D-7A

Archeological Investigations at the Narbonne House



Salem Maritime National Historic Site

MASSACHUSETTS

Cultural Resources Management Study No. 6

Division of Cultural Resources
North Atlantic Regional Office
National Park Service
U.S. Department of the Interior

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Dear Colleague:

Enclosed for you is a copy of "Archeological Investigations at the Narbonne House," the sixth Cultural Resource Management Study produced through the Division of Cultural Resources, North Atlantic Regional Office, National Park Service. The investigation and analysis reported here were completed in 1977, and the text of the report in 1979. This publication finally makes more widely available information about one of the largest historic period, site-specific artifact collections available for scholarly study.

During 1981 and 1982 the Narbonne collection was reorganized along with other archeological collections at Salem Maritime National Historic Site. The reorganization makes possible further study and facilitates display of the collection. Scholars interested in using the collection for archeological, anthropological, historical, or technological research should contact the Chief, Division of Cultural Resources, North Atlantic Regional Office.

Your comments on the report are welcome. If you do not wish to retain this copy of the report, please pass it along to an interested colleague.

Sincerely,

F P McManamon

Francis P. McManamon
Chief, Cultural Resources

Archeological Investigations at the Narbonne House

Salem Maritime National Historic Site

MASSACHUSETTS

Cultural Resources Management Study No. 6

By
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Prepared under contract number CX-2000-4-0028
Denver Service Center
National Park Service

Division of Cultural Resources
North Atlantic Regional Office
National Park Service
U. S. Department of the Interior

Boston, MA 1982

FOREWORD

The Narbonne excavations originated in 1973 on a very minor scale to supply certain specific data for the restoration report being prepared by the Society for the Preservation of New England Antiquities (SPNEA). The project was almost entirely architecturally oriented; there was not the least expectation that an impressive array of material culture would be recovered from the site during archeological excavation.

Originally, the contract for archeological investigations was to have been with SPNEA, who would hire Geoffrey Moran as Principal Investigator. During the process of negotiation the National Park Service and SPNEA could not reach agreement on certain terms of the contract. The National Park Service decided to contract directly with Bradford College, where Mr. Moran was employed at the time. On the surface this decision seemed insignificant: Mr. Moran would be principal investigator for the archeological portion of the project in either case. However, it did set up some organizational and communication situations which may have complicated the integration of archeological and architectural concerns for the site as a whole.

Geoffrey Moran must be given credit for persisting through many frustrations and difficulties, based both on the unanticipated magnitude of the project and on certain contractual and logistical difficulties. We are pleased to be able to present, at long last, the results of his work.

Credit also is due Kathleen Fiero, D.S.C. archeologist, who edited the manuscript report; Evelyn Steinman, editorial clerk, who typed it for final printing; Doug Caldwell, CRMD-WASO, who arranged for the design of the cover and title page; and Elyse LaForest, North Atlantic Regional Office, who arranged for the printing.

The report was completed in 1979. During 1981 and 1982 the Division of Cultural Resources, NARO, reorganized the Narbonne archeological collection along with other archeological collections at Salem Maritime National Historic Site. As this report indicates, the Narbonne collection presents a variety of possibilities for additional analysis and interpretation. The collections project produced a catalog for the collection as well as a user's guide to the collection and arranged the artifacts so they can be used more easily for research and display. The project was directed by Alan Synenki with assistance from Sheila Charles, Donna Gagnon, Steve Alexandrowicz and Linda Zaleski-Daley. The support and assistance of Elaine D'Amico, Superintendent; John Fraylor, Park Curator; and other members of the park staff for the collections project is acknowledged gratefully. Archeologists interested in using the collection for research should contact the Chief, Division of Cultural Resources, North Atlantic Regional Office, National Park Service, Boston, or the Superintendent, Salem Maritime National Historic Site, Salem, Massachusetts.

Jackie Powell
Francis P. McManamon
August 1982

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ABSTRACT

The Narbonne house was built c. 1670 in Salem, Massachusetts, and is now part of the Salem Maritime National Historic Site. It was the home of tradesmen and artisans, and is valued as a rare surviving example of 17th century vernacular architecture. Excavations began in 1973 as part of the National Park Service program to rehabilitate the structure. Three field seasons included the excavation of numerous features, the most important being a first period lean-to foundation, cobblestone driveway, dairy, well, privies, and trash pits. The site has been especially notable for the quantity of its artifacts (over 138,000) and the range of its fine imported late 18th century English ceramics and Chinese porcelain, which are described and illustrated in detail. Particular attention has been given to the successive generations of occupants, their impact on the house and the site, and their relationship to excavated evidence. The pattern of artifact distribution in sheet refuse and trash deposits has been investigated. Recommendations for site interpretation and additional research have been made.

ACKNOWLEDGEMENTS

As with any major research project which extends over several years, the contributions of many individuals has been welcomed and necessary. John Cotter and Jim Deetz deserve to be recognized as the joint godfathers of the Narbonne project, and have encouraged me on-site and off. Among the several Bradford College students whose assistance in the field and laboratory for the first two years helped the project gain momentum, Steve Turner deserves special applause for his intelligence, excavation abilities, and good humor. He has been recognized with the major trash pit named after him--the Turner Hoard. The assistance of volunteers from Salem and surrounding communities was especially valuable during the first field season.

