sherds suggest that layer 5 was deposited in the middle of the nineteenth century and this conclusion is strengthened by the presence of a clay pipe stem with the maker's initials "LF" stamped on it. This stamp appears identical to a stamped pipe stem from Cumberland Island, Georgia (Ascher and Fairbanks 1971:Figure 9). The LF mark is attributed to the L. Fiolet Company of St. Omer, France, and their products have been found in the remains of a store in Sacramento, California, which was destroyed by fire in 1852 (Ascher and Fairbanks 1971:13) indicating that they were in use in the mid-nineteenth century.

A relatively large number of iron spikes including one which was rusted to a fragment of a stone sleeper and other heavy iron objects were found in layer 5. These items are probably associated with the repair or demolition of the portage railroad.

An 1825 copper-alloy United States one cent coin stamped McVee came from layer 5 in excavation unit 15. A great many whiteware and redware sherds came from this same stratum. Also important in dating is the fact that such ubiquitous late-nineteenth century artifacts as wire nails and "sun-colored" glass were not found in this stratum.

Among the artifacts of layer 3, which extends over the foundation, were a number of cartridge cases manufactured by the Union Metallic Cartridge Company of Bridgeport, Connecticut. This company was formed in 1867 and became part of the Remington Arms Company in 1910 (Fontana and Greenleaf 1962:80). The date ranges of this company may coincide with the time period in which layer 3 was accumulating. No artifacts were found in layer 3 which seem later than the first decades of

the twentieth century except a plastic tooth from a comb. This artifact is probably intrusive, possibly deposited through rodent activity. Mason jar remains, wire nails, "sun-colored" glass, and numerous whiteware and redware sherds all came from layer 3.

After the completion of the 1981 excavations and on evaluation of the artifactual remains from layers 3 and 5, an interpretation of the structural and stratigraphic history of the south side of the house, in particular a construction date for the south porch, was considered. This date is dependent upon the date of deposition of layer 5.

Parrington (1980:40) felt that layer 5 was deposited around the foundation immediately after its construction. Therefore the date of construction of the porch was given as no earlier than the last date of manufacture of the artifacts contained in layer 5 and that is c. 1855. The following reasoning was followed by Parrington in coming to this conclusion. First he felt that the foundation and the eastern extension to the foundation were built at the same time; and then that mortar in the foundation extension indicated that it was an above ground feature while the lack of mortar in the main foundation suggested that it was below ground. Therefore, layer 5 would have been brought in immediately after construction to raise the ground surface to the elevation of the top of the foundation but below the upper elevation of the extension.

After the 1981 excavations, a second interpretation of the archeological data became possible and is more consistent with the architectural data. It is probable that layer 5 accumulated over an extended period of time, throughout the period of use of the porch with the original ground surface around the porch the base of layer 5. If this interpretation is correct, then the artifacts accumulated over time and the c. 1855 manufacture date of a particular artifact only means that accumulation continued past this period. Under this interpretation the best way to date the period of accumulation of the deposit is to consider the total configuration of artifacts: predominance of whiteware instead of pearlware or creamware ceramic sherds and of cut nails instead of hand wrought or wire nails, the lack of sun-colored glass in the deposit. These artifacts point to a range of deposition of c. 1830 to c. 1890.

This interpretation is based on the following data: the 1981 excavations determined that at least the eastern half of the stone extension to the foundation and undoubtedly the whole extension was built c. 1900. Also the artifacts in layer 5 established a mid-nineteenth century date for the stone foundation. Therefore the stone foundation and extension were built during two separate construction periods. Consequently the presence or absence of mortar does not necessarily mean that one area was above ground while another was below. The difference may result from different techniques in use during the two separate periods of construction. If, in fact, the stone foundations were built to keep the wood superstructure to the porch above the often water-saturated soil, then dirt would not have been intentionally placed around the stones. Following this interpretation, the porch was built sometime between c. 1830 and c. 1890. On the basis of an 1880s photograph and later photographs, it is known that there was no back

porch on the Lemon House from c. 1880 to c. 1960 (Figures 4, 7, 8, 28). There are no known pre-1880s photographs of the backyard. Two historical architects have concluded that the first floor back doorway is original to the structure, constructed in 1831-32; and it must have been associated with some type of porch. Also it is known that the inner stone alignment of the foundation is not bonded to the house. These facts suggest that the porch was built after construction of the foundation to the south wall of the Lemon House but with the need for a porch established by the time the first floor back door was constructed. Therefore construction probably occurred c. 1832.

Parrington felt that the foundation was built c. 1855. Additional work in 1981 has led to the conclusion that it could have been built as early as c. 1832. A third possibility is that the stone foundation uncovered in 1978, 1980, and 1981 is not the remains of the original south porch. It is possible that an earlier porch was built and its remains and associated cultural deposits were removed through regrading before construction of the stone foundation. In such a case no subsurface evidence would remain of this earlier porch.

Based on the extant evidence--an original first floor back door, a stone foundation remaining along the entire south side of the structure, the earliest culture-bearing deposits around the foundation dating to the mid-nineteenth century, no definite bond between foundation and house--it is logical to assume that the porch was built soon after the house and that it extended the length of the south wall. Also since there is no difference in layer 5 on the north and south sides of the outer foundation alignment, there was probably never a wood floor or deck incorporated into the porch at the basement level.

No postholes were located during the 1980 and 1981 excavations. Their presence at the southwest corner of the porch and in no other location suggests they had a specialized function. It seems unlikely that 0.33' (4") posts packed with stones would have been strong enough to support a two-story porch. It also seems illogical to build a substantial masonry foundation and then place wooden posts outside the foundation. If the posts were porch supports then the masonry foundation would have had no function. If there were a lack of stability at the western end of the porch at sometime during its use, the two posts could have been used as braces to prevent the porch structure from coming away from the Lemon House wall. They may have been inserted toward the end of the life of the porch when presumably the timbers were beginning to rot and general deterioration was taking place. The spacing may reflect that of the actual porch uprights as it would be logical to buttress the porch near the uprights. Another possibility is that the posts were supports for a hitching rail. A letter from Professor Donald L. Crews of the College of Forestry and Natural Resources, Colorado State University, dated October 27, 1978, (letter on file with the 1978 excavation papers) identifies the wood as red pine.

2. Physical Remains in Other Areas

Unit 1 was excavated on the east side of the house in the angle created by the southern most footing to the first floor stoop and the east wall of the house. There are a total of three parallel footings supporting the porch deck (Figure 9).



Figure 28. 1948 photograph of the Lemon House (from Batcheler 1982a:44).

In this unit various layers of loam, ash, and clay were uncovered to a depth of 2.75'. The base of the deck or stoop footing was 2.25' below present grade level and was sitting on a layer of orange clay and brown loam with sandstone and shale fragments present (layer 5 in unit 1). There was no evidence of a construction trench for the wall and the footing was resting on approximately 0.25' of a cultural deposit (Figure 29). This means that the footings were not part of the initial building construction of the house.

The coins from excavation unit 1 on the east side of the house ranged in date from 1820 to 1837 and came from both the stratum on which the feature was built and the next overlying stratum. None of the coins were very worn. This suggests that they had not been in circulation long before they were lost. The relationship between the soil layers in which the coins were found and the east porch foundations is uncertain because of the limited nature of the excavation. If the soil layers accumulated after the porch was built and the coins were lost through the porch deck, it would indicate that the porch was in use soon after the Lemon House was built in 1831-32. If this premise is correct it means that the east porch was built in the 1830s or early 1840s.

North of the house, the two walks were investigated. One walk runs north from the main entrance, through the front yard, to the railroad trace. A 6' long trench, excavation unit 6, was opened across this brick-edged gravel walk to determine the width, grade, and material of the original walk. Horizontal layers of sand, loam, and clay were excavated below the gravel of the path to a depth of 2.25' (Figure 30). Below the gravel and about 0.67' to 0.83' below the ground surface, there was a yellow clay and fragmented sandstone matrix. The average depth of this stratum was 0.5'. Below this there was a 0.42' (5") layer of grey-black soil, densely packed with small shale fragments. This stratum was above another yellow clay layer with more sandstone fragments. It was up to 0.83' thick. Cultural material was found throughout each of the layers. Possibly the shale and grey soil stratum represents the grade of the historic walk. In exploratory test pits dug by a posthole digger to the east and west of unit 6, what appeared to be sterile subsoil occurred at 0.83' to 1.17' below the present surface.

The investigation of the walk parallel to the north wall of the house was not very informative. It was known that there was a poured concrete slab walk under the present brick surface of the east-west walk. Investigation revealed, however, that it was much thicker than the inch or two that was originally envisioned. A small trench, 1.67' (20") by 5' was placed in the space between the walk and the tavern door on the east end of the north wall and labeled excavation unit 7. The excavation revealed that the concrete slab was about 0.33' thick and was sitting on a 0.42' thick bed of gravel. Only a small trace of a black cultural deposit was present beneath the gravel. In the unit itself, layers of loam, gravel, clay, and sand were excavated to a depth of 1.75' (Figure 29). There was no evidence of a construction trench for the wall. A test pit was dug to a depth of c. 3' below grade but sterile subsoil was not reached. This excavation unit was adjacent to the eastern-most door on the north side of the house and showed that the stone door sill was resting on mortared bricks.

Soil types represented in profiles

EU1:	Layer 1.	Brown loam
	Layer 2.	Mottled orange loam
	Layer 3.	Grey-white ash
	Layer 4.	Dark brown loam with mortar and charcoal
	Layer 5.	Orange clay and brown loam with sandstone and shale fragments
EU7:	Layer 1.	Brown loam
	Layer 2.	Gravel
	Layer 3.	Black loam with mortar and coal slag
	Layer 4.	Tan clay and sand
	Layer 5.	Yellow-white sand

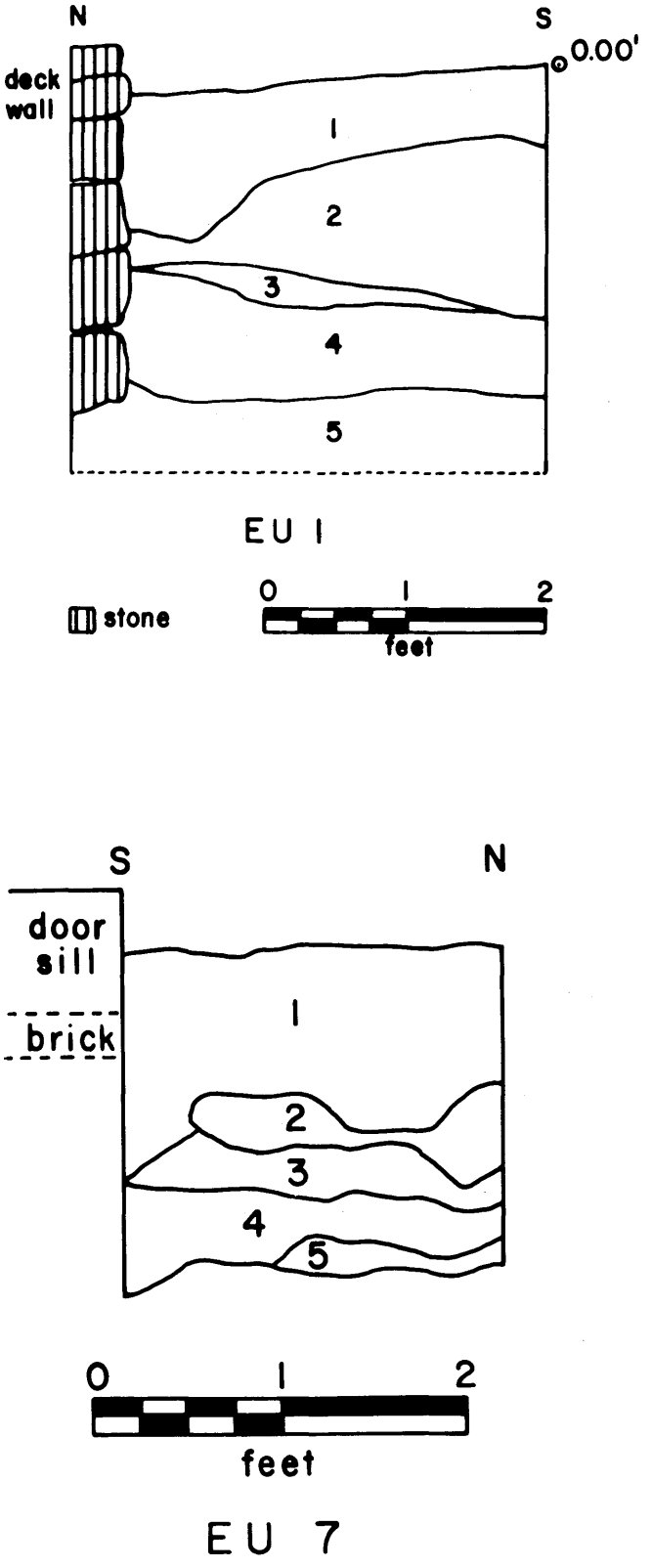
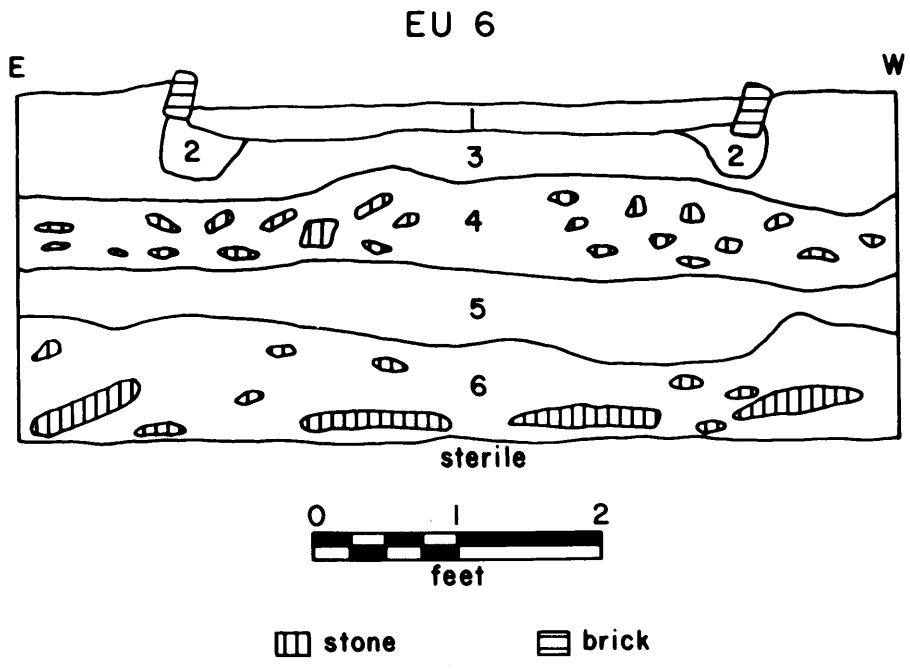


Figure 29. East profile of excavation unit 1; west profile of excavation unit 7 (from Parrington 1980:16).



Soil types represented in profiles

EU6:	Layer 1.	Gravel
	Layer 2.	White sand
	Layer 3.	Black loam
	Layer 4.	Yellow clay with sandstone fragments
	Layer 5.	Grey-black loam with shale fragments
	Layer 6.	Yellow clay with large sandstone fragments

Figure 30. South profile of excavation unit 6 (from Parrington 1980:17).

Excavation units A and B were placed so as to examine the area of contact of the main structure and the wing to the Lemon House. Architects Souder (1972) and Batcheler (1982a) disagreed on whether the wing was original. Souder (1972) felt that the whole west wing was a post-historic period addition to the house. Batcheler (1982a:78), on the basis of photographs and structural evidence, felt that it was original, but with its north-south dimension enlarged by 7' around 1900. Much of the confusion was created by the c. 1898 Storm painting of the Lemon House (Figure 31) where a wing is conspicuously absent. In excavation unit A, at the corner formed by the Lemon House wing and the main house, there was a solid layer of mottled yellow clay containing modern artifacts below a layer of topsoil. The topsoil was up to 0.33' thick. The whole unit was taken down to a depth of 1.67' below datum at which point the water table was encountered. Because of the problem of excavating below the level of the water table, the unit was subdivided at this level and only the northern 2' were excavated farther. This area was taken down to a depth of 3.25' below datum when what appeared to be a sterile orange clay was encountered. The wall foundations of the Lemon House continued down below the sterile clay level. A utility pipe was uncovered at the level of the sterile clay and all the fill excavated in the unit down to the sterile clay layer was mottled yellow clay containing modern artifacts. For the full extent of the excavation the south wall of the wing butted against the wall of the main house.

Excavation unit B was on the north side of the house between the walk and the north wall of the house. The unit was placed so as to examine the exterior basement wall to see if there was evidence of a butt joint created by the addition of a wing on this side of the house. For this research a datum point was established on the top of the sill of the closest door, the door into the wing. The unit was excavated to a depth of 2.4' below datum. Below the topsoil, which was up to 0.75' in thickness, there was a layer of yellow clay up to 0.25' thick. Below the clay was a layer of dark brown humic soil flecked with ash which was up to 0.67' thick. Beneath this level there was a layer of slightly mottled yellow clay which was excavated to a depth of 0.5' and which continued on below that depth. The wall foundation exposed in this unit was similar in character to the wall above ground level. There was no evidence of a butt joint. The wall foundation continued down below the level of the mottled yellow clay. Parrington does not mention noting evidence of a construction trench along the wall in this unit. There was no subsurface evidence along the front wall of the house for the addition of a wing; the whole front wall of the house seems to have been built in one phase of construction.

C. Artifact Discussion

The artifacts recovered during the 1978, 1980, and 1981 controlled excavations represent a broad range of objects in use on the site from the early nineteenth century to the twentieth century (Tables 1-3). As is usual with historic sites, the most common artifacts were ceramic (Figures 32-38) and glass sherds (Figure 39) and nails--wrought and cut as well as wire nails. An unusual feature of the artifact assemblage is the large number of iron spikes and other iron hardware such as chain links, a pulley (Figure 40), and large unidentified iron objects (Figure 41). Other items excavated include fragments of spoons

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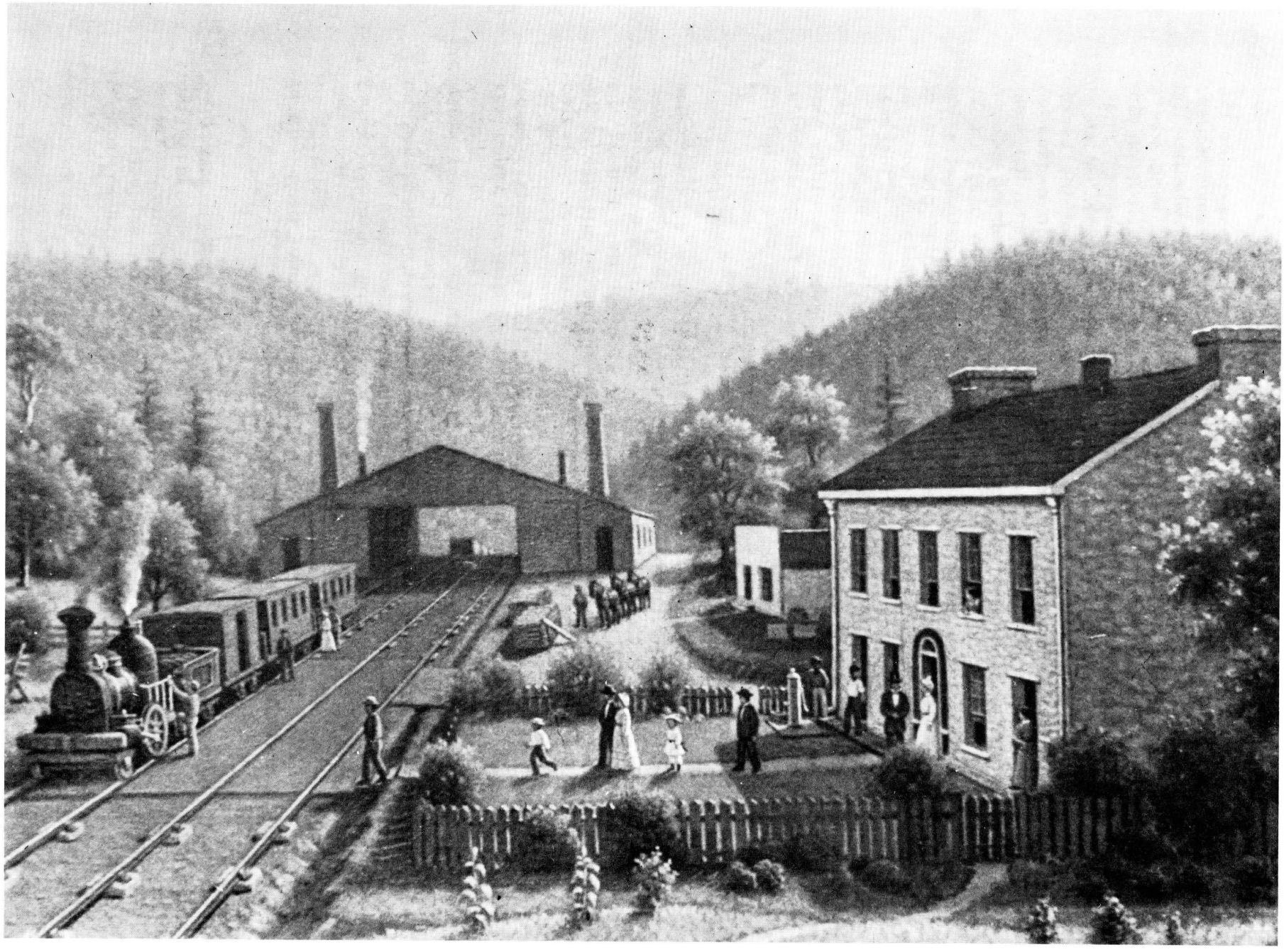


Figure 31. C. 1898 painting of the Lemon House by George W. Storm (from Batcheler 1982a:28).

Allegheny Portage Railroad
National Historic Site
1978 Excavations
Artifact Classes

Table 1

	EU1 C-4	EU1 D-1	EU1 D-2	EU1 D-3	EU1 E-1	EU2 B-2	EU2 C-1	EU2 D-1	EU2 D-2	EU2 E-1	EU3 C-1	EU3 D-1	EU3 D-2	EU3 D-3	EU3 E-1	EU4 C-1	EU4 D-1	EU5 A-3	EU5 B-1	EU5 B-2	EU5 C-1	EU5 C-2	EU6 B-1	EU6 C-1	EU7 C-1	EU7 C-2	EU8 B-1	EU8 C-1	EU8 & 9 B-1	EU8 & 9 B-2	EU8 & 9 B-3	1978 TOTAL
Kitchen Group Totals	3	17	33	15	0	10	289	80	305	27	74	37	132	112	28	91	47	7	195	0	37	13	36	0	17	8	50	3	62	42	87	1857
Ceramics Totals	0	4	1	7	0	6	165	45	203	26	31	27	109	107	23	17	11	1	95	6	33	8	11	0	0	3	44	3	52	38	77	1147
Porcelain						1	2	1			1								3		3											11
Stoneware							3		5		3	1				2			6													20
Semi-porcelain						1							1																			2
Earthenware Totals		4	1	7		4	160	44	198	26	27	26	108	107	23	15	11	1	86		30	8	11			3	44	3	38	38	77	1100
Whiteware Totals		2		7		4	131	23	150	24	24	25	98	95	18	13	8	1	69		28	8	11			2	39	3	27	34	54	898
Transfer print				1			12	3	24	5	1	3	3	48	12		1		9		14		6				16	2	4	8	7	179
Edge decorated and molded							3		10	3		2		2	1	1	2		1										1	3		29
Hand painted						1	1	1	32	6	1	1		9					3		1	1	2				3			4		66
Annular										1		1			1	3					1	1										8
Other/Unknown							1	1	6					1		1															4	14
Undecorated		2		6		3	114	18	78	9	22	18	95	35	4	8	5	1	56		12	6	3			2	20	1	22	19	43	602
Creamware																					1											0
Pearlware																																1
Redware		2	1				7	21	47	2	1	1	3	12	5		1		9		1						5		11	4	11	144
Yellow ware							22		1		2		7			2	2		8						1						12	57
Other																																0
Containers Totals																																
Bottle glass	1	13	32	8		4	124	35	102	1	15	9	23	5	5	74	36	6	100		4	5	25		17	5	6		24	4	10	693
Purple (from sun)												(1)	(1)			(2)			(8)													(12)
Bottle closures Totals	2										28																					30
Glass																																0
Metal	2										28																					30
Plastic, cellophane																																0
Kitchenware									6			1																				7
Bone Totals		7																														7
Bos																																0
Sus																																0
Ovis/Capra																																0
Other unknown		7																														7
Floral									3		3							3														9
Shell																																0
Architecture Group Totals	30	61	212	36	0	95	412	215	190	4	108	54	61	32	3	112	44	129	135	5	8	1	10	0	12	31	40	4	142	44	98	2328
Window glass	2	53	186	11		15	307	134	64	4	85	18	30	17		79	38	121	99		4		6		7	30	20	2	114	8	43	1497
Nails - unable to identify by type																																0
Wrought	27																															27
Cut																																0
Wire								1																						1		2
Unsorted		7	25	25		80	105	79	125		23	35	31	15	3	32	5	8	35	5	4	1	4		3	1	19	2	28	35	53	788
Possible nails																																0
Other	1	1	1					1	1			1				1	1		1						2		1				2	14
Construction Material (mortar, etc.)		x	x	x	x	x	x	x			x	x		x			x			x										x		x
Furniture Group									1																							1
Arms Group							1									1			1											1		4
Clothing Group Totals		2					1	1	1				2	1				1	1		1	1					1		1			14
Buttons							1	1	1				2	1				1	1		1						1		1			11
Other		2																				1										3
Personal Group Totals	1	2	1																													4
Coins	1	2	1																													4
Other																																0
Tobacco Pipe Group		5	3		1		1		1			1	2	1		1																16
Activities Group Totals		1	6	1		2		3	5		2	3		2		4		3			1		1	1	3					1		39
Leisure																					1				1							2
Stable and barn, misc. hardware			4	1					3							2							1		2							13
Public service																																0
Other			1											1																	1	3
Clinkers - coal		1	1			2		3	2		2	3		1		2		3						1								21
Function Unknown Totals	3	1	3	1		1	3	2	1				6			4																25
Metal	1							2					6			4																13
Plastic																																0
Leather		1	3						1																							5
Glass	1			1		1	3																									5
Stone	1																															1
Rubber																																0
Unknown material																																0
TOTALS	37	96	258	53	1	108	707	301	507	31	187	95	203	148	31	213	91	143	332	5	47	15	47	1	32	39	91	7	205	97	136	4304

Allegheny Portage
National Historic Site
1980 Excavations
Artifact Classes Table 2

	EU B L-2	EU B L-3	EU 10 L-3	EU 10 L-5	EU 11 L-3	EU 11 L-5	EU 14 L-3	EU 14 L-5	EU 15 L-3	EU 15 L-5	EU 16 L-3	EU 16 L-5	EU 16 L-6	EU 18 L-3	EU 18 L-5	EU 24 L-5	EU 36 L-3	EU 36 L-5	EU 42 L-3	EU 42 L-5	EU 45 L-3	TOTAL 1980 Exca.
Kitchen Group Totals:	1	12	5	13	38	36	86	32	56	38	59	56	2	86	3	27	104	128	26	116	4	928
Ceramics Totals:	1	10	5	10	37	36	59	29	39	28	45	41	2	58	3	15	24	120	21	107	1	691
Porcelain														1								1
Stoneware				1					1		1							9	1			13
Semi-porcelain				1						1		1										3
Earthenware Totals:	1	10	5	8	37	36	59	29	38	27	44	40	2	57	3	15	24	111	20	107	1	674
Whiteware Totals:	1	10	4	7	24	26	41	24	32	21	33	39	2	56	3	7	24	54	13	41	1	463
Transfer print	1	1		1		4	2	6	4	4	5	20		3		3	7	16	2	3		82
Edge decorated and molded						3	3	1		1	3	1						2	4	5		23
Hand painted			2	3	1		3	1	1	1	1	2		4				4	1	2		26
Annular				1	2		2		1					17	3		7	1				34
Other/Unknown		1	1		3		2	1	2			4					1			1	1	17
Undecorated		8	1	2	18	19	29	15	24	15	24	12	2	32		4	9	31	6	30		281
Creamware					1	5						1										7
Pearlware				1																		1
Redware			1		12	5	13	5	6	6	11			1		8		57	7	66		198
Yellow ware							5															5
Other																						0
Containers Totals:		2		3	1		27	3	16	10	14	15		28		11	80	8	5	9	3	235
Bottle glass		2		3	1		25	3	15	10	13	15		28		11	70	8	5	9	3	221
Purple (from sun)																	(9)					(9)
Bottle closures Totals:							2		1		1						1					5
Glass							1		1		1											3
Metal							1										1					2
Plastic, cellophane																						0
Kitchenware									1							1						2
Bone Totals:																						0
Bos																						0
Sus																						0
Ovis/Capra																						0
Other unknown																						0
Floral Totals:		3							4		3											10
Shell Totals:																						0
Architecture Group Totals:	1	2		2	23	5	195	14	237	42	52	39	1	21	2	12	51	23	15	23		760
Window glass		2		1	14	3	142	8	199	32	29	26	1	15	1	7	42	16	14	20		372
Nails - unable to identify type																						0
Wrought																						0
Cut							1	6						6								13
Wire	1																					1
Unsorted				1	9	2	50		38	10	23	13			1	5	9	7	1	2		171
Possible nails																						0
Other Totals:							2													1		3
Construction Material (mortar,etc.)					1		2					2					1	3				9
Furniture Group Totals:											1											1
Arms Group Totals:	1	1					1										2					5
Clothing Group Totals:				1			2	1				2							1			7
Buttons				1			2					2							1			6
Other								1														1
Personal Group Totals:									1	1												2
Coins										1												1
Other									1													1
Tobacco Pipe Group Totals:							2			2					1					7		12
Activities Group Totals:		2		2	2	1	5	1	5	2		6		3				2		4		35
Leisure																						0
Stable and barn, msc. hardware				1	1		1		2	2		5		2				2		2		18
Public service		1																				1
Other		1		1	1	1																4
Clinkers - coal							4	1	3			1		1						2		12
Function unknown Totals:	1				1		2	1	4	1	1	4		1						11		27
Metal					1			1	2	1		3								5		13
Plastic																						1
Leather	1										1											1
Glass																						1
Stone							1		2					1								4
Rubber							1					1								6		8
Unknown material																						0
TOTALS	4	20	5	18	65	42	295	49	307	86	116	109	3	111	6	39	158	156	42	161	4	1796

Allegheny Portage Railroad
National Historic Site

1981 Excavations Table 3

Artifact Classes	EU 12 A11	EU 13 A11	EU 38-39 A11	EU 39 A11	EU 48 L-2	EU 48 L-2A	EU 48 L-2B	EU 48 L-3A	EU 48 L-3B	EU 48 L-4B	EU 48 L-5B	EU 48 L-6	EU 48 L-7	EU 47-48 L-8	EU 49 L-1	EU 49 L-2	EU 49 L-3	EU 49 L-4	EU 49 L-5	EU 49 L-6B	EU 50 L-2	EU 50 L-3
Kitchen Group Totals:	46	54	159	51	3	29	18	3	3	1	16	16	0	8	77	3	17	1	7	3	4	13
Ceramics Totals:	30	18	54	30	2	9	6	0	2	0	2	1	0	3	17	1	4	0	1	2	1	7
Porcelain						1																
Stoneware			1											1								
Semi-porcelain	5		3	1										2								
Earthenware Totals:	25	18	50	29	2	8	6	0	2	0	2	1	0	0	17	1	4	0	1	2	1	7
Whiteware	18	15	48	23	2	4	3	0	2	0	2	1	0	0		1	3	0	1	2	1	3
Transfer print	4		8	4		2	1				1	1					1					1
Edge decorated and molded	1	2		1	1		1															
Hand painted	1		1																			
Annular		1													1							
Other/unknown	4	8	27	5					1										1			
Undecorated	8	1	12	13	1	2	1		1		1				3	1	2			2	1	2
Creamware	2	1																				
Pearlware	4					1									1							
Redware	1	1	2	6		3	3								10		1					3
Yellow ware																						
Other		1																				1
Containers Totals:	16	35	105	21	1	20	12	3	1	1	14	15	0	5	60	2	13	1	5	1	3	6
Bottle glass Totals:	14	31	101	21	1	16	12	1	1	1	9	10	0	4	53	0	10	0	6	1	3	6
Purple (from sun)		(1)				(4)		(2)			(4)	(5)		(1)	(5)	(2)	(2)	1				
Bottle closures Totals:	2	3	4								1				2		1					
Glass		1	3								1											
Metal	2		1														1					
Plastic, cellophane		2													2							
Kitchenware		1																				
Bone Totals:	8	6		3	1	2					1				1							
Bos																						
Sus	1																					
Ovis/Capra																						
Other unknown	7x	6	x	3x	1	2					1				1							
Floral Totals:	0	0	x	x	0	0	0	0	0	0	0	0	0	x	x	0	x					
Shell Totals:	2x	3x	3x	1 x																		
Architecture Group Totals:	87	96	425	110	6	28	13	13			30	15		7	72		25	2	12	4	9	10
Window glass	50	75	287	102	3	22	9	12			29	15		5	47		17	1	10	1	6	5
Nails - unable to identify type	16	8	17	4			2	1						2	13		4			2		
Wrought																						
Cut	2	1	10	4											1		1					
Wire		6	93		3	5	1				1				4		3		2	1		
Unsorted																						
Possible nails	7	2	9				1								7			1			3	5
Other	12	4	9			1																
Construction material (mortar etc)	1x	x	12x	1x		3x					x		x	x	1x	x	x	x			x	x
Furniture Group	16		3																			
Arms Group																						
Clothing Group Totals:	2		1								1											
Buttons	1		1								1											
Other	1																					
Personal Group Totals:			2												1		1					
Coins																						
Other			2												1		1					
Tobacco Pipe Group	2	4	3	7											2							
Activities Group Totals:	3		16	2		2									2		2	1		1	5	2
Leisure	1					1											1				1	
Stable and barn, msc. hardware	1		16	2											2					1	3	2
Public Service						1																
Other	1																1	1			1	
Clinkers - coal	x	x	x	x		x	x	x							x		x			x	x	x
Function Unknown Totals:	2	4	8	37											3			2	1			2
Metal	2	4	1	35											1			2				
Plastic			3												1							2
Leather																						
Glass				2															1			
Stone	x		x	x		x		x							x							x
Rubber			4												1							
Unknown material																						
TOTALS	169	167	632	212	10	64	31	16	3	1	48	31	0	15	159	3	45	6	20	8	18	27

Allegheny Portage Railroad
National Historic Site
1981 Excavations

Table 3 continued

Artifact Classes		EU 51 L-2	EU 51 L-3	EU 51 L-5	EU 51 L-6A	EU 51 L-6B	EU 51 L-6C	EU 51 L-7	EU 51 L-8	EU 51 L-9	EU 51 L-10	EU 60 L-1	EU 60 L-2	EU 60 L-3	EU 60 L-4	EU 60 L-5	EU 60 L-6	TOTALS For 1981 FH 12 to EU 60	TOTALS For 1980 and 1981
Kitchen Group	Totals	5	-	12	1	4	1	29	5	1	0	4	0	0	0	6	2	610	1540
Ceramics	Totals	3	3	6	3	2	1	9	1	1	0	1	0	0	0	3	0	223	914
Porcelain						1												1	2
Stoneware																		2	15
Semi-porcelain																		11	14
Earthenware	Totals	3	3	6	3	2	1	9	1	1	0	1	0	0	0	3	0	209	883
Whiteware	Totals	3	3	5	3	2	1	9	1	1	0	0	0	0	0	3	0	163	626
Transfer print			1				1									2		32	114
Edge decorated and molded								1										7	30
Hand painted																		2	28
Annular									1									3	37
Other/Unknown				1	1													48	65
Undecorated		1	2	2	2	1		7		1						1		71	352
Creamware												1						4	11
Pearlware																		6	7
Redware			1	3														34	232
Yellow ware																		0	5
Other																		2	2
Containers	Totals	2	4	6	1	2	0	20	4	0	0	3	0	0	0	3	2	388	623
Bottle glass		1	3	4	1	1		14	3			2				3	2	335	556
Purple (from sun)		(1)		(2)		(1)		(2)	(1)			(1)						35	44
Bottle closures	Totals		1					4										18	23
Glass								2										7	10
Metal								2										7	9
Plastic, cellophane																		4	4
Kitchenware																		1	3
Bone	Totals				2			1						1				30	30
Bos																		0	0
Sus				1														2	2
Ovis/Capra														1				1	1
Other unknown			1		2			1x									x	27 x	27x
Floral	Totals						1	x				x						1x	11x
Shell	Totals																	9 x	9x
Architecture Group	Totals	7	10	14	14	7	6	46	17		1	6	2		1	12	2	1109	1869
Window glass		3	4	10	10	6	3	30	17		1	4	2			9	2	797	1369
Nails - unable to identify by type			5	4	2			8				1			1	3		93	93
Wrought																		0	0
Cut			1		1	1	1											23	36
Wire		1			1		2	8				1						132	133
Unsorted																		0	171
Possible nails		3																38	38
Other																		26	29
Construction Material (mortar, etc.)	Totals	x	x	x	x	x	x	x			x	x	x					18 x	27 x
Furniture Group	Totals		2					1										22	23
Arms Group																		0	5
Clothing Group	Totals	1																5	12
Buttons																		3	9
Other		1																2	3
Personal Group	Totals					1												5	7
Coins																		0	1
Other						1												5	6
Tobacco Pipe Group																		18	30
Activities Group	Totals		1	2				1					1					41	76
Leisure				1														5	5
Stable and barn, misc. hardware			1	1				1					1					31	49
Public service																		1	2
Other																		4	8
Clinkers - coal		x	x	x	x	x	x	x			x	x	x		x			x	12x
Function Unknown	Totals	3	16	9	2	1		5	1			1						97	124
Metal			14	7		1												73	86
Plastic		3	2	2	1							1						15	16
Leather																		6	1
Glass					1													4	6
Stone			x		x	x		x			x	x						x	8x
Rubber																		5	5
Unknown material																		0	0
TOTALS		16	37	40	22	13	8	83	23	1	1	11	3	1	1	18	4	1967	3763

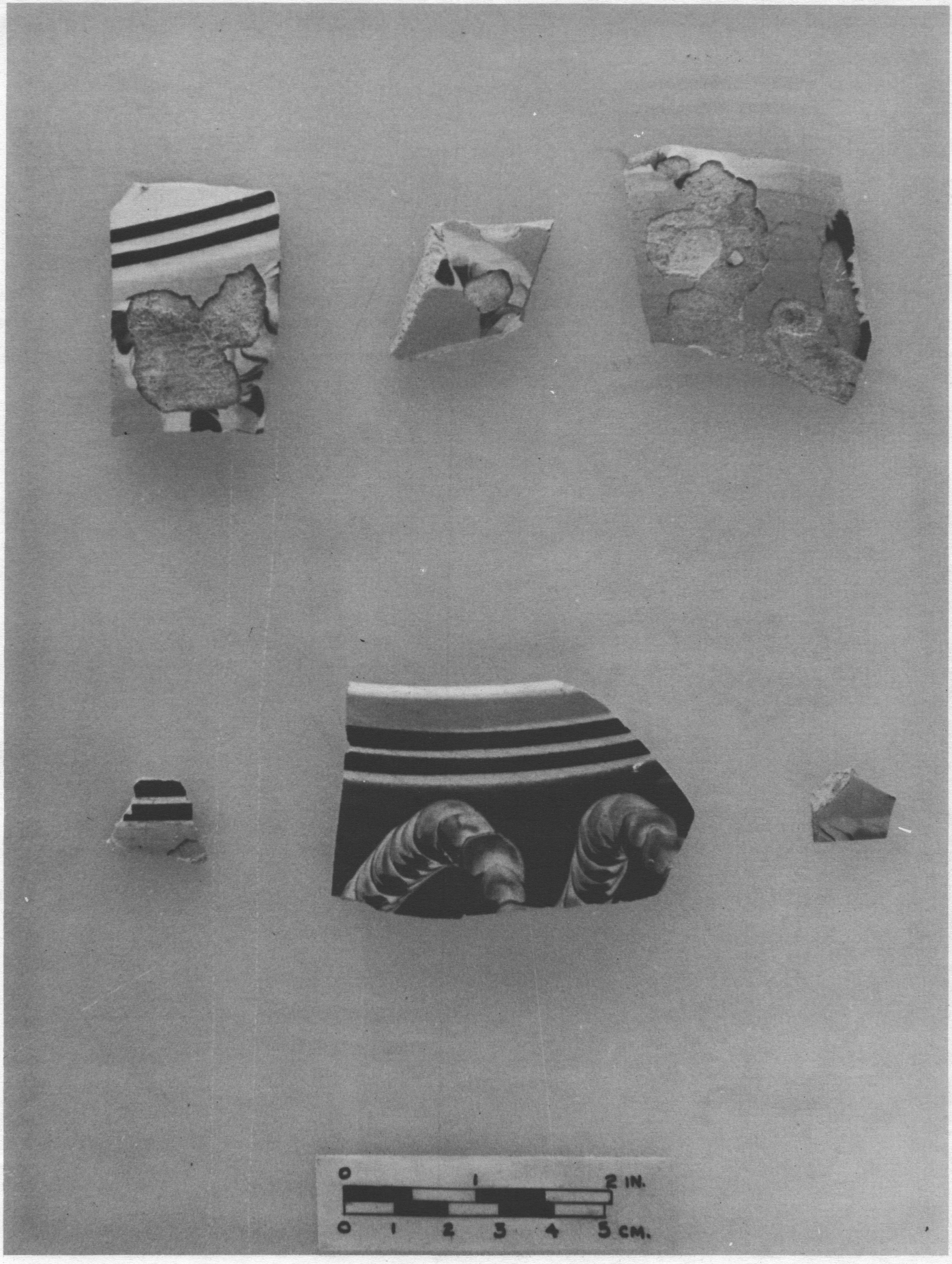


Figure 32. Mocha-decorated whiteware.

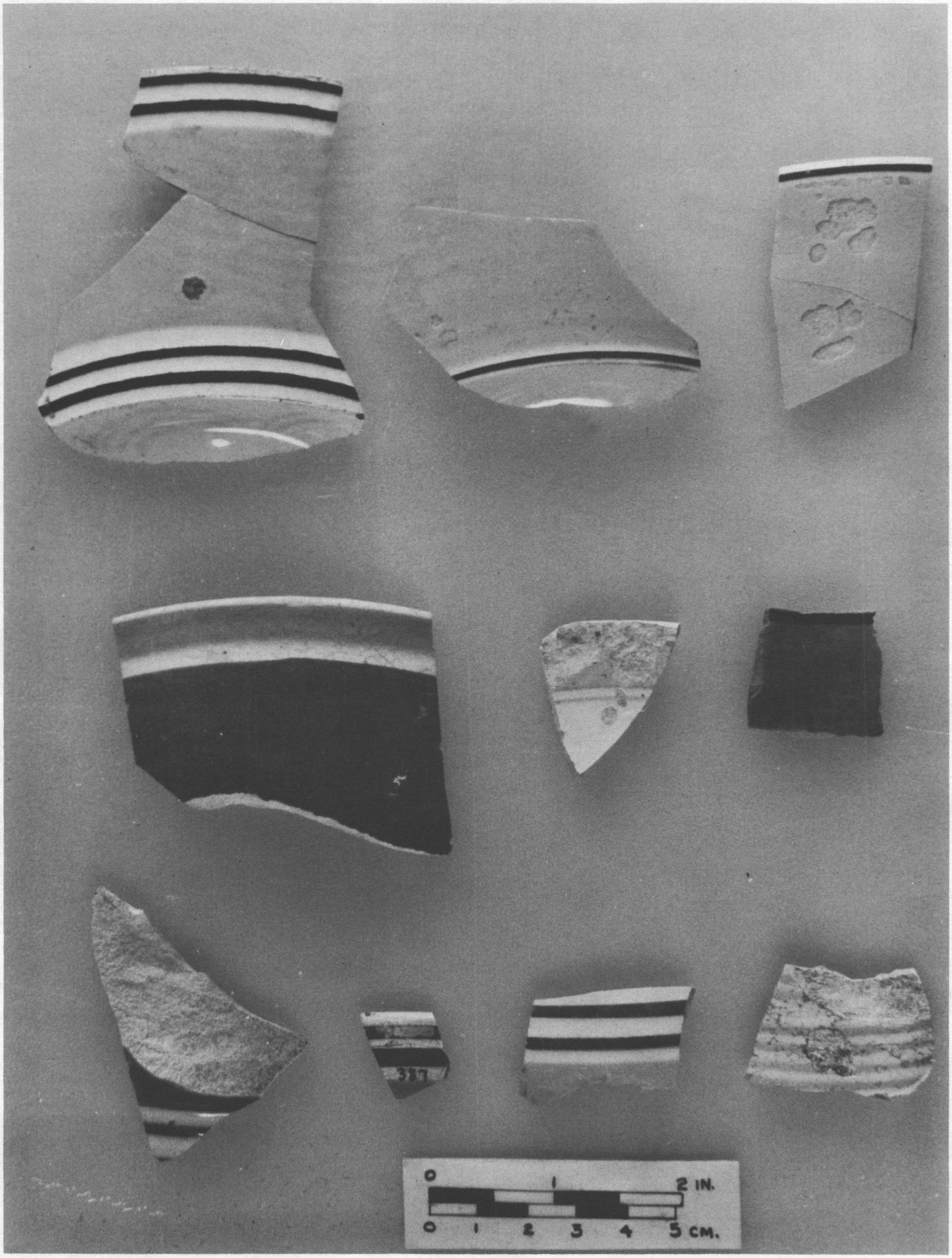


Figure 33. Annular-decorated whiteware.

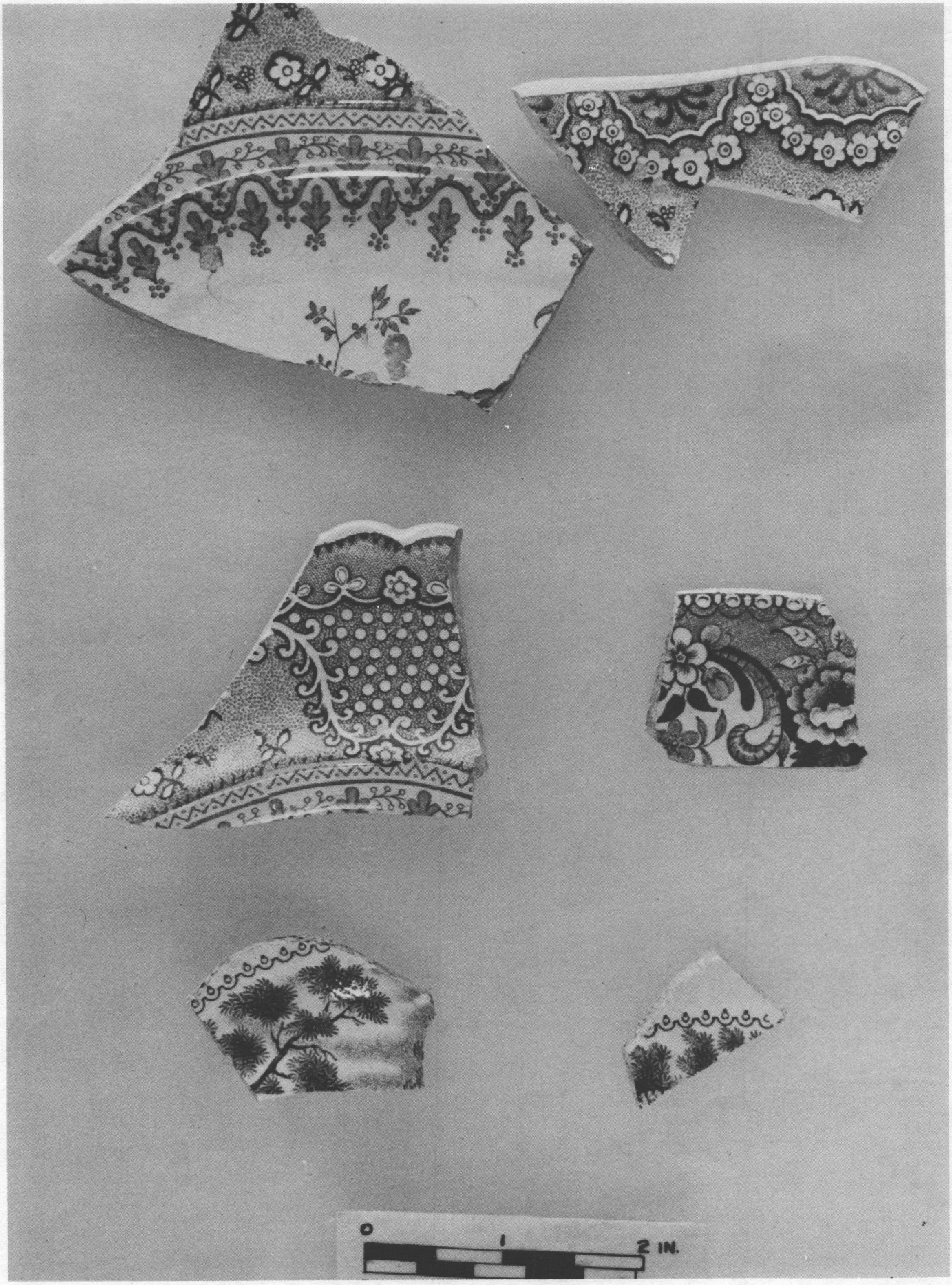


Figure 34. Transfer-printed whiteware.

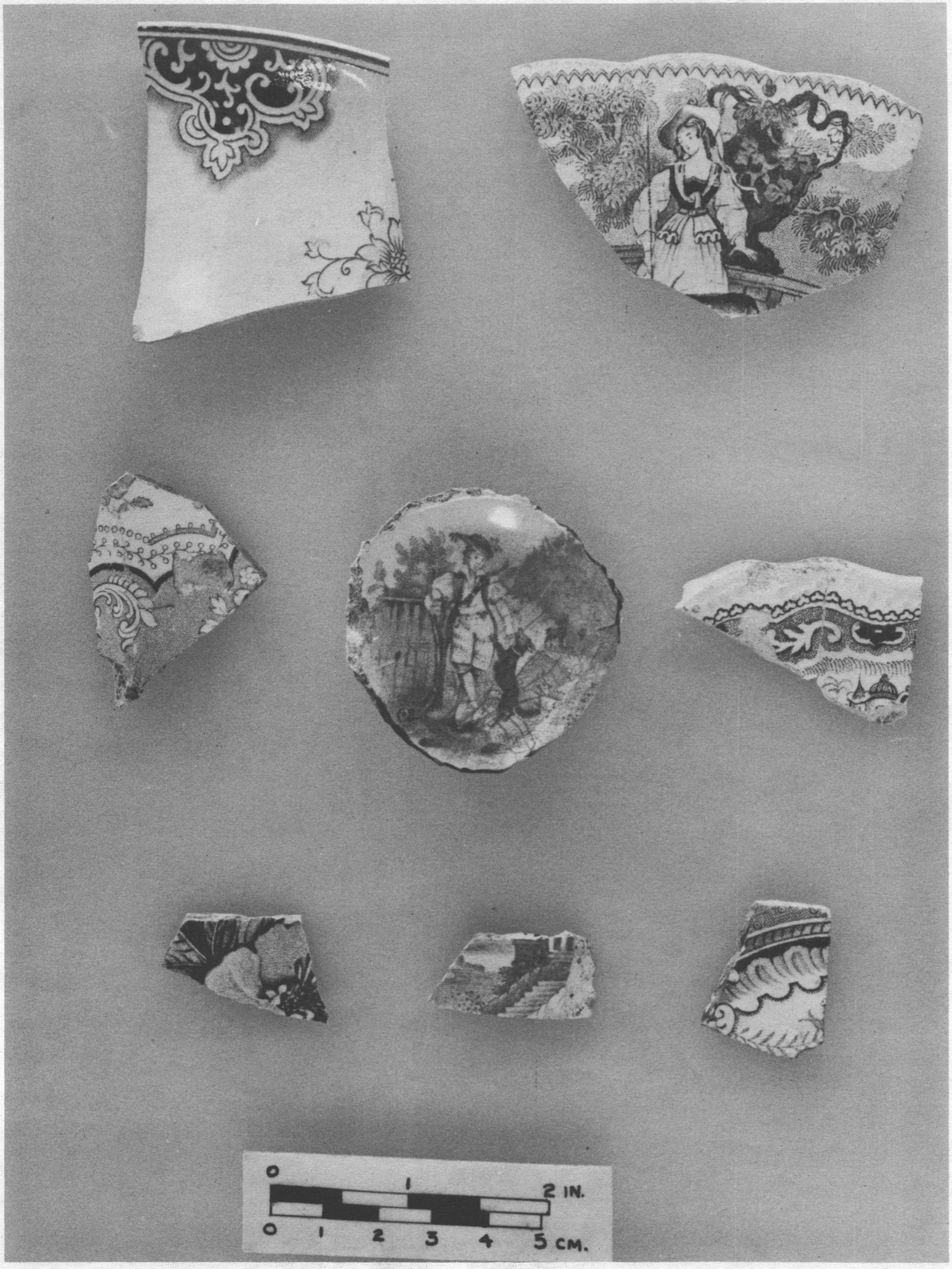


Figure 35. Transfer-printed whiteware.

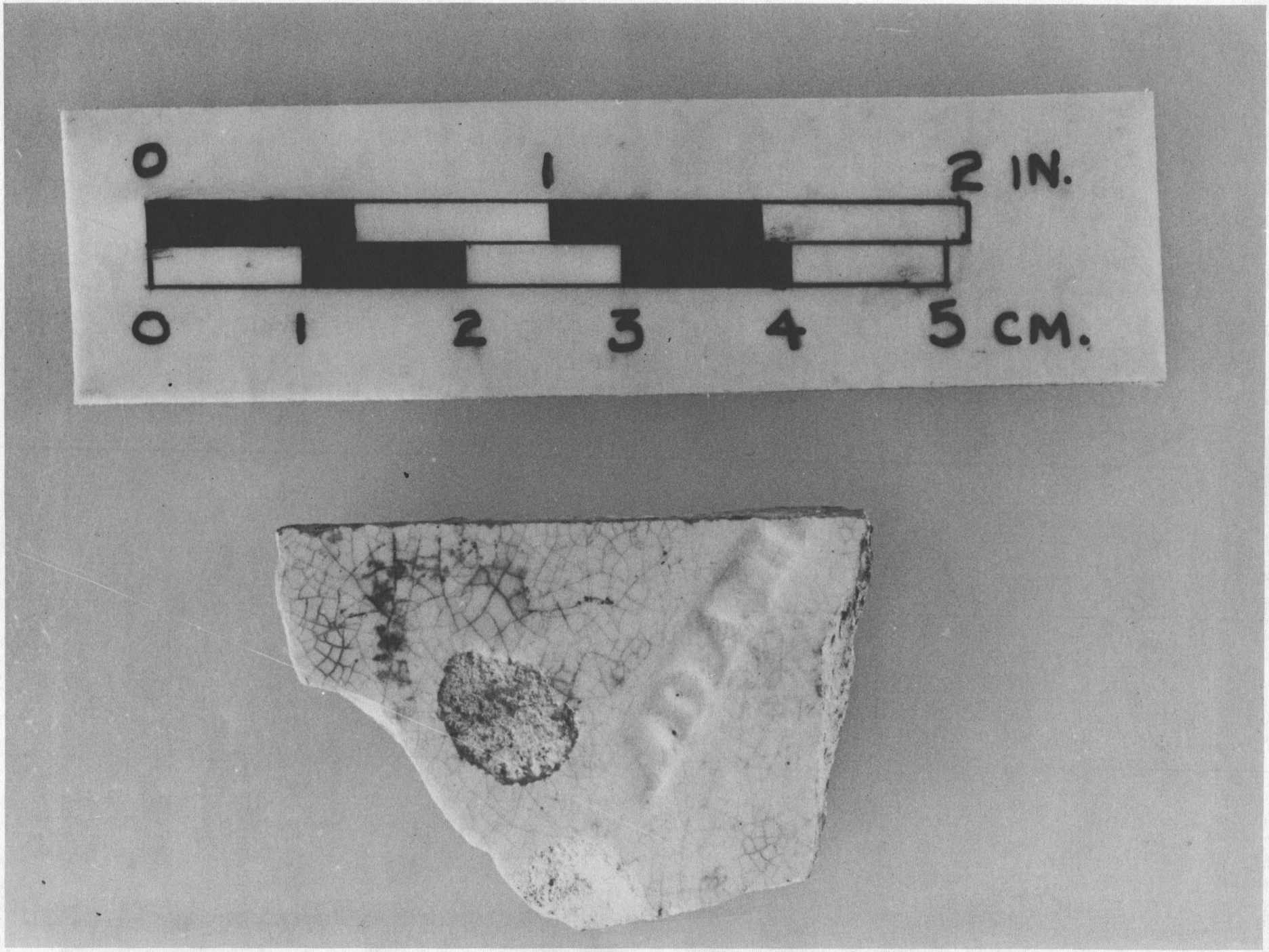


Figure 36. Plain whiteware with maker's mark.

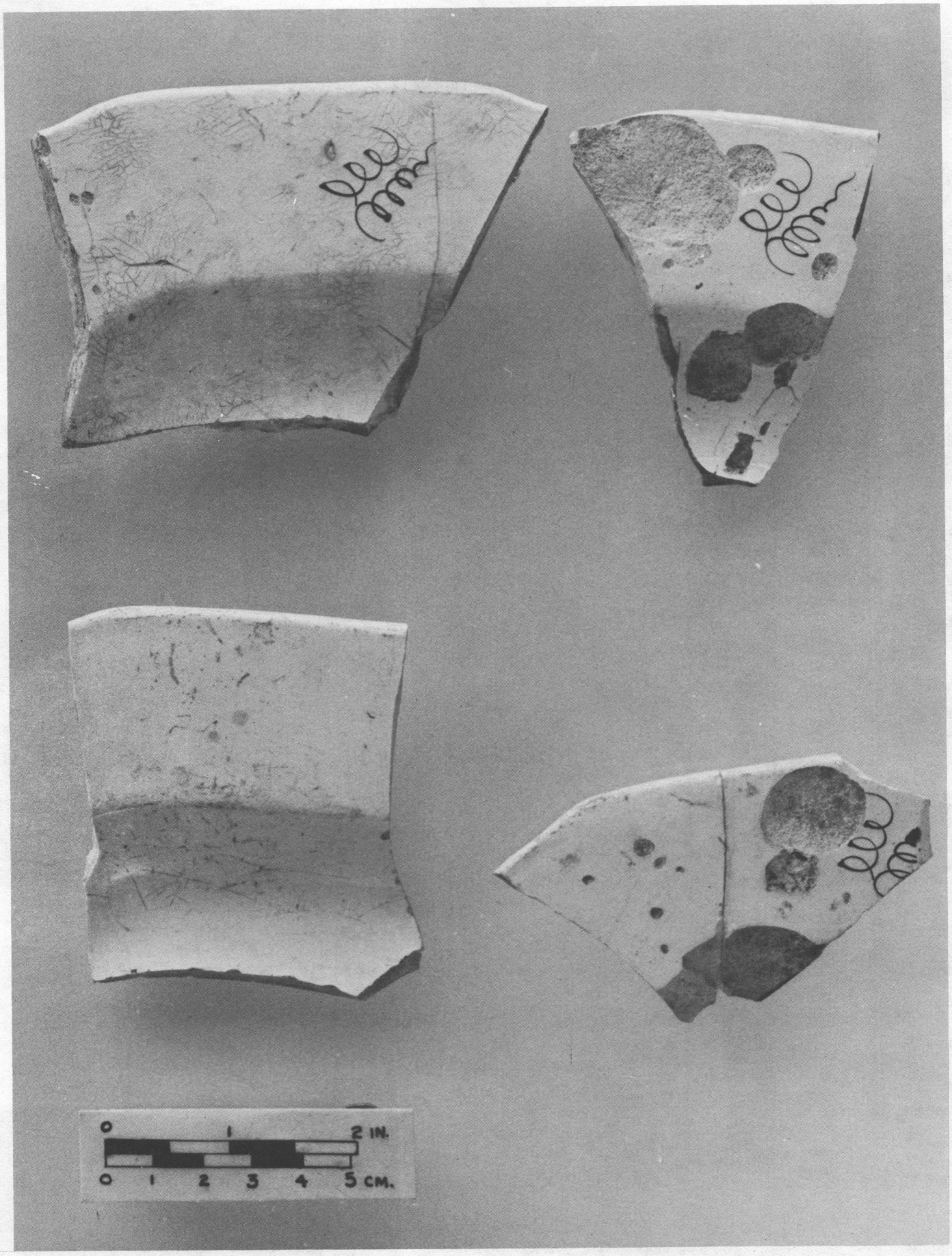


Figure 37. Plain whiteware with scroll decoration.

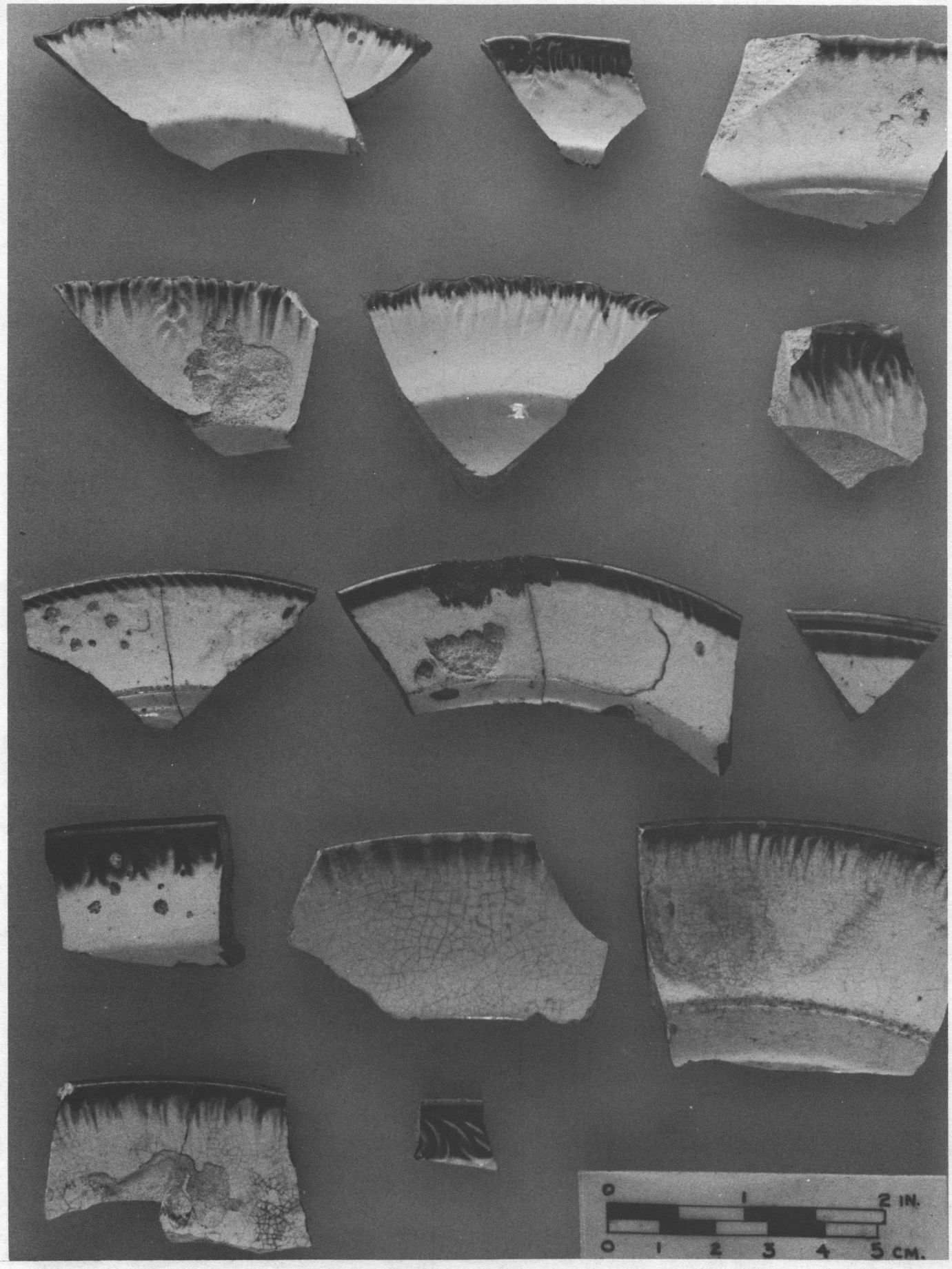


Figure 38. Edge-decorated whiteware.

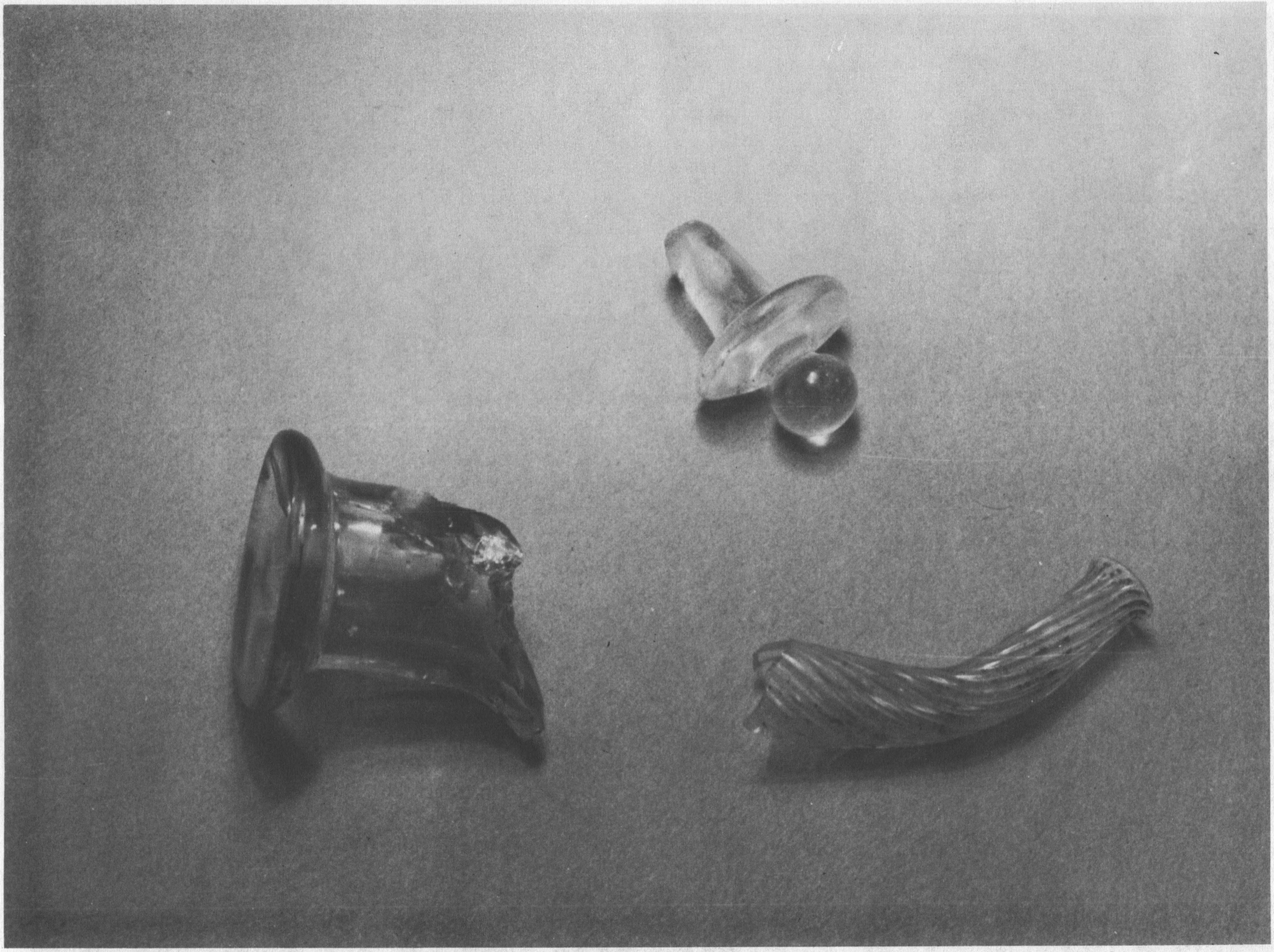


Figure 39. Glass artifacts.

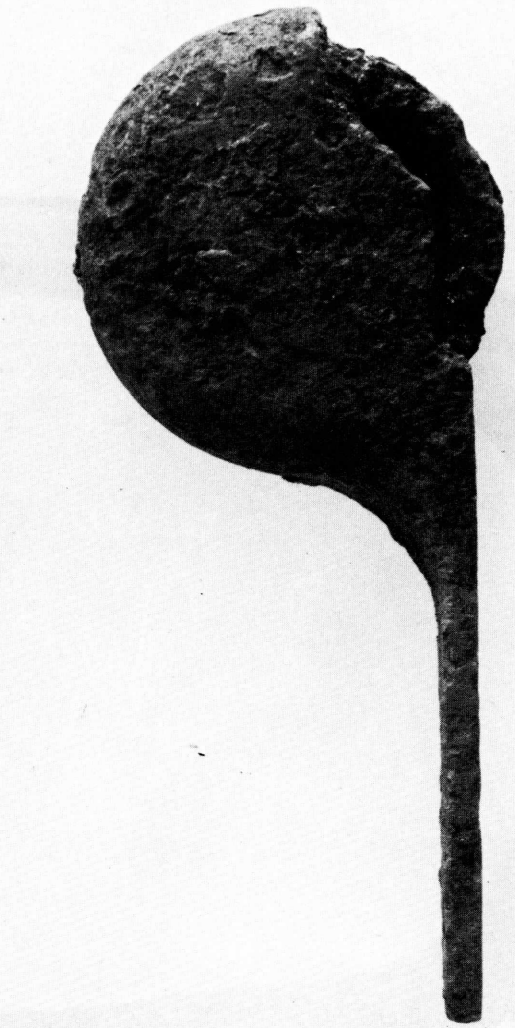


Figure 40. Pulley.



Figure 41. Metal hook.

and table knives, a copper alloy candle snuffer, buttons, clay pipe fragments, a child's silver finger ring, iron hinge fragments, medicine bottle sherds, a slogan button, and five nineteenth century coins.

Given the small size of the excavation units, the recovery of four coins from one unit could be regarded as unusual on most sites. The specialized function of the Lemon House as a tavern where money would be changing hands on a regular basis, however, provides an explanation for their presence. The four coins came from excavation unit 1 on the east side of the house. They were probably dropped accidentally by members of the Lemon House clientele through the floor of the deck. Three of the coins were low denomination one cent pieces and their loss would probably not have excited much concern. The fourth coin, however, was a silver 1828 five franc piece which would have been quite valuable. The weight of this coin was 15.9 pennyweights, a little less than the standard weight of the silver dollar of 17.3 pennyweights established in 1792 (Hepburn 1968:22).

Foreign coins such as the French franc piece were legal tender until March 3, 1827, in the United States and French silver coins formed the greatest part of the estimated $16,000,000 in specie in circulation in 1825 (Hepburn 1968:26-31). Despite the fact that it was no longer legal tender after the early part of 1827, foreign silver was still in wide circulation and in 1834 a move was made by New York banks to legalize Latin American and French currency again (Hepburn 1968:37). There seems little doubt that foreign silver currency was in wide circulation during the first half of the nineteenth century to the detriment of the silver coinage minted in the United States. Because United States silver coinage was worth more than its face value as bullion, it was exported from the country and disappeared from circulation (Demeter 1980:110). The Spanish and French coins which replaced them were valued more realistically in relation to their bullion content with the five franc coin probably worth a little over one dollar. In a period when the men working on the portage railway were paid as little as 75 cents a day (Wilson 1952:57), five francs would have been a considerable sum to lose.

The other coin, found in excavation unit 15, was an 1825 one cent piece which had been holed for suspension and was stamped with the name "McVEE." This may have been some workman's "lucky piece" or even an identity tag of some kind. The name McVee is probably Irish in origin and although Irish immigration to the United States did not commence in earnest until the potato famine of 1846 (Wittke 1975:259), many Irishmen had arrived in the United States to seek their fortune before this date. In 1818 many Irishmen had crossed the Atlantic to work on the Erie Canal (Rhodes 1977:153) and it is this canal which precipitated the building of the portage railway. Therefore perhaps the "penny" belonged to one of the work force of up to 2,000 men which at one time worked on the railroad (Roberts 1878:378).

A number of .32 pistol and 12 bore cartridge cases were found, all from a turn of the century context. The presence of the cartridge cases indicates that firearms were in use in the area of the site and given the nature of the terrain around the Lemon House, they were probably used in hunting. No bones of game animals were recognized, however,

from these same layer 3 deposits during the analysis of the bones from the excavation. This suggests that the Lemon House occupants were unsuccessful hunters or that the cartridges were discharged by itinerant hunters who happened to be in the vicinity of the house when they fired their guns. It is also possible that the firearms were kept for defensive purposes and that the cartridges were discharged during target practice.

Many of the ceramic and glass sherds recovered were extremely small and appeared to have been subjected to intense heat which in the case of ceramic sherds had caused the surfaces to spall, and had also melted many of the glass sherds. This may indicate that domestic trash was thrown into the household fires before being discarded outside. Fire-damaged ceramic and glass sherds were found in both mid-nineteenth and turn of the century contexts. Crossmends between sherds from the same stratum were fairly common.

Other items of interest from the Lemon House excavations include a fragment of a ceramic figurine from layer 3, ceramic marbles, and a silver spool handle with the maker's name "T. R. HOLT." A Moses K. Holt and William M. Holt are listed in a catalog of American silversmiths (Belden 1980:231) but no T. R. Holt is listed in the above work or in catalogs of English makers.

A small slogan button with the acronym "ADSA" and the words "MIND YOUR OWN BUSNESS [sic] NO. 60 TO 1" was recovered from layer 3. This enigmatic object is probably related to some local event but research has revealed no evidence for the significance of the slogan or the meaning of the acronym. The slogan does recall the words which appeared on the earliest United States copper coinage in 1787 "Mind Your Business" (Noel Hume 1972:169). As stated by Parrington (1980:53), while it seems unlikely that the slogan was meant to be found and pondered upon by an archeologist, an archeologist did find and ponder on it and decided to take its advice.

In 1981 a stoneware sherd impressed with the letters "JOHNSTO" was found underneath one of the upper stones in the extension to the stone foundation. Stoneware was made in Johnstown by Hiram Swank and Sons between c. 1857 and c. 1889 (Leishman 1982; Irwin 1982; Burkert 1982). Possibly this sherd came from an object made at that pottery. The sherd is an unusual shape (Figure 42). Shape and function of the object from which it came was not determined.

In doing research on the above stoneware sherd, it was learned that a pottery once existed near Munster, several miles east of the Lemon House. The kiln was apparently built sometime after 1827 when the potter, a Mr. Itle, purchased the property. Redware vessels with a variety of glazes were produced at the pottery. The pottery was built here because of a "very fine" slate-colored clay found on the property that fired a dark red (Gorman 1982). This information was of interest because of the large number of redware sherds from the artifact-laden deposits around the Lemon House (Tables 1-3, Figure 43). Of a total of 3,206 kitchen group ceramic sherds, 482 or 15 percent are redware and in some units, in particular two of those excavated against the south wall of the house, the percentage is much higher: 39 percent in unit 36, and 56

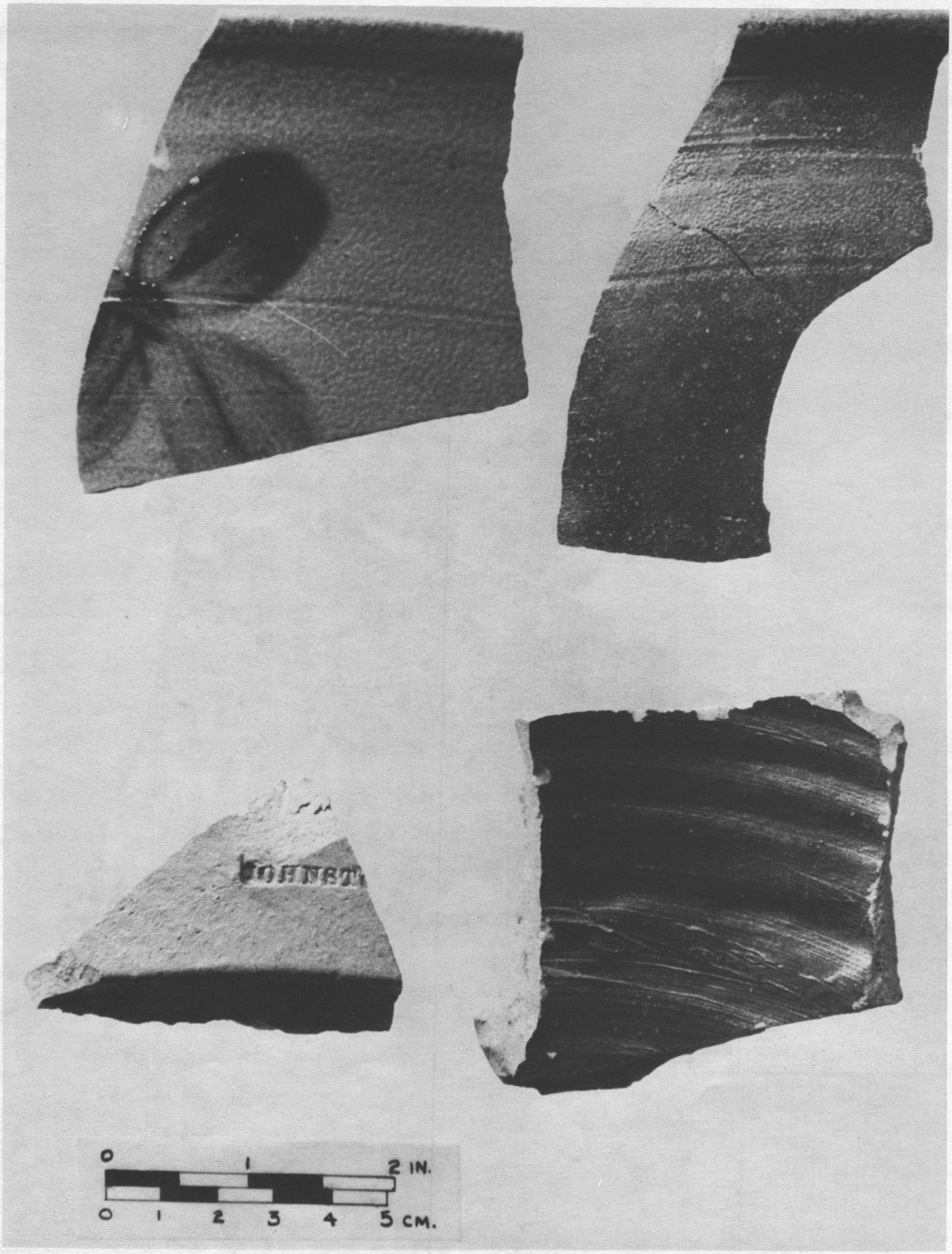


Figure 42. Stoneware sherds. Note incomplete word "JOHNSTO" impressed into lower left sherd.

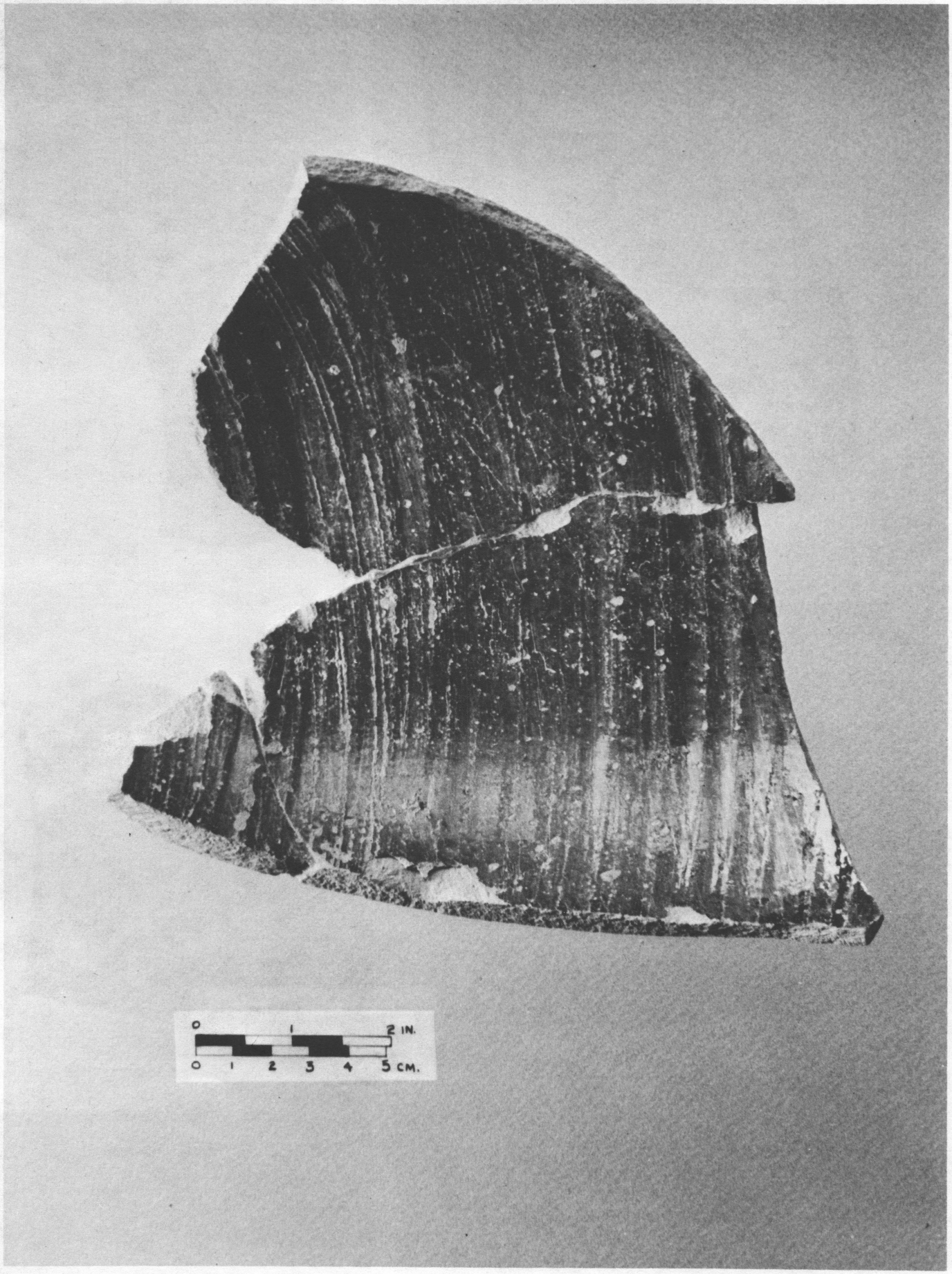


Figure 43. Redware sherds.

percent in unit 42. Possibly many of the vessels from which these sherds came were locally produced. Lasansky (1977) wrote a short history of the stoneware potteries of the Harrisburg area. She states that stoneware pottery was not made in the area until the Pennsylvania canal system--of which the Portage Railroad was a part--was in service. The canals were used to bring clays from New York and New Jersey to the potteries. Since the redware pottery near Munster also began production at approximately the same time and is so close to the portage railroad, possibly it was also dependent on the railroad, if not for clay, for some necessary inclusion in the clay or to transport the finished product to other parts of Pennsylvania.

1. Functional Analysis of Ceramics

The ceramics from the 1980 excavations were analyzed in detail by Parrington to see if changes in percentages and types of ware occurred through the temporal horizons represented by layers 3 and 5. This type of analysis was only attempted with the material from the 1980 excavation. The difficulty in dating the strata in the 1978 excavation and the lack of definite nineteenth century strata in the 1981 excavation precluded using this material in the study. Based on a sample of 372 sherds from layer 5 and 290 sherds from layer 3, the analysis showed that 57.5 percent of the ceramics from layer 5 were tablewares (whiteware) and 42.5 percent were kitchenwares (redware, yellowware, and stoneware). In layer 3 the percentages were 79.5 percent for tableware and 20.15 percent for kitchenware. Within the two tableware groups the percentages of hand-painted and transfer-printed ceramics were similar. Annular decorated wares, however, increased from 0.5 percent in layer 5 to 11 percent in layer 3 and plain whitewares increased from 40 percent in layer 5 to 55 percent in layer 3.

An attempt was made to identify the types of ceramic vessels in each group and plates, bowls, jugs, jars, cups, vases, crockpots, and mugs were recorded. The only types of vessels present in relatively large numbers were plates and bowls. Twenty-seven plates were identified, 20 from layer 5 and seven from layer 3. Fifteen bowls were recorded, 11 from layer 5 and four from layer 3.

The significance of the differences between the ceramic material from layer 5 and layer 3 are probably a factor of the changing use of the site through time. At the time layer 5 was deposited, the Lemon House was functioning as a tavern serving meals and refreshments to travelers on the portage railway. The higher percentage of kitchenware in use at this time may reflect the activities of a restaurant kitchen with a wider range of meals in preparation than would be found in a domestic kitchen. It could be argued that a restaurant would require large numbers of tablewares in which to serve food and in this respect it is significant that plates and bowls from layer 5 outnumber their counterparts from layer 3 by a factor of almost three to one. Unfortunately, these conclusions are based on a comparatively small sample.

2. Bone

The collection of animal bones recovered from the 1978 and 1980 excavations were analyzed by Crabtree. This analysis was completed

before the 1981 excavations so the 57 fragments of bone (two pig, one sheep/goat) recovered in 1981 are not included in this study. The 1978 and 1980 collections included: 698 bones and bone fragments and 162 oyster shells and oyster shell fragments. Two hundred eighty (280) of the 698 bone fragments could be identified, and these included the bones of pig (Sus), cattle (Bos), sheep (Ovis), chicken, rabbit, deer (Odocoileus virginianus), turkey, turtle shell, unidentified bird and rodent, and large and small mammal. The majority of the identifiable bones were the remains of cattle (113 fragments) and pigs (101 fragments). Oysters comprised a substantial portion of the faunal assemblage (162 shells and fragments), while white tailed deer, turkey, sheep, and rabbit were present in low numbers. The presence of the rabbit (a femur and a tibia which are probably from the same animal), the turtle shell fragment, and the small rodent bones (including an upper jaw, a single tooth, and a scapula) is probably fortuitous. These animals are unlikely to have formed a significant part of the diet at the site. On the other hand, the sheep, turkey, and deer, although also represented by small numbers of bones, may well be small but significant dietary items. The "large" and "small" mammal bone fragments refer to long bone shaft fragments which could not be identified to species but which probably represent cattle and pig, respectively. The small artiodactyl rib fragments could be either pig or sheep, but have been included with the sheep fragments for purposes of presentation only (Table 4).

Cattle and pig were the predominant* species in both layer 3 and layer 5. Table 5 shows the distribution of the different anatomical elements for each of the species in each of the two archeological phases. In both layers 3 and 5 cattle are represented predominately by vertebrae and ribs. 69.8 percent of the identified cattle bones in layer 3 and 72 percent of the cattle bones in layer 5 are vertebrae and ribs. The other anatomies represented include meat-bearing members such as scapula, pelvis, femur, tibia, and humerus. Relatively few "waste" anatomies of cattle are present. These are limited to a single tooth and phalanx in layer 5 and three phalanges, one carpal bone, one immature jaw, and one tooth in layer 3. This evidence would suggest that the majority of the beef was not slaughtered at the site, but instead was slaughtered, and probably at least partially butchered, before arriving at the Lemon House.

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*Due to the relatively small bone sample size, numerical comparisons of relative importance are limited here and based on fragment counts. Estimates of minimum numbers of individuals, which are unreliable for small samples generally (for a fuller discussion, see Perkins 1973), are likely to be even more misleading when meat is butchered and consumed in different locations, as only certain parts of the animals may be shipped to the consumption site. M.N.I. estimates for the Allegheny Portage faunal sample are three pigs and three cattle for layer 3, and two pigs and three cattle for layer 5. These estimates should be viewed with caution.

Table 4. Distribution of Species Identified

	Layer 3	Layer 5	Total
Pig	62*	39	101
Cattle	63	50	113
Sheep**	0 (11)	2 (8)	2 (19)
Chicken	6	4	10
Rabbit	2	0	2
Rodent	3	0	3
Unidentified bird	1	0	1
Deer	0	1	1
Turkey	0	1	1
Turtle shell	0	1	1
Small mammal	4	6	10
Large mammal	5	16	21
Unidentified	279	139	418
Total Bone	431	267	698
Oyster shell	39	46	85
Oyster shell fragments	54	23	77
Total Oyster Shell	93	69	162

* Numbers of fragments
** Small artiodactyl ribs are listed in parentheses

Table 5. Distribution of Anatomies Present

	Layer 3				Layer 5			
	Pig	Sheep*	Cattle	Chicken	Pig	Sheep*	Cattle	Chicken
Skull	1				1			
Jaws			1		1			
Vertebrae	21		25		2		16	
Ribs	1	11	19		3	8	20	
Scapula	3		2		2		2	1
Humerus				3	2		1	1
Radius	1			1				
Ulna	1				2			
Metapodials	1			2	1			1
Phalanges	4		3				1	
Pelvis	4		2		2	1	3	
Femur	5		6		3		6	
Tibia	5		2		1	1		
Fibula	2				2			
Astragalus	1							
Calcaneus					3			
Carpal			1					
Teeth	12		1		14		1	
Coracoid	—	—	—	—	—	—	—	1
Total	62	(11*)	63	6	39	2(8*)	50	4

Layer 3	Layer 5
Rabbit tibia and femur	Deer metatarsal
Small rodent maxilla, tooth, scapula	Turkey tibio-tarsus
Unidentified bird vertebra	Turtle shell fragment
39 oyster shells	46 oyster shells
54 oyster shell fragments	23 oyster shell fragments
4 small mammal bone fragments	6 small mammal bone fragments
5 large mammal bone fragments	16 large mammal bone fragments

*Includes small artiodactyl ribs

The distribution of pig anatomical elements presents a slightly different picture. Although a substantial number of pig vertebrae are present in layer 3, a wide variety of pig anatomical elements are represented in both chronological phases. The distribution of anatomies, however, would not support the conclusion that the pigs were slaughtered at the site. Refuse from pig slaughter usually includes a higher proportion of skull and jaw fragments, phalanges, carpals, tarsals, and metapodials than are present in the Allegheny Portage faunal collection. Moreover, the majority of the pig anatomical elements represented here (ribs, vertebrae, humeri, radii, ulnae, pelves, femora, and tibiae*) are meat-bearing members. Thus it is likely that pigs, as well as cattle, were partially butchered elsewhere and the meat brought to the Lemon House.

The high numbers of oysters and oyster shell fragments in both layers 3 and 5 suggest that oysters were an important dietary item in both chronological phases. Although the presence of oysters suggests an interest in aquatic resources, the oysters are likely to have been shipped to the site from outside. The absence of fish bone in the sample is equally striking. The evidence for wild animal use at the site is limited. Only one deer bone was recovered from the entire assemblage. This would suggest that hunting did not play a major role in meat acquisition at Allegheny Portage.

The evidence from butchery marks confirms the impression that meat (primarily beef and pork) was slaughtered elsewhere and brought to Allegheny Portage as joints. The majority of the identifiable bone fragments (103 out of 280 or about 37 percent) show traces of butchery. Butchery marks are especially common on ribs, vertebrae, and femur or similar long bone fragments.

Eighteen of the cattle vertebrae were axially split suggesting that the right and left sides of the carcass were separated during dismemberment. In contrast, the pig vertebrae were not regularly split, but one first cervical vertebra shows cut marks suggesting throat slitting, and a pig atlas and axis show chop marks, probably from decapitation.

Small sections of the femora of both cattle and pigs were sawn off. Thirty-two long bones in the sample had sections sawn through them, including both cattle and pig femora and small and large mammal long bone fragments. In addition, pelves and scapulae of both cattle and pigs were often sawn through. All of the above would be preferred cuts of meat. This again reinforces the impression that meat was brought into Allegheny Portage which had been butchered elsewhere.

Ribs of cattle and smaller mammals were also frequently split during butchery. Nineteen rib fragments bore butchery marks. Sectioning of ribs could result from the production of roasts, spare ribs, chops, and similar desirable cuts.

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*Skull (head cheese), jaw (hog jowl), and metapodials (pigs' knuckles) may also be meat-bearing members in pigs.

To conclude, the majority of the identifiable animal bone fragments from the Allegheny Portage site were of pigs and cattle. Despite the small sample size, and the presence of fowl, deer, and other species, it is clear that pork and beef were the staples of the Allegheny Portage meat diet. Mutton, although eaten, was also unimportant. Pigs and cattle were well represented in both layers 3 and 5 and there is no apparent change through time in the relative importance of these two species. Although the numbers of pig and cattle fragments are nearly equal in layer 3, and cattle fragments outnumber pig bones to some extent in layer 5, these differences are unlikely to be significant given the small sample size. Chicken remains a poor third in both phases. In both phases the distribution of anatomical elements present and the butchery marks would suggest that both pigs and cattle were slaughtered and at least partially butchered elsewhere and the meat shipped into the Allegheny Portage site. Unfortunately, almost none of the bone from either phase was measurable, and no measurements have been included in this report.

III. CONSTRUCTION-RELATED INVESTIGATIONS

Construction package 102 included the replacement of the sewer, water, and electrical systems servicing the Lemon House, the construction of a new park entrance road, and the reconstruction of a portion of the west wall of the house. This work required an investigation into the archeological significance of the deposits which were to be disturbed by this construction. The right-of-way for the road and each utility line was staked by either the project engineer, landscape architect, or project supervisor. For each area a pedestrian survey preceded more detailed investigation. Each project within the package was given a separate letter designation: S = sewer line; W = water line; R = road; E = electric line; WW = west wall; and each shovel test pit (STP) or area examined during construction was then designated by a number starting with one and the appropriate letter. Numbers were assigned in order of excavation, i.e., W2 refers to the second test pit excavated along the water line.

Test pits were excavated along the road, water, and sewer line and one line of the electrical system rights-of-way (Figure 44). Monitoring was the means of investigation along two lines of the electrical system rights-of-way and the area disturbed by reconstruction of the west wall of the house (Figures 12, 45). When test pits were used the distance between each pit was based on an area's potential for containing significant archeological resources. The interval was shortest for areas close to the house and in areas where structures are known to have once stood. Test pits were approximately one square foot in size and were excavated by shovel and trowel. When practical testing continued down to sterile soil. In many areas, though, the depth of the initial sterile stratum and the hardness of the overlying matrix made deep excavation impractical. Shovel test pits were excavated by stratigraphic level with the cultural material associated with a particular level so labeled. All artifacts with the exception of twentieth century building materials were collected (Table 6). Fill was only selectively screened. The amount of fill screened will be indicated for each area of research.

Archeological testing along the rights-of-way for the sewer line and new entrance road took place between April 27 and May 9, 1981. Juliette Guda did the pedestrian survey, interviews with park personnel, and subsurface testing.

A. Sewer Line

Ninety-nine shovel test pits were excavated along the sewer line right-of-way as staked by Engineer Dave Reeser. The interval between the pits varied from 3' to 60+'. Modern roads were avoided with the test interval increased accordingly. The most intensive testing took place near the Lemon House, south of the foundation along the south wall of the house. Soil in the test pits was not screened due to wetness and time limitations but was carefully examined during excavation. Soil color, texture, and cultural inclusions (Table 7) were noted for every stratum in a particular test pit.

The sewer line covered a distance of approximately 3,950'. The line extended from the exterior basement door along the south wall of the Lemon House across the open field to the west of the house. It continued

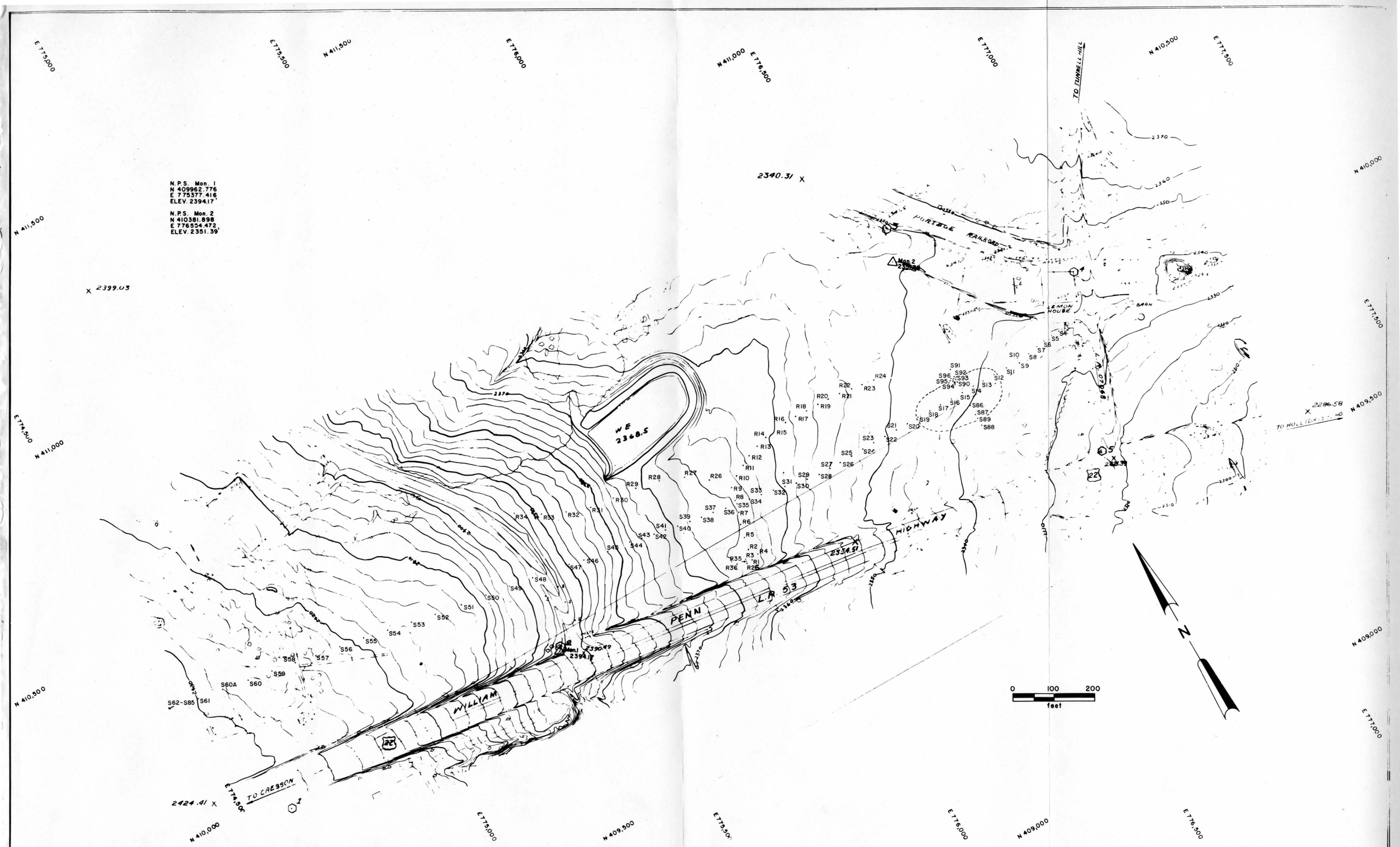


Figure 44. Approximate location of the test pits along the sewer line and road rights-of-way. Area enclosed by the dashed line is the approximate location of the manure-straw deposit.

Table 6. Summary of Artifact Types by Unit.

	1981 shovel test pits, sewer														1981 shovel test pits, road												
ARTIFACT TYPE	S1	S2	S3	S4	S5	S12	S14	S26	S45	S85	S89	S90	95	S Fea	R1	R2	R3	R10	R17	R25	R33	R35	R36				
KITCHEN	37	14	1	11	8									30	1	1	2			5		1	1				
CERAMICS	(2)	(4)	(1)	(4)	(8)									(18)		(1)	(2)			(5)		(1)	(1)				
CONTAINERS	(35)	(10)		(7)										(12)	(1)												
BONE															4												
FLORAL				x							x																
SHELL														1													
ARCHITECTURAL	40	3	8	1	1				3	1	1			3				1			2						
CONSTRUCTION	x	x	x	x			x		x			x															
FURNITURE	2																										
ARMS																											
CLOTHING	2																										
PERSONAL	1	1																									
TOBACCO PIPE																											
ACTIVITIES	28	x	x	1										1						1							
FUNCTION UNKNOWN	73	1	x	x	x							1	1	1					1								
TOTAL	183	19	9	13	9		x		3	1	1	1	1	40	1	1	2	1	1	6	2	1	1				

Table 6. (cont.)

	1981 shovel test pits, water line														1981 shovel test pits, electrical									
ARTIFACT TYPE	W 1	W 7	W 8	W 9	W 10	W 11	W 12	W 13	W 14	W 15	W 16	W 17	W trench near house	W trench SW of house	E 2	E 3	E 4	E 5	E 6	E 7	E frnt E-W	E frnt N-S	E back	E side hses	E swr line
KITCHEN	2	1			1	1	2	1	1	2	4	2	45	20	1	1	4	6	3	2	60	35	11	50	25
CERAMICS	(2)	(1)			(1)	(1)	(1)	(0)	(0)	(0)	(1)	(2)	(31)	(16)	(1)		(1)	(2)	(2)	(0)	(8)	(21)	(10)	(41)	(23)
CONTAINERS							(1)	(1)	(1)	(2)	(3)		(14)	(4)		(1)	(3)	(4)	(1)	(2)	(52)	(14)	(1)	(9)	(2)
BONE									1				1								2	4		2	1
FLORAL																					7	5	1		
SHELL													2												
ARCHITECTURAL			1	1	6	2	3	3	2	1	3	1	11	2		2	2	2		2	71	18	1	1	
CONSTRUCTION							x	x	x			x				2			1		1	2			
FURNITURE																					1				
ARMS																									1
CLOTHING																						1			
PERSONAL																									
TOBACCO PIPE														1								1			
ACTIVITIES		x	x	x	x		x		x	x	x	x			3	12		3	13		9				
FUNCTION UNKNOWN														1			1				1	14	1	5	1
TOTAL	2	1	1	1	7	3	5	4	4	3	7	3	61	24	4	17	7	11	17	4	152	80	14	58	28

Table 6. (cont.)

1981 excavations, west wall trenches

Artifact Type	WW L1-7	WW Pit	WW Fdn S	WW Fdn M	WW Mixed									
KITCHEN	75	145	9	7	1079									
CERAMICS	(74)	(25)	(9)	(7)	(940)									
CONTAINERS	(1)	(20)			(139)									
BONE	3	4			27									
FLORAL	x	x			13									
SHELL					12									
ARCHITECTURAL	3	16		6	72									
CONSTRUCTION	x	x		x	10									
FURNITURE														
ARMS														
CLOTHING	4	29			1									
PERSONAL					1									
TOBACCO PIPE	2	5			7									
ACTIVITIES	x	x			3									
FUNCTION UNKNOWN	9	x			11									
TOTAL	96	199	9	13	1236									

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1981-1982 Excavations **Table 7.**
Artifact Classes

	S T P																								
	S1 L-1	S1 L-2	S1 L-3	S1 L-4	S1 L-5	S2 L-1	S2 L-2	S2 L-3	S3 L-1	S3 L-4	S4 L-2	S4 L-3	S5 L-1	S5 L-4	S5 L-6	S12 L-3	S14 L-2	S26 L-3	S45 L-1 or 2	S85 L-2	S89 Inf. L-1 &2	S90 L-1	S90 L-2	S95 L-1	Tr. S. FEA.
Kitchen Group Totals:	1			32	4	2	1	11	1			11	1	1	6										30
Ceramics Totals:	1			0	1	1	0	3	1			4	1	1	6										18
Porcelain					1																				
Stoneware													1												
Semi-porcelain														1											
Earthenware Totals:	1					1		3	1			4			6										18
Whiteware	1					1		2	1			4			5										18
Transfer print																									1
Edge decorated and molded															1										
Hand painted																									7
Annular																									
Other/unknown															1										1
Undecorated	1					1		2	1			4	1		3										9
Creamware																									
Pearlware															1										
Redware								1																	
Yellow ware																									
Other																									
Containers Totals:				32	3	1	1	8				7													12
Bottle glass Totals:				32	1	1	1	8				7													12
Purple (from sun)																									
Bottle closures Totals:					2																				
Glass																									
Metal					2																				
Plastic, cellophane																									
Kitchenware																									
Bone Totals:																									4
Bos																									
Sus																									
Ovis/Capra																									
Other unknown																									
Floral Totals:												X									X				4
Shell Totals:																									1
Architecture Group Totals:			1	1	38	1		2	8			1			1				3	1	1				3
Window glass					10	1		2	6			1			1										2
Nails - unable to identify type					1																1				
Wrought																									
Cut																									
Wire				1	10				1																
Unsorted																									
Possible nails			1		1																				
Other					16				1										3	1					1
construction Material (mortar etc)		X			X			X		X	X	X					X					X			
Furniture Group					2																				
Arms Group																									
Clothing Group Totals :					2																				
Buttons																									
Other					2																				
Personal Group Totals:	1							1																	
Coins	1																								
Other								1																	
Tobacco Pipe Group																									
Activities Group Totals:				1	37							1													1
Leisure																									
Stable and barn, misc. hardware				1	22							1													
Public Service					1																				
Other					4																				
Clinkers - coal	X	X	X	X	X	X	X	X		X		X			X										1
Function Unknown Totals:					73			1														1		1	1
Metal					73			1																	
Plastic												X										1		1	
Leather																									
Glass																									
Stone	X							X		X															1
Rubber																									
Unknown material																									
TOTALS	2	X	1	34	146	3	1	15	9	X	X	13	1	1	7	0	X	0	3	1	1	1	0	1	40

west through a wooded area, then past a truck shop and mobile home (STP S58-S63, S97), and finally through wooded, state-owned property. The sewer line followed an electrical line corridor through the wooded area (STP S64-81, S98-99) and then crossed an area which was once part of a state sanitarium (STP S82-85).

In the 1960s the owner of the Lemon House, Byron Roberts, added a concrete block garage/wood porch to the south side of the house. The first two shovel test pits were excavated in this area. A concrete block was uncovered in test pit S2. This block was sitting in an orange clay and was aligned with the concrete block foundation uncovered in 1980 in excavation units 9, 23, and 24. Measured from the vertical datum used in the 1980 and 198l excavations, the upper surface of the block was 1.98' below datum. STP S1 which was excavated in the interior of the concrete block foundation yielded garage-type artifacts: battery, machine parts, pipe section.

In test pits S3 and S4, a 0.25' diameter iron pipe was uncovered. It was 2.75' below datum in pit S3 and 2.98' below datum in pit S4. This is the same pipe that Parrington uncovered in excavation unit 11 (1980:23; Figure 13). The pipe predates the garage as it runs under the concrete block foundation and orange clay. According to park maintenance personnel, this pipe is part of an old water line that is no longer functioning.

Test pit S5 is the first unit along this line which uncovered a stratum which may be the historic grade. After a series of disturbed soils with sparse artifacts, a medium brown loam (level 6) was exposed at 1.33' below ground surface or approximately 2.33' below datum. The loam was about 0.5' deep and included such artifacts as a cut bone, whiteware, pearlware, and window glass sherds, and a cut nail shank. Underlying this level was a wet orange clay.

What appears to be a barnyard area was first uncovered in STP S12 (Figure 44). The deposit extends for approximately 210' (STP S12-S19) along the line and for at least 35' north of the right-of-way (STP S90, S95) and 70' south (STP S86, S87, S89). This blackish deposit appears to be a mixture of manure and straw. In STP S86 the deposit was 0.33' deep with a mottled orange clay beneath. Along the eastern, western, and southern limits of the feature (STP S12, S19, S89), the manure and straw level was less pronounced and appeared as a dark brown, more "loamy soil" without distinct straw. The blackish manure and straw level was 1.5' below the present ground surface on the north, 0.33' on the south, 0.5' on the east, 0.29' on the west, on 1.17' to 1.33' below ground surface in the center. It is unknown why this feature shows such an extreme bowl shape in cross section. Perhaps this area contains more than one feature, or is the interior and exterior of a shed or barn. To the north of the sewer line the soil overlying the manure-straw deposit appeared to be recent. The soil was compacted and full of building material debris. Along the sewer line and to the south, interpretation becomes more difficult. The soil in these test pits was similar in color and type to that farther north, but was less compacted and contained fewer artifacts. No structural remains were uncovered during the testing of this area.

In discussing the manure-straw deposit, several possible explanations for its occurrence were advanced by park personnel. One idea was that the manure was associated with a gas line that went through the area in the 1930s. Apparently those lines were sometimes lined with horse manure for insulation but the pipes so insulated were usually 3' to 4' deep. The remote possibility of this deposit being a gas line was abandoned when the area tested was expanded to the north and south (STP S86-S89, S90-S96). The blackish manure and straw deposit covers too broad an area to be associated with gas line installation. Also the shallow depth of this straw-manure deposit argues against this interpretation. A second idea was that the deposit is associated with a former barnyard area. Aerial photographs taken in the winter and summer of 1976 (on file at the park) show a distinct elongated area, such as an enclosed exercise ring, but it appears to be farther west than the manure-straw deposit. A photograph taken of the area in c. 1884-87 (Figure 4) shows a shed-like structure with fences and possible barnyard in the approximate location of the manure-straw deposit. No conclusive artifactual evidence was encountered in this area. The majority of the artifacts were overlying the deposit and were building materials dating to the late twentieth century. STP S89 had a shank section of a nail with a square cross section overlying the barnyard level.

Stratigraphy in the remainder of the test pits west of the manure-straw lens appears to be a result of road construction or natural formation. Isolated artifacts were uncovered in test pits S45, S85, and a burned soil lens was noted in pit S26. In general there was an orangey clay to sandy clay sterile subsoil in the field and forested areas to the west of the house.

In May 1982, the excavation of the section of the sewer line from the lift station to the house was monitored by Acuff. Stratigraphy was consistent with the rest of the backyard: brown loam, yellow clay, and dark brown loam. In an area 45' southeast of the west wing corner of the house and 67' southwest of the southeast corner of the house, a concentration of large cut stones, wooden posts, and cultural material was found. An old water pipe was also present. This feature appeared only in the south wall of the trench about 2' below present ground surface. While it was difficult to tell the nature of this feature, it is recommended that the area be investigated more fully before any further disturbance.

To conclude, the sewer line right-of-way went through what appears to have once been a barnyard area. The feature was in the field to the southwest of the Lemon House and covered an area of approximately 210' (east-west) by 105' (north-south). The blackish manure and straw level is 1.17' to 1.33' beneath the modern ground surface in its center. What seems to be the outer edge of the feature is a shallow 0.29' to 0.5' below the modern ground surface except to the north where it is 1.5' below the modern ground surface. Also a concentration of cultural material was noted south of the house at a depth of 2'.

B. Entrance Road

Thirty-six shovel test pits were excavated along the entrance road right-of-way (Figure 44, Table 8). The right-of-way was Y-shaped

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Table 8.

Artifact Classes		S T P R1 L-2	R2 L-2	R3 L-1A	R3 L-1B	R10 L-2	R17 L-1	R25 Sur.	R25 L-1	R33 L-1	R35 L-2	R36 L-1	S T P W1 L-1	W1 L-2	W7 L-1	W7 L-2	W8 L-2	W9 L-2	W10 L-2	W10 L-3	W11 L-2	W11 L-3	W12 L-2	W12 L-3	W12 L-5	W13 L-1	W13 L-2	W13 L-5
Kitchen Group	Totals:	1	1	2	2			2	3		1	1	1	1		1			1			1	2				1	
Ceramics	Totals:	0	1	2	2			2	3		1	1	1	1		1			1			1	1				0	
Porcelain													1															
Stoneware																												
Semi-porcelain																												
Earthenware	Totals:		1	2	2			2	3		1	1		1		1			1			1	1					
Whiteware	Totals:		1	1	2			2	3		1	1		1		0			1			1						
Transfer print				1	1																							
Edge decorated and molded																												
Hand painted																												
Annular					1																							
Other/Unknown																												
Undecorated								2	3					1					1			1						
Creamware																1							1					
Pearlware			1								1	1																
Redware				1																								
Yellow ware																												
Other																												
Containers	Totals:	1																					1				1	
Bottle glass		1																					1				1	
Purple (from sun)																												
Bottle closures	Totals:																											
Glass																												
Metal																												
Plastic, cellophane																												
Kitchenware																												
Bone	Totals:																											
Bos																												
Sus																												
Ovis/Capra																												
Other unknown																												
Floral	Totals:																								1			
Shell	Totals:																											
Architecture Group	Totals:				1	1				2							1	1	5	1	1	1	1		2	1	1	1
Window glass						1				2							1		5						2	1		
Nails - unable to identify by type					1																							1
Wrought																												
Cut																												
Wire																				1	1	1						
Unsorted																											1	
Possible nails																												
Other																		1										
Construction Material (mortar, etc.)	Totals:																							x			x	
Furniture Group	Totals:																											
Arms Group	Totals:																											
Clothing Group	Totals:																											
Buttons																												
Other																												
Personal Group	Totals:																											
Coins																												
Other																												
Tobacco Pipe Group	Totals:																											
Activities Group	Totals:							1																				
Leisure																												
Stable and barn, misc. hardware								1																				
Public service																												
Other																												
Clinkers - coal															x		x	x	x	x			x					
Function Unknown	Totals:						1																					
Metal																												
Plastic							1																					
Leather																												
Glass																												
Stone																												
Rubber																			x									
Unknown material																												
TOTALS		1	1	2	3	1	1	3	3	2	1	1	1	1	x	1	1	1	6	1	1	2	3		2	1	2	1

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Table 8. (cont.)

Artifact Classes	STP W14 L-1	STP W14 L-2	STP W15 L-1	STP W16 L-2	STP W16 L-3	STP W17 L-2	STP W17 L-3	Tr. W Near House	Tr. W SW of House	STP E2 L-2	STP E3 L-2	STP E3 L-3	STP E4 L-3	STP E5 L-2	STP E5 L-3	STP E6 L-1	STP E6 L-2	STP E6 L-4	STP E7 L-2	STP E7 L-3	Tr. E Front E-W	Tr. E Front N-S	E Back	E side house transf	E following sewer line
Kitchen Group Totals:		1	2	1	3	1	1	45	20	1	0	1	4	0	6	2	1	0	0	2	60	35	11	50	25
Ceramics Totals:		0	0	0	1	1	1	31	16	1	0	0	1	0	2	1	1	0	0	0	8	21	10	41	23
Porcelain																								3	1
Stoneware								3	1																
Semi-porcelain								1													1	1		6	
Earthenware Totals:					1	1	1	27	15	1			1		2	1	1					3			
Whiteware Totals:					1	1	1	25	13	1			0		2	1	0				7	17	10	32	22
Transfer print							1	5	7												5	17	9	30	21
Edge decorated and molded								2													1	3		11	4
Hand painted								3	1							1						9		2	2
Annular	1																							2	
Other/Unknown									2																
Undecorated					1	1		15	3	1					1							3	1		2
Creamware															1						4	2	8	15	13
Pearlware																									
Redware								2	2				1				1				2				
Yellow ware																							1	2	1
Other																									
Containers Totals:		1	2	1	2			14	4			1	3		4	1				2	52	14	1	9	2
Bottle glass		1	2	1	2			14	4			1	2		3	1				2	57	14	1	8	2
Purple (from sun)															(1)										
Bottle closures Totals:																									
Glass													1											1	
Metal																									
Plastic, cellophane																									
Kitchenware																									
Bone Totals:		1						3													2	4	0	2	1
Bos																									
Sus																									
Ovis/Capra																									
Other unknown		1						3													2	4		2	1
Floral Totals:																					7	5	1		
Shell Totals:								2																	
Architecture Group Totals:		2	1	3		1		11	2		2		2	1	1				1	1	71	18	1	1	
Window glass		1		3		1		9	2		2		1							1	61	15			
Nails - unable to identify by type		1																							
Wrought																									
Cut								1					1								10			1	
Wire			1																1				1		
Unsorted																									
Possible nails																						2			
Other								1						1											
Construction Material (mortar, etc.) Totals	x	x					x				1	1						1			1	2			
Furniture Group Totals:																					1				
Arms Group Totals:																									1
Clothing Group Totals																						1			
Buttons																						1			
Other																									
Personal Group Totals:																									
Other																									
Tobacco Pipe Group Totals:									1	1												1			
Activities Group Totals:										3	1	11		3		1		12			9				
Leisure																									
Stable and barn, msc. hardware																					1				
Public service																									
Other																									
Clinkers - coal	x	x	x	x	x	x				3	1	11		3		1		12			0				
Function Unknown Totals									1				1								1	14		5	1
Metal									1				1								1	4	1	2	1
Plastic																									
Leather																						1		3	
Glass																									
Stone																						9			
Rubber																									
Unknown material																									
TOTALS:		4	3	4	3	2	1	61	24	4	4	13	7	4	7	3	1	13	1	3	152	80	14	58	28

with the base of the Y on Highway 22, approximately 900' west of the Gallitzin road. The proposed road goes north for 235' (STPs R1-R8, R35, R36), then branches east to a parking lot (STP R9-R24), and west toward the picnic area (STP R26-R34).

Test pits R1-R4, R25, R35, and R36 were excavated in a potentially archeologically sensitive area. Activity indicators were exposed brick and bone fragments, pearlware, and redware sherds. A 1850-51 map of the area (Figure 3) shows a structure just west of the present right-of-way. The old highway was south of the present highway alignment. Test pits R1-R3 and R25 yielded nineteenth to twentieth century artifacts in what appears to be an undisturbed context. Four test pits (R1, R3, R4, R36) had a dark brown loam deposit ranging in depth from 0.5' to 1.17' below the modern ground surface. Test pit R3, of these four, had a nail and two whiteware sherds in the lower portion (level 1B, 0.75' to 1.17' below the modern ground surface) of this artifact-laden deposit. Stratigraphy in STPs R25 and R35 was distinctly different from the other test pits in this area. A very dark brown to black sandy loam with inclusions of orange clay was above a sterile orange clay. In STP R35 the loam deposit became darker with increasing depth. This deposit in both STPs R25 and R35 contained whiteware sherds. It is possible that this area has been disturbed by road maintenance or construction. To the south is a mound of gravel and cinders.

The stratigraphy in all other test pits followed the same basic sequence: topsoil, mottled, medium brown loam with orange clay, and then orange clay. Any deviations seem to be a result of the level of ground water and the pits' proximity to the present parking lot (STP R24) or the picnic area road (STP R34).

The scattering of artifacts and the deep deposits of dark brown loamy soil (0.5' to 1.17') in the southern end of the entrance-picnic road indicates cultural activity of some type in this general area. But since no structural remains nor concentrations of artifacts was uncovered by the testing, it was decided that road construction would not disturb any significant cultural resources. Historically, a structure and an old alignment of Highway 22 were near this area.

C. Water Line

The subsurface testing along the water line right-of-way took place between August 11 and 13, 1981. This work was done by Kathleen Fiero. Testing only took place along the first 100' of the right-of-way. Past this the center of the right-ofway was just 20' north of the center of the previously tested sewer line right-of-way. The previous testing was considered adequate for both utility lines. Seventeen test pits were excavated along the water line. A 3' interval was used between the house and the modern walk. This was extended to 10' in the field south and west of the walk (Figure 45). The pits varied in depth from 0.67' to 1.75'. All fill was screened (Table 8). The stratigraphy in the field consisted of a brown loam below the sod. The loam varied from 0.5" (0.04') to 1" (0.08') in depth. Below this there was a yellow clay mottled with a brown clay over a dark brown loam. Near the house there was a sterile sand between the yellow clay and the dark brown loam. No

features were uncovered. In May 1982, Acuff was at the park during the excavation of the water line. Only one area was found to contain significant amounts of cultural material. This was an area 73' southwest of the corner of the west wing of the house and 36' southwest of the transformer which is west of the house (Figure 45). The culture-laden stratum was 1.5' below present ground surface and was approximately 15.5' long and 2' deep at its deepest point. The matrix was a dark brown loam.

Outside the back door of the west wing of the house, large amounts of artifacts were uncovered including a handbrake and tires for a vehicle. This area had been disturbed both from regrading and previous utility line construction.

D. Electric Line

Archeological testing and monitoring were conducted from May 3 through 7 and May 12 and 13, 1982, by Beth Acuff before and during the installation of new electrical lines (Table 8). Three lines were to be installed from the house: one to the backyard light, one to the parking lot light, and one to the front yard light. A fourth line was also installed from the lift station to a point approximately 9.5' south of the house but this line was placed in the previously tested sewer line right-of-way.

Trenching for the electric conduits was to be done with a small gasoline-powered ditch witch cutting a trench 0.33' wide and 1.5' deep; however, because of large subsurface stones and failure of the equipment, some trenches were hand dug and others dug using a 1.0' bucket on a backhoe.

Seven shovel test pits were dug from the light in the backyard to the house (Figure 45). They varied in depth from 1.17' to 1.92' with the interval between them 10' except where the existing sidewalk prevented this. All excavated material was screened. Very little cultural material and no significant features were found through the excavation of these pits. In general the stratigraphy for this backyard area consisted of a surface level of brown loam or topsoil, a layer of orange clay fill, and a dark brown loam level under this. The orange clay fill is a result of changes made to the rear of the house by previous owners or the Park Service activity in 1971 in removing a non-historic garage and porch on the south side of the house and then regrading the area.

The excavation of the trench along this electrical line was also monitored. In this area the small ditch witch was used. No significant features were exposed and the amount of cultural material was small. Several large roots were encountered which could have been from a pre-existing tree or part of the fill. Stratigraphy was consistent with the test pits.

The trench from the house to the parking lot light fixture was dug in three sections with each section of the excavation monitored. From the house to a transformer, the backhoe was used resulting in a trench 1.0' wide and 1.5' deep. Again the stratigraphy was consistent with the rest of the backyard: brown loam topsoil, orange clay fill, and the dark brown loam of what may be an earlier ground surface. A trash



Figure 45. Approximate location of sewer line, water line, electric line test pits, and electric line trenches. Dashed line outlines the approximate location of cultural deposits and stone slab. "T" stands for transformer.

area was uncovered in this trench. It first appeared at 39' from the southwest corner of the west wing of the house and 27.5' east of the transformer. Approximately 1.7' below present ground surface in dark brown loam, a heavy concentration of artifacts appeared with clinkers, coal, and brick fragments in the matrix. Ceramics consisted of plain whiteware and whiteware decorated with transfer printing, spattering, and shell edging (Table 8).

The second section of this trench was dug with the ditch witch. It ran from the transformer 116' west to the edge of the field. Many large stones were encountered and in these areas the trench was hand dug. Cultural material was almost nil: one small sherd of whiteware, two window glass fragments, one square cut nail fragment, and three cinderblock fragments. Stratigraphy was similar to that of the backyard with a brown surface loam and then orange clay. Superintendent Randall Cooley (1982) indicated that fill was probably deposited in this area when the existing parking lot was built. Fill was necessary to raise the ground surface for drainage.

Because of the presence of large subsurface stones, the 1.0' backhoe was used to dig the final section of this trench. The section extended from the edge of the field to the light in the parking lot. No areas of a sensitive nature were revealed in this section. Stratigraphy remained the same as in the rest of the trench.

Two methods were used to dig the electrical line trench from the northwest corner of the house, around the outside of the fence, to the existing front yard light. Work was begun using the ditch witch but due to breakdown, the trench was finished by hand excavation. The original line was laid 1.58' north and then east of the modern fence line. Along the east-west section of the line, 5' east of the northwest corner of the fence and 0.58' below ground surface, a large flat stone was encountered. The stone measures 5' across and extends under the fence. A square outline of brown grass inside the fence may indicate the extent of the stone feature. A pre-1900 photograph of the front yard shows a structure in the northwest corner of the yard (Figure 46). Possibly this stone slab is related to the structure. Artifacts in association with this feature included square cut nails, window glass, one transfer-printed whiteware sherd, coal, and brick fragments. After consultation with the superintendent, project supervisor, and construction supervisor, it was decided to move the trench to the north to avoid this feature. The relocated trench was dug by angling north from the light fixture to the fence line corner. This area also contained quite a few artifacts and construction debris and should be tested further. In this area 1.08' of brown loam overlay orange clay.

The north-south trench outside the fence was dug by hand. While no architectural features were found, the artifact content was high. This was particularly true near the northwest corner of the fence and may be associated with the large stone feature mentioned above. The brown loam stratum decreased from 1.08' in depth at the fence corner to 0.04' in depth near the sidewalk. Orange clay underlay this level. South of the sidewalk to the northwest corner of the house, the soil was a dark brown loam fill with lenses of sand, charcoal, and cinders. Artifacts

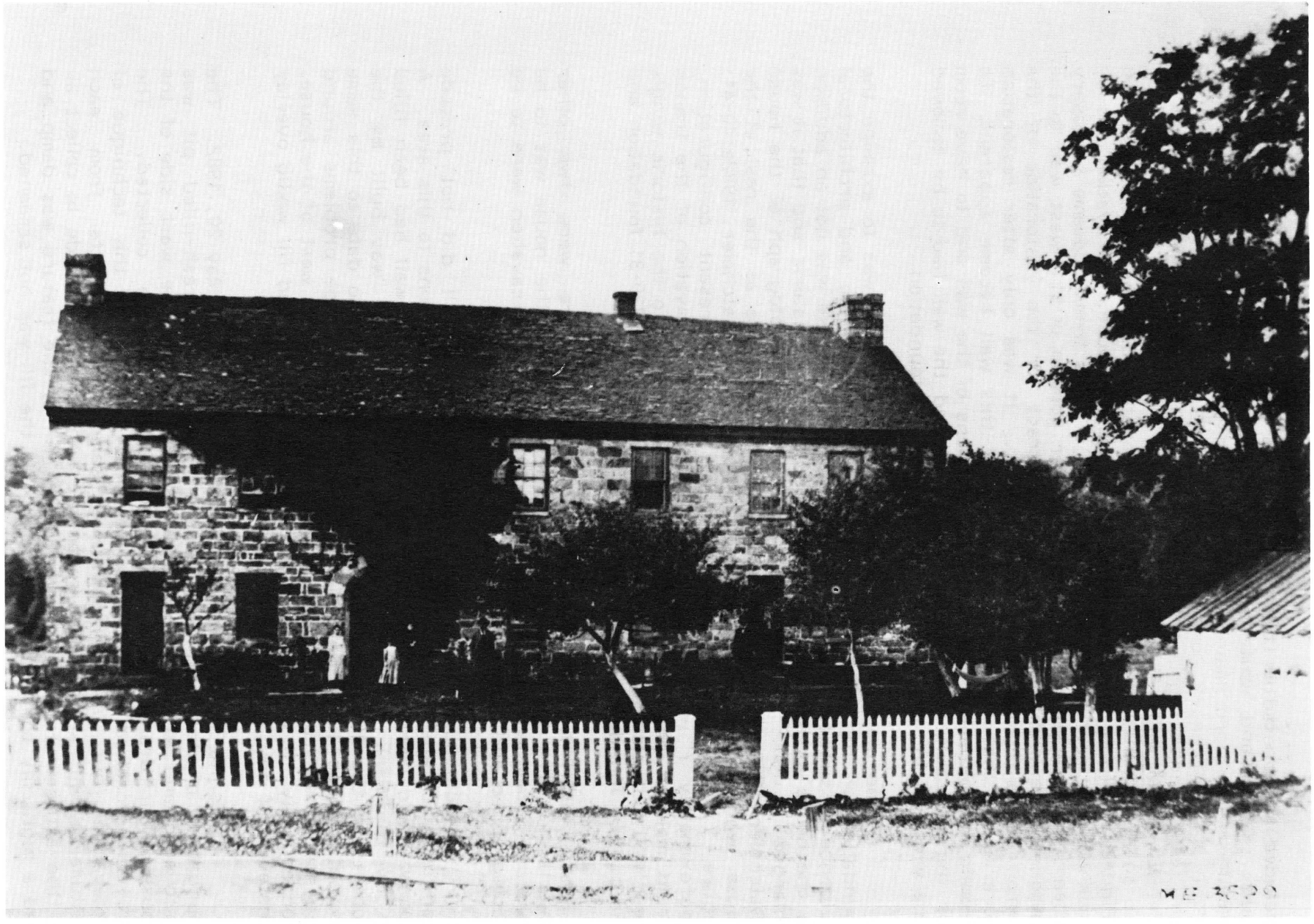


Figure 46. Pre-1900 view of the Lemon House. Note the small building in the northwest corner of the front yard (from Batcheler 1982a:32).

included modern bottle (beer, soda) glass and a triangular green plastic bead. Green and white paint was found on wood fragments from this area.

E. West Wall

A trench 13' by 28.5' was excavated just west of the west wall (Figure 12, Table 9) of the wing to the Lemon House. Excavation was by backhoe and front-end loader (Figure 47). This trench became necessary when it was decided to rebuild the lower portion of the west wall to the Lemon House wing. The original contract for the restoration of the Lemon House did not cover this project. It was only after restoration work began that the unstable nature of this wall became apparent. To rebuild the basement and first floor portions of the wall and to have room for the necessary scaffolding, the fill around the wall had to be removed to a width of 13' and down to the level of the foundation.

One concern in monitoring this excavation was to examine the foundation of the west wall. There is photographic and architectural evidence to suggest that the west wing to the house was not an addition to the house as believed by Souder (1972:i) but historic and that it was enlarged c. 1900. The wing, in a c. 1884-87 photograph of the house (Batcheler 1982a:22-23; Figure 4), is half as wide as the rest of the house while a post-1903-pre-1933 photograph (Batcheler 1982a:40-41; Figure 7) definitely shows the wing in its present configuration, approximately 7' wider than in the 1880s. The excavation of the trench would make it possible to examine the foundation to the historic wing's west wall but also to note differences between the 1830-31 foundation and the c. 1900 foundation.

Besides examining the foundation, there were two other objectives. The stratigraphy on the west side of the house was to be carefully examined and any features noted during excavation were to be photographed and recorded.

Controlled excavation along the west wall did not precede monitoring because of the history of recent modifications to this area. A doorway and concrete block stairwell along the west wall had been filled in by the Park Service (Figure 48). The stairwell was built by the Roberts in the 1960s and the doorway was thought to date to this same period (Souder 1972; Batcheler 1982a). Also drainage problems around the house had led to various landscaping modification west of the house. Consequently, it was felt that a great deal of disturbed fill would overlay whatever, if any, undisturbed deposits remained.

Monitoring by Kathleen Fiero took place on May 20, 1982. The foundation of the wall was closely examined, a trash-filled pit was uncovered and excavated, a profile of the fill on the west side of the house was drawn, and numerous artifacts were collected. The provenience of most artifacts was lost because of the technique of excavation but a representative sample of artifacts from each culture-bearing stratum was collected. An effort was made to collect all of the artifacts from the feature. The fill of the feature was damp and had a high clay content. Because of this the fill was not screened.

Allegheny Portage Railroad
National Historic Site
1981-1982 Excavations

Table 9

Artifact Classes		Tr. W-W L-1	W-W L-2	W-W L-2 & 3	W-W L-3	W-W L-4	W-W L-5	W-W L-6	W-W L-7	W-W Pit	W-W foundation S	W-W foundation M	W-W Mixed	1981-1982 TOTALS
Kitchen Group	Totals:		8	40	15	11		1		145	9	7	1079	1709
Ceramics	Totals:		8	40	14	11		1		125	9	7	940	(1369)
Porcelain										1			41	47
Stoneware										4	1		31	50
Semi-porcelain												1		6
Earthenware	Totals:		8	40	14	11		1		120	8	6	868	1266
Whiteware	Totals:		1	40	3	9		0		87	8	4	806	1131
Transfer print			1	8	1					14		2	222	283
Edge decorated and molded					1	6				11			51	85
Hand painted										3	1		29	47
Annular										5			35	41
Other/Unknown						1				7			41	60
Undecorated				32	1	2				47	7	2	428	612
Creamware														2
Pearlware								1		3			6	14
Redware			7		9	2				30		2	55	119
Yellow ware					2								1	3
Other														0
Containers	Totals:				1					20			139	341
Bottle glass					1					20			136	332
Purple (from sun)														1
Bottle closures	Totals:													2
Glass													1	3
Metal													1	3
Plastic, cellophane													1	1
Kitchenware														0
Bone	Totals:			1	2					4			27	51
Bos				1						2			1	4
Sus														0
Ovis/Capra														0
Other unknown					2x					2			26	47
Floral	Totals:								x	x			13	26
Shell	Totals:												12	15
Architecture Group	Totals:				2	1				16		6	72	297
Window glass					1	1				16		6	55	211
Nails - unable to identify by type														5
Wrought														0
Cut														15
Wire					1									20
Unsorted													16	16
Possible nails														2
Other													1	28
Construction Material (mortar, etc.)	Total				x			x		x		x	10	16x
Furniture Group	Totals:													3
Arms Group	Totals:													1
Clothing Group	Totals:		4							29			1	37
Buttons													1	1
Other			4							29				36
Personal Group													1	3
Coins														1
Other													1	2
Tobacco Pipe Group	Totals:				1	1				5			7	16
Activities Group	Totals:												3	74
Leisure														0
Stable and barn, msc. hardware													2	28
Public service														1
Other													1	5
Clinkers - coal					x	x				x				40x
Function Unknown	Totals:		5					1	2	1			11	122
Metal													2	85
Plastic								1	2	1				9
Leather			4											4
Glass			x							x			2	4
Stone														3x
Rubber													7	0
Unknown material			1											17
TOTALS:			17	41	20	13	1	3	1	199	9	13	1236	2370



Figure 47. Excavation of the west wall trench looking south.

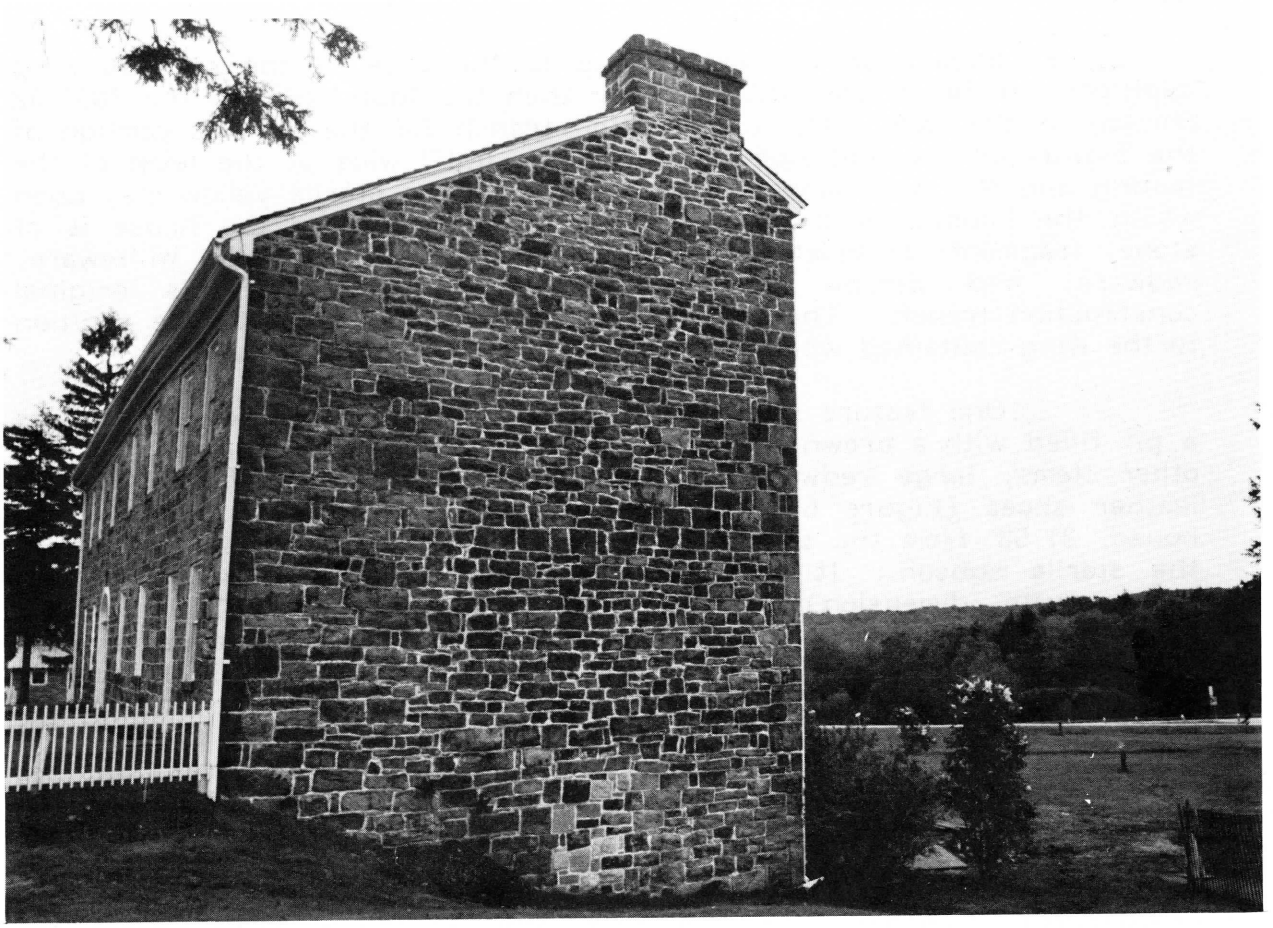


Figure 48. 1982 photograph of the west wall of the Lemon House wing. The area with light colored stones at the basement level in the center of the wall is the location of the former doorway.

The foundation to the west wall of the wing is made of the same material as the wall it supports, a grey sandstone. There is a definite change in the foundation at 6.2' from the south end of the wall. At this point and extending to the southwest corner of the wing the foundation to the wall extends out from the wall 0.67' to 0.87', forming a distinct ledge (Figures 49, 50), 3.4' below the lower strap that fastens the drain to the southwest corner of the wing. To the north of this, the foundation is even or at most 0.17' to 0.42' wider than the wall. The construction trench for the 6.2' section of footing was distinct; it cut through the builder's trench for the original foundation, and it extended farther west than the trench for the 1831-32 footing.

Excavation did not extend to the base of the c. 1900 wing addition. It is at least 0.33' deeper than the foundation to the 1831-32 portion of the wall. The construction trench for the historic portion of the foundation was not more than 0.08' to 0.17' wide at the level of the footing and the base stones were placed into the sterile yellow clay upon which the house was built. Rather surprisingly since the house is of stone, fragments of brick came from the construction trench. Whiteware, redware, and window glass sherds also came from this original construction trench. The construction trench associated with the addition to the wing contained whiteware and a stoneware sherd.

One feature was noted during monitoring (Figure 12). It was a pit filled with a brown silt to clay loam and numerous artifacts. Among other items, large redware sherds and fragments from at least seven leather shoes (Figure 51) were collected. The pit was 9.33' from the house, 21.58' from the southwest corner of the wing, and excavated into the sterile subsoil. It was 2.5' wide (east-west dimension), 3.5' long (north-south dimension), and 1.5' deep (Figure 52). The pit may actually have been deeper. It could have gone unnoticed as excavation took place through the upper strata. The function of this feature is unknown. It was not deep enough nor far enough away from the house for a privy pit nor was there any suggestion of lime in the fill. Also it does not seem to have been excavated as a trash pit. The trash was not as dense as would be expected for such a function and there was no evidence of burning in the pit. The pit was probably filled all at once. There were no breaks in the fill and fragments of similar artifacts were found throughout the pit. Surprisingly few of the sherds within the pit crossmend. This plus the fact that many of the redware sherds are fairly large (Figure 53) suggests that the fill was brought from an area where secondary refuse--trash that has been deposited away from its location of use (Schiffer 1976:30)--had accumulated. The size of the sherds means that at least the redware was never part of sheet trash. A high percentage of the ceramics were redware sherds, 24 percent. Very little construction material came from the feature. Most artifacts were from the kitchen or clothing artifact groups. The datable artifacts suggest that the feature was filled between 1820-46 although a later date is possible.

A total of 25 shoe fragments, pieces from at least seven shoes, came from the pit. There were at least two men's shoes represented, and one woman's shoe. The total number of pieces and their characteristics are listed in Table 10. Anderson's article on mass-produced footware



Figure 49. View of the south end of the west wall foundation.



Figure 50. Close-up of the south end of the west wall foundation.

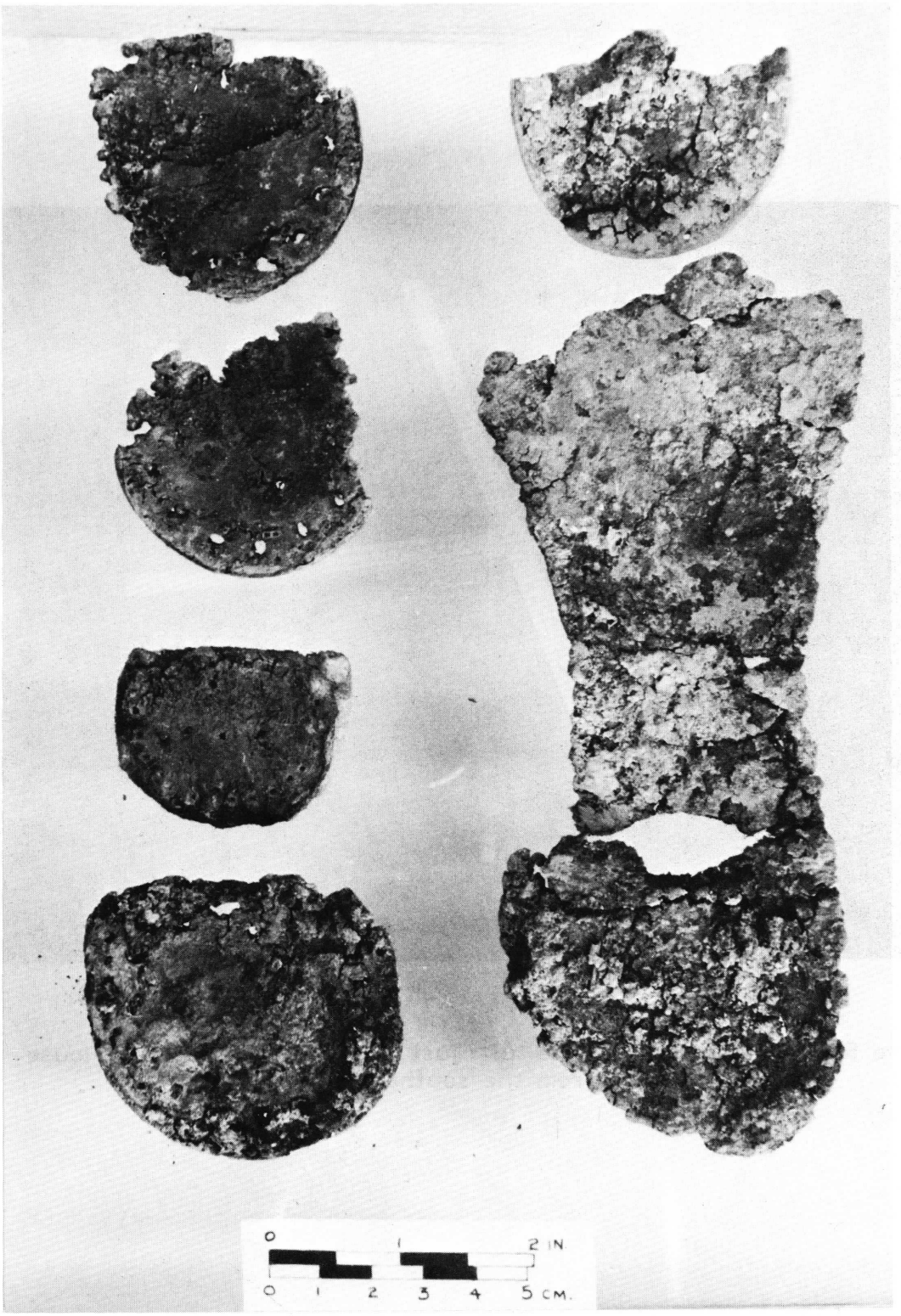


Figure 51. Fragments from leather shoes.

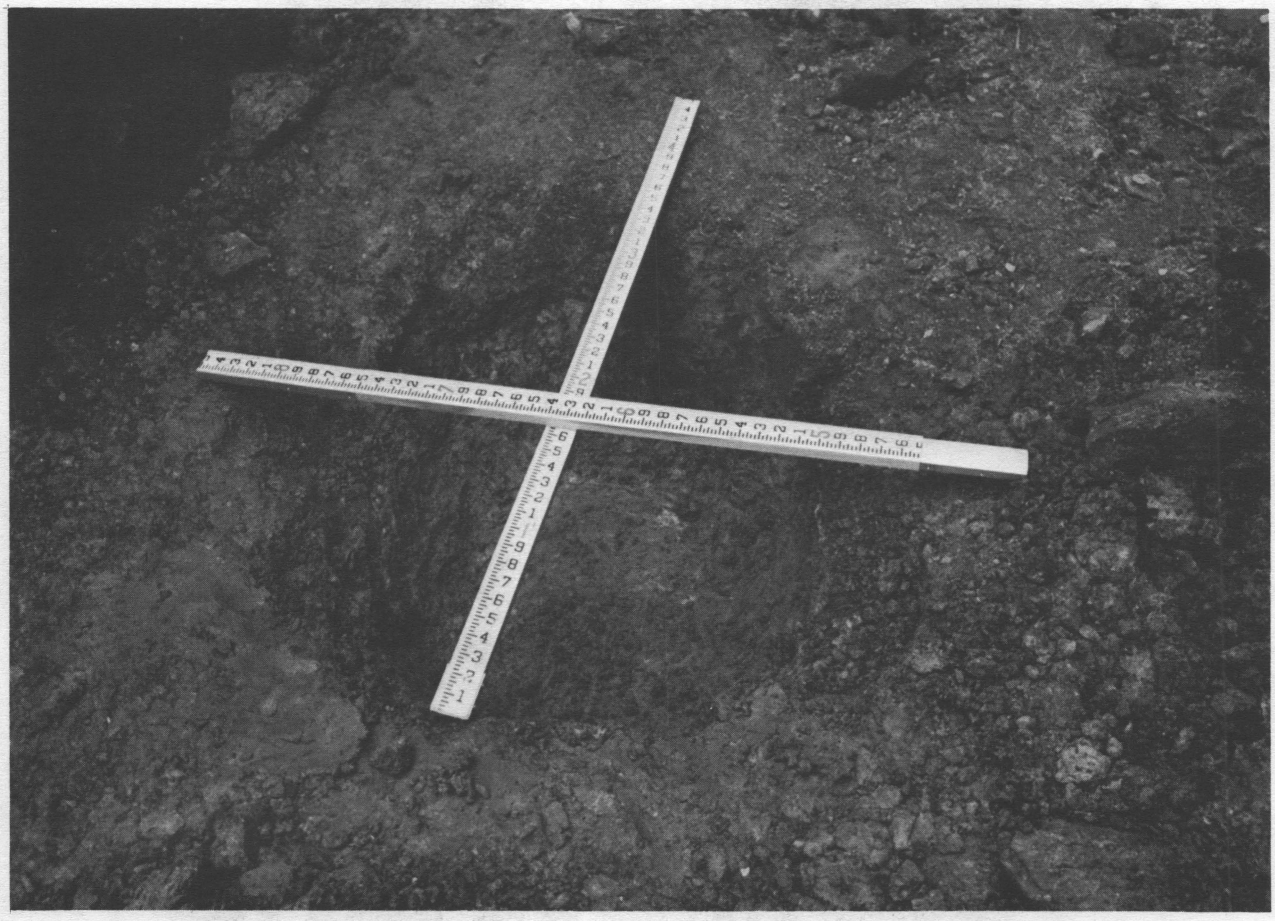


Figure 52. Photograph of the pit just west of the Lemon House west wall. View is from the southeast.

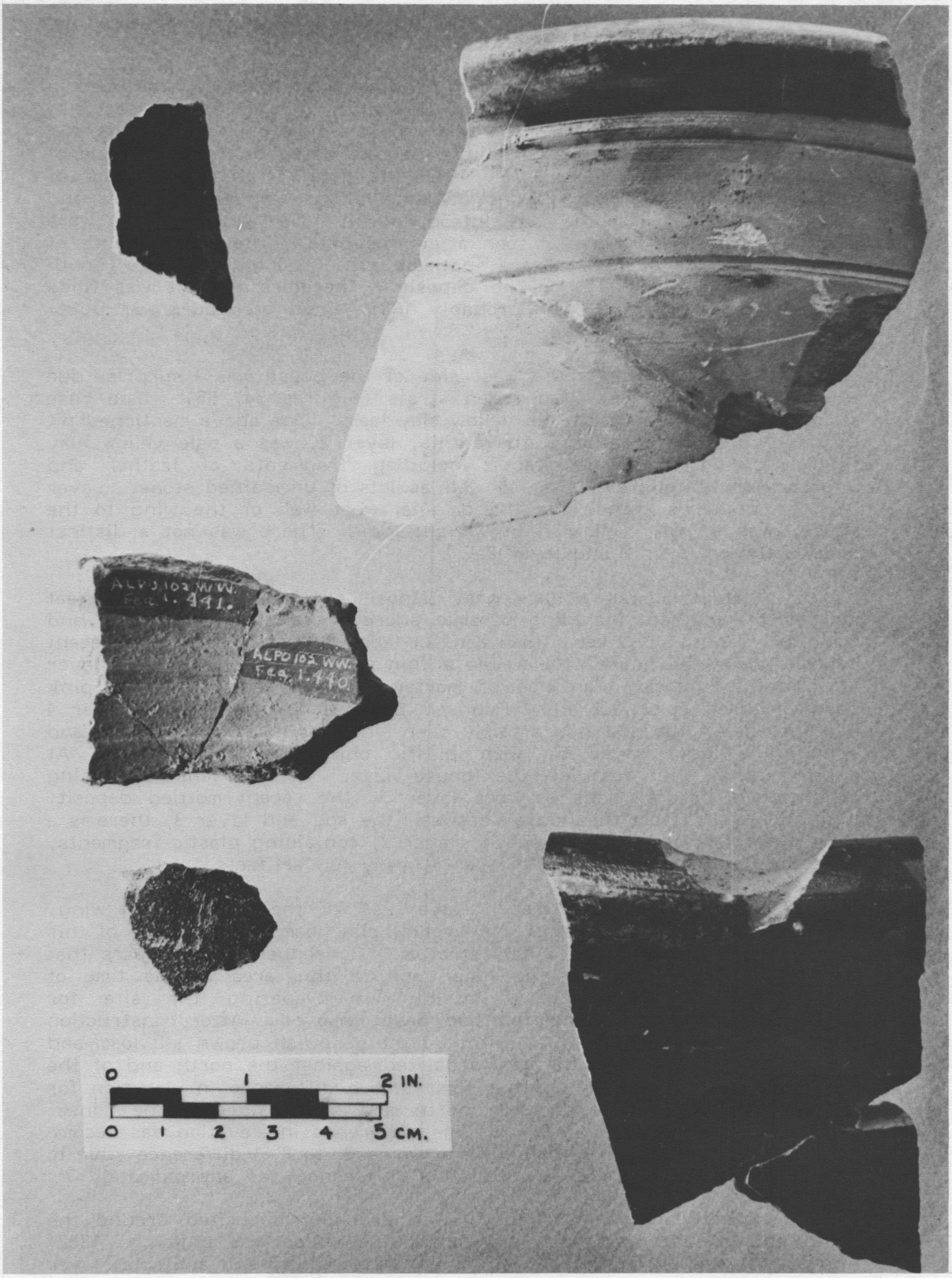


Figure 53. Redware sherds from the pit near the west wall.

(1968) and Quimby's book on shoes (1946) were the main sources used in dating the fragments. Fontana and Greenleaf (1962:105-106) was also consulted. The shoes were made with wooden pegs or wooden pegs and cut nails. The earliest date for the deposit based on the technique of manufacture of these shoes is c. 1812--the date for the introduction of cut nailed shoes. There was no evidence of machine sewed pieces and since the sewing machine was introduced in 1858, the artifacts were probably deposited before or soon after this date. The predominance of whiteware sherds over pearlware suggests a c. 1820 or later date (South 1977:211; Price 1979:11) for the deposit. Therefore the pit was filled sometime between c. 1820 or probably 1831, when the house was built, and c. 1858.

Stratigraphy on the west side of the house was a surprise due to the depth of the artifact-laden strata (Figures 54, 55). The base stratum, layer 1, was a sterile yellow clay loam. The above mentioned pit was dug into this stratum. Above this, layer 2, was a pale yellow clay fill containing a few artifacts including fragments of leather and undecorated whiteware sherds as well as lots of unmodified stone. Layer 2a, the builder's trench for the original west wall of the wing to the house, was a light yellowish brown silt loam. There was not a distinct break between layer 2 and layer 2a.

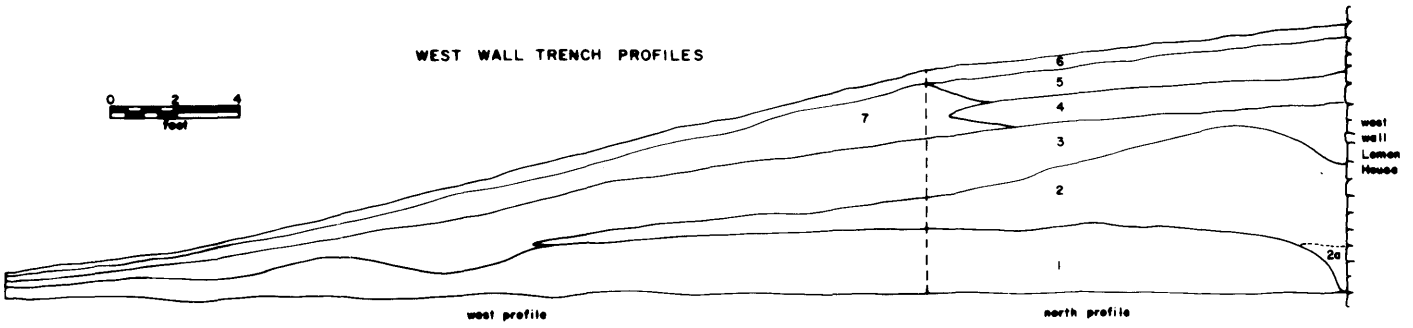
Layer 3 was a dark grey deposit of loam containing a great number of artifacts including ceramic sherds, coal, iron frements, and modified bones. Between this artifact-laden deposit and the recent deposits near the house, there was a thin pale brown lens of loam, layer 4, containing large quantities of mortar, plaster, and flakes of pink paint, Munsell color 2.5YR8/4 (Munsell Book of Color). Above layer 4 and just below the sod was a fairly deep lens of mottled soil, a grey and yellow silt loam, layer 5, with plastic objects within the fill. At approximately 10' west of the house layer 4, the lens containing construction debris, ends as does layer 5, the recent mottled deposit. From 10' to 13' from the house, between the sod and layer 3, there is a large yellowish brown clay deposit, layer 7, containing plastic fragments, some wood but in comparison to layer 3, very few artifacts.

The construction trench (layer 2a) for the original west wing, 1831-32, was dug into layer 1, the yellow clay loam. The profile of this trench was not noted above this stratum. Consequently it appears that the yellow clay loam was the "top" soil in this area at the time of construction of the house. Possibly in preparing the site for construction, the A soil horizon had been removed. After construction the builder's trench was filled with a light yellowish brown silt loam and then a pale yellow clay fill was deposited against the north end of the west wall. This created for the first time a difference in elevation for the ground surface between the north and south sides of the house. From the 1830s until the present, this difference in elevation has become even more dramatic. Originally there was a 2' to 2.5' difference--due to the deposition of layer 2; in 1982 that difference was approximately 7'.

This early fill, layer 2, was probably deposited around the north end of the west wall soon after the house was built, c. 1832. Above this stratum is the deposit of dark humic soil and artifacts, layer

Table 10. Footware Data

	W.W. Fea. 1	W.W. Level 2
Minimum shoe count	7	1
Male shoes	2	
Female shoes	1	
Total artifacts	25	8
Uppers	6	
Soles	8	8
Heels	10	
Unidentified (# 13L)	1	
Wooden pegged	7 (pos. 4 additional)	
Cut nailed	8	
Cut nailed and wooden pegged	5	
Unidentified manufacture	9	
Date range	1812-58	
Wooden pegs (hand made?)	1772	(Quimby 1948:18)
Wooden pegged shoes (pegs machine made)	1811 to 1860	(Anderson 1968:59)
Cut nailed shoes	1812(?) to 1862	(Anderson 1968:61)
Elias Howe's sewing machine	1846	(Anderson 1968:64)
Davey pegging machine (first true shoe making machine)	1854	(Anderson 1968:59)
Blake's stitching machine, power driven	1858	(Quimby 1948:34) (Fontana and Greenleaf 1962:106)
McKay's sewing machine (stitched all the way around)	1862	(Anderson 1968:64)



Soil types represented in profile

Layer 1. Yellow clay loam
Layer 2. Pale yellow clay
Layer 2a. Light yellowish brown silt loam
Layer 3. Dark grey loam
Layer 4. Pale brown loam
Layer 5. Grey and yellow silt loam
Layer 6. Dark grey loam
Layer 7. Light yellowish brown clay

Figure 54. North and west profile of the west wall trench.



Figure 55. Photograph of the north profile of the west wall trench.

3, that accumulated during the occupation of the house in the nineteenth century. The light brown lens containing construction debris was probably deposited in 1900 when the west wing was gutted and then enlarged (Batcheler 1982b). The flakes of pink paint from layer 4 did not match any of the paints noted by Batcheler (1982a:Appendix 5).

At one time the house was repointed with a red-tinted raised pointing. In 1972 Souder mentioned it as being old and in a deteriorated condition (1972:2, 16). The building has been repointed by the Park Service with a light grey mortar but the red-tinted material is still extant from just below the present ground surface down to layer 4. Although the date of the red pointing has not been researched, since it was "old" in 1972, it was probably another of the many alterations made to the house c. 1900. If this is the case, it supports the interpretation of layer 4 dating to c. 1900--the ground surface when the red-tinted pointing was done.

The upper deposits along the west wall, layers 5-7, are recent and probably date to various Roberts and National Park Service relandscaping projects.

Because of the disturbance created by the 1960s construction of a concrete block stairwell along the north end of the west wall, it was known that the date of the passageway in that wall could not be investigated archeologically. The architects (Souder 1972; Batcheler 1982a) had assumed that it was a recent passageway dating to the same period as the stairwell. Because of this the doorway had been filled with stones in 1980. During the dismantling of the lower part of the west wall, it was possible to closely examine what remained of this opening. Although the doorway had been filled, portions of the interior frame remained. When this framework was examined by the project supervisor and park personnel, the structural evidence suggested that the opening was originally a window and dated to c. 1900, the same period of modifications as the west wing expansion. Batcheler (1982b) feels that much of the west wall of the wing was rebuilt when the wing was enlarged in c. 1900. The north wall and the northwest corner of the wing were not disturbed. The archeological evidence makes it clear that this rebuilding did not extend down to the west wall foundation but its east extent is unknown. No evidence remained of early modifications above the level of the foundation. The disturbance created by the stairwell destroyed all evidence of such things as construction trenches that might have been excavated in rebuilding portions of the wall in c. 1900. In the 1960s Roberts apparently modified the window making it a doorway and added the concrete block stairwell.

IV: CONCLUSIONS AND RECOMMENDATIONS

The archeological deposits around the Lemon House disclose a history of construction, destruction, and reconstruction to the house, and repeated and extensive terrain modifications. The house was built on a sterile deposit of yellow clay loam. The lack of an A soil horizon suggests that terrain modification began even before the house was built. The area was apparently cleared of topsoil as well as vegetation in preparation for the construction of the Lemon House. The deepest tested undisturbed cultural deposits around the house contain mid-nineteenth century artifacts: transfer-printed whiteware, 1820s to 1830s coins, and cut nails. Eighteenth and early nineteenth century artifacts such as pearlware and creamware are very uncommon. Only 18 pearlware sherds and 11 creamware sherds came from the tested areas of the site. Also late nineteenth century artifacts such as wire nails and "sun-colored" glass are not found in these earliest deposits. Consequently the artifacts in these deposits support the documentary evidence which indicates that the house was built in 1831-32. The earliest fill deposit was probably placed around the front of the house soon after construction. Few artifacts are found in this deposit. It was only noted in the profile extending west from the northwest corner of the house. The purpose of this deposit seems to have been to raise the elevation of the ground surface along the north side of the house. The house was built to have the ground surface at basement level along the back of the house (south wall) and at the first floor level on the front side of the house.

The history of subsequent exterior modifications to the house and terrain is speculative since recent modifications have eliminated subsurface evidence of earlier changes. Photographic evidence does remain. The following conclusions/speculations only cover modifications made to the exterior of the house and only those exterior modifications that affected subsurface deposits.

The first modifications to the house were the addition of porches. Both a south porch and an east porch were added to the structure early in its history. The south porch foundation uncovered in three seasons of excavation was not bonded to the foundation of the south wall of the house but it was built on sterile soil. No artifacts were recovered from the clay deposit on which it was constructed. The fill stratum around the stones contained mid-nineteenth century artifacts. These facts suggest that the south porch was built soon after the foundation to the house was completed. By the late nineteenth century the porch was no longer extant but its foundation remained. The deposit covering the foundation dates to the late nineteenth century and in a c. 1884-87 photograph of the house, there is no evidence of a south porch superstructure. Unfortunately in the photograph the basement and much of the first floor on the south side of the house is obscured by vegetation.

There was an artifact-laden deposit beneath the south footing to the east porch. There are three stone footings on this side of the house. The base of the one footing examined archeologically had artifacts in the matrix upon which the footing was built and in the fill around the footing. These artifacts date to the mid-nineteenth century. In fact the four coins dating from the 1820s and 1830s in the deposits suggest that

the porch was extant when the building was a tavern. The exterior door associated with the porch leads into the tavern. In the earliest published photographs of the house where the east side of the house is at least in part visible, there is no superstructure to the east porch. The footings probably supported a deck. By 1903 (Batcheler 1982a:38) there was a first floor porch with superstructure extending across the whole east wall. The three stone footings dating back to the nineteenth century porch were incorporated into this larger structure. They functioned as footings for the north end of this porch. The stone footings are visible in Figures 9, 10. There was no subsurface structural evidence of this 1903 porch. Twentieth century deposits were associated with the upper strata in excavation unit 1 but along much of the east side of the house later construction and terrain modifications eliminated evidence of this early twentieth century porch. On the basis of photographs it is known that this porch was extant between c. 1903 and c. 1960.

South of this early twentieth century east porch by approximately 6' and aligned with the nineteenth century outer stone footing to the south porch was a subsurface stone feature, in this report called a foundation extension, dating to the late nineteenth century or early twentieth century. The function of this alignment of stones is unknown. The size and depth of the structure would suggest that it was not a walkway; possibly it functioned as a retaining wall. It was built later than the south porch foundation.

There was only limited subsurface research on the north side of the house. There was no evidence of modification to the north wall in the two test pits excavated. Archeological data supports the documentary and architectural evidence that the west wing to the Lemon House is original to the structure. The two excavation units did establish that along the north wall fill deposits extend down at least 3'. There was no evidence of a construction trench for the north wall in these deposits and cultural material was found in each of the strata excavated. This supports the evidence from the west wall area that a great deal of fill was added to the north side of the house after construction. Much of this was undoubtedly brought in specifically to raise the ground surface; other strata may have accumulated through time. The depth of a sterile, undisturbed deposit along the north wall is unknown.

To further clarify the history of the west wing to the Lemon House, an excavation unit was placed in the southeast corner of the wing where it abutts the west wall of the house. In this unit recently disturbed deposits were found down 3.25'. Consequently very little could be learned of the structural history of the wing and its relationship to the west wall. The butt joint between the two walls noted above surface extended down as deep as the excavation unit was taken. This suggests that this part of the wing is not original and the photographic evidence supports this. The wing in nineteenth century photographs is half as wide as the main house, but by the early twentieth century the wing is several feet wider. The addition of 7' to the southern portion of the wing occurred between c. 1885 and 1903 (Batcheler 1982a:22-23, 38-39). The addition was probably made after Samuel H. Lemon became sole owner of the house, 1899, and before he died in 1903 (Toogood 1972:37-38). Examination of the west wing wall footings definitely established that the wall had been

constructed in two phases. The northern 29+' of footing was built first and then 6.2' was added later.

The last private owners of the Lemon House made numerous changes to the exterior of the house. One of these changes was the addition of a doorway and stairwell to the west wall of the wing. During recent demolition of the lower half of the west wing wall, there was evidence to suggest that the 1960s doorway had earlier been a window dating to the period when the west wing was enlarged, c. 1900. Apparently much of the west wall had been rebuilt during those modifications.

In excavations west of the west wall, a pit filled with silt loam, clay, and cultural material was noted. It had been excavated into sterile soil. Its original function is unknown. Its size and location and the nature of the fill suggests that it was not a privy pit. Also the trash in the pit was not as concentrated as one would expect for a pit dug intentionally for trash. No late nineteenth century artifacts were found in the pit so it was probably filled sometime in the mid-nineteenth century.

The remaining features uncovered archeologically date to the 1960s when the Roberts made changes to the house. The foundation to the concrete block garage was uncovered along the south wall of the house. This was part of a basement level garage/first floor level porch. There was also evidence of a concrete block stairwell along the west wall of the wing, and a concrete block retaining wall to the east of the southeast corner of the house.

To conclude, there were three major periods of activity on and around the Lemon House. The area was cleared and the house was built in the early nineteenth century, 1831-32, with the south and east porches added soon after. Then a larger east porch was built and the west wing was enlarged and in part rebuilt with the addition of a window at the turn of the century. By this time the south porch was no longer extant. Finally in the 1960s the Roberts family added a porch/garage/retaining wall complex to the south side of the house, a new east porch, and a door/stairwell to the west wall of the wing, and raised the terrain along the south side of the house. The National Park Service, soon after purchase, removed the Roberts' additions and again lowered the ground surface on the south side of the house.

Testing in the field to the south and west of the house indicate that there has been a great deal of recent fill added to this area. Archeologically sensitive areas, areas containing features or deposits which may date to the historic period, were uncovered north of the house and to the southeast. Once noted the feature north of the house was avoided by construction. A concentration of trash south of the house was noted during construction and a strata of straw/manure was located in the open field.

No evidence of prehistoric use of the area was noted in any of the tested areas.

A. Recommendations

A great deal of research has taken place along the south wall of the house and three test units have examined the deposits along the east wall. Very little controlled excavation has taken place along the north wall or in the front yard and no such excavations have occurred around the west side of the house. Along the west wing wall an area 13' wide extending the full length of the wall has been disturbed but north and west of this area there are deposits dating to the historic period which have not been disturbed.

Testing along the electrical line in the front yard suggests that the whole front yard may be archeologically sensitive. Certainly more controlled excavations need to occur in the area before a clear picture of the history of this side of the house is possible. Originally construction package 102, of which the research in this report is associated, included the relocation of the front walks. This was dropped when the rebuilding of the west wall became necessary. If the walks are ever moved, controlled excavation is recommended before to any subsurface disturbance.

The porch foundation along the south wall dates to the historic period. A recent garage foundation and a sewer line trench have disturbed the feature. Further disturbance should be avoided. The east porch stone footings are also historic.

Much of the area south of the footings along the east wall of the house has been extensively disturbed in the mid-twentieth century but until the limits of the historic deposits around the porch footings have been determined, any disturbance to this area must be preceded by archeological testing.

It is recommended that the alignment of stones south of the southeast corner of the house and in line with the outer footing to the south porch be left intact. Although it is not historic, it probably does date to the period when the house was in the Lemon family and it is an integral part of the history of the structure.

There are deposits containing cultural material in the fields to the south and west of the house. These areas are indicated in Figures 45, 46. On the basis of the present evidence, the date and function of these deposits is unknown. Only a small portion of these areas was disturbed by the construction associated with this project. If more extensive disturbance becomes necessary in the future, these areas should be extensively described and their importance assessed.

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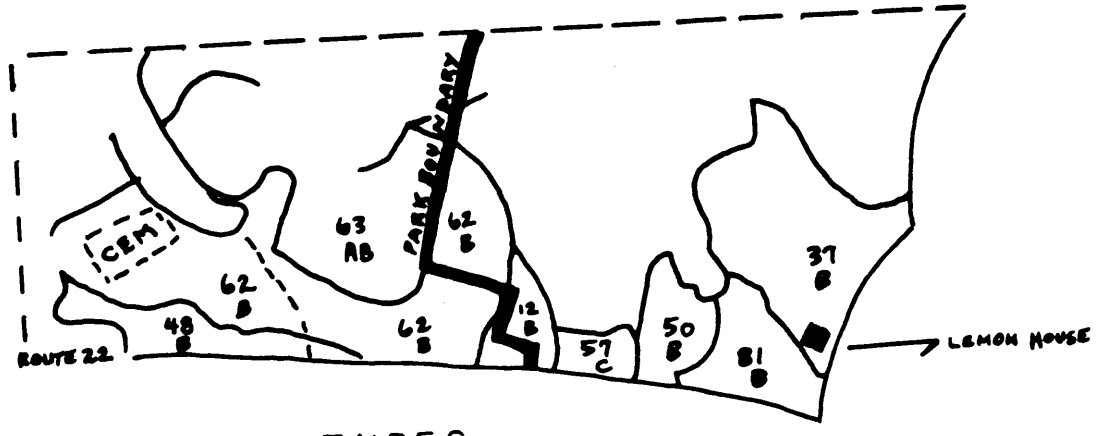
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APPENDIX A

General Overview of Soil Types
map and text from:

Inventory and Evaluation
Portage/Railroad
National Park Service
Robert T. Heidecker Jr.
District Conservationist
U.S. Soil Conservation Service
Ebensburger Motel
P.O. Box 187
Ebensburg, PA 15931
*on file at park



SOIL TYPES
from 1969 aerial photo
original scale = 1" = 1320'

37B PLAIRTON SILT LOAM, 2-8% slope
Developed from interbedded shales, sandstones, and thin beds of clay shale. They have a silt loam, sub-soil, are moderately well drained. They have moderately slow permeability in the sub-soil and moderate natural fertility. Seasonally high water table.

81B COOKPORT CHANNERY LOAM, 3-8% slope
They have developed sandstone. The bedrock occurs as cap rocks and long broad ridge tops in the upland landscape. These soils have slowly permeable fragipans occurring at depths of 18-30". Deep and moderately well drained. Moderate permeability above the fragipan, and the fragipan is slowly permeable. Seasonally high water table.

50P ARMAUGH SILT LOAM, 3-8%
Developed from acid gray clay shales and occur on nearly level benches in uplands. Deep, poorly drained and slow permeability. Slow runoff and medium natural fertility. Water table is at or near surface most of the year.

57C WHARTON SILT LOAM, 8-15% slope, moderately eroded
Developed from acid grey clay shale. Commonly found on broad ridge tops, benches and gentle slopes in the uplands. The soil is deep, moderately well drained and has slow permeability. Seasonally high water table.

12B GILPIN SILT LOAM, 2-8% slope, moderately eroded
Siltstones and fine grained sandstone in the upland landscape. Moderately deep, well drained with moderate permeability.

62B DEKALB-HAZLETON CHANNERY LOAM, 3-8% slopes, moderately eroded
Consists of Dekalb channery sandy loam and Hazleton channery loam which are so intermingled that they could not be mapped seperately. The Dekalb is moderately deep and the Hazleton is deeep to bedrock. Both are well drained and have moderate rapid permeability.

48B CAVODE SILT LOAM, 3-8% slope
no description available

GLOSSARY:

CHANNERY A soil containing thin, flat pieces of sandstone, limestone or shale up to 6" in length.

FRAGIPAN A dense, brittle, slowly permeable subsurface layer which occurs 15-40" below the surface and may vary in thickness from a few inches to several feet.

LOAM A soil having a relatively even mixture of sand, silt and clay, it has a somewhat gritty feel, yet fairly smooth and slightly plastic when moist.

MOTTLING Contrasting grey, rusty or orange colored patches occurring in the soil profile, resulting from varying degrees of wetness.

PERMEABILITY Rate at which water moves through soil.
(a) rapid, a rate of 2-6.3"/hour
(b) moderate, a rate of .63-2"/hour
(c) slow, a rate of .2--.63"/hour
(d) very slow, a rate of less than .2"/hour

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As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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