The influence of Jim Deetz is far more pervasive than his direct contact with the project. Fully half of the analysis of Narbonne materials took place at the Department of Anthropology, Brown University, where several of Jim's graduate students played key roles. Steve Horvath served splendidly as site supervisor during the final field season when the trash pits and privies along the east property line were excavated. Joanne Bowen undertook the analysis of faunal materials from two of the major trash pits. Most recently during the preparation of the final report this spring, Anne Yentsch undertook research into the family history of the occupants, and quantified the artifact data to produce artifact distributions for the site. Her research and data analysis and charts are presented in Chapters 3 and 5 and Appendixes A and C, but her insights for the project are to be found throughout the report.

My special thanks also go to Jean Blackburn, Chris Roche, and Lennie Loparto, members of the Public Archaeology Laboratory at Brown University who ably assisted in the preparation of graphics and photographs. Their cheerful support during the last few months was essential for the completion of the final report.

Special recognition is due Ed Zimmer whose contribution to the Narbonne project extends over several years, in field, laboratory, and report writing. Under very difficult circumstances this spring, Ed undertook the role of general editor of the final report. In addition, he accomplished the heroic task of describing the artifacts, as presented in Chapter 4 and Appendix D. Together with my wife, Grace, his companionship, intelligence, and good humor have been indispensible to me this spring in accomplishing my work, and of course, shouldering the responsibility for whatever deficiencies or errors exist in the final report.

I feel like Rocky in the fifteenth round. I don't think anyone in Salem or the Denver Service Center back in 1973 expected the Narbonne house to become a heavyweight site with 150,000 artifacts. I am proud to have gone the distance and to have given the best I have.

Geoff Moran

Public Archaeology Laboratory
Brown University

July 1977

CHAPTER I - INTRODUCTION

Archaeological investigations at the Narbonne house began in April 1973. This report presents the results of three field seasons and subsequent analysis of some aspects of the prodigious amount of data retrieved. It is with great modesty that the term "final report" is used.

The Narbonne house, so-called for its 19th century occupants, is located within Salem Maritime National Historic Site, in Salem, Massachusetts. The major features of this park include the fine federal style Custom House, the superb Georgian brick mansion of Elias Haskett Derby who pioneered in the East Indies trade after the Revolution, and Derby Wharf, from which the Derbys launched commercial and privateering ventures in the late 18th and 19th centuries. The interpretation of this site is wholly maritime in orientation, so it is of particular significance that the Narbonne house, added to the park only recently, should have its back turned to Salem habor, and number among its inhabitants tradesmen and artisans of far more humble means that the Derbys and the Crowningshields.

From a strictly architectural standpoint, the Narbonne house is a worthy addition to the park. One of Salem's few buildings which can be verified as being built prior to 1675, it is largely unaltered by modern improvements or renovations (Cummings 1962). Much of the original carved and chamfered frame remains exposed, together with some hardware and trim. Although Georgian and Federal period detail can clearly be distinguished from first period fabric, the sequence of late 17th and 18th century changes presented complex problems for the architectural consultants. Of equal merit to the scholar is the fact that the Narbonne house is basically a humble, two-room house with additions, still standing on its narrow, 17th century city lot. While the houses of prominent merchants and divines have been studied and preserved in Salem as elsewhere, the vernacular dwellings of the urban artisan or tenant have not often survived. Nor have those that do exist been the object of such close study.

Because of incongruities and conflicts between the documentary record and surviving architectural fabric, the architectural consultants originally subcontracted for an archaeologist to fill in the gaps. In this subsidiary and hand-maiden role, the archaeological investigations at the Narbonne house had their beginning. Four years and 150,000 artifacts have brought about a certain professional parity, with the archaeology program developing its own research goals.

The attempt to integrate and synthesize architectural, documentary, and archaeological sources of information has been present from the first field season and preliminary report (Moran 1975) to this final report. The format in both cases makes a determined effort to place the archaeological finds in a documentary or historical context; or one might equally say, the historical record in an archaeological context. Neither source of information is subsidiary, and both gain from the careful analysis of the other.

When excavations began in 1973, the archaeologist had the advantage of a large amount of historical and architectural information prepared on the house and its occupants by Abbott Lowell Cummings (1962, 1972). By 1974, however, there appeared to be a dramatic inconsistency between the body of evidence and the archaeological findings. How did we account for the presence of such large quantities of fine imported ceramics behind a small house variously occupied by a weaver, slaughterer, miscellaneous tenants, and the widow of a tanner? A National Endowment for the Humanities grant permitted the principal investigator to go back to the documents in order to illuminate this apparent conflict, and it turns out, resolve the question (Moran 1976).

The present report extends this integrative approach even further. While there exists a considerable temptation to lose oneself in rapture among the exceptional ceramics excavated at the site, the attempt has been made in the preliminary reports (Moran 1975, Horvath 1976) to consider them in their archaeological and cultural context, and relate them ruthlessly to the occupants who used them and the age that supplied them. We hope we have been successful.

CHAPTER 2 - ARCHAEOLOGICAL INVESTIGATIONS

I. LOCATION AND SETTING

The Narbonne house is located in the City of Salem, Essex County, Massachusetts, and within Salem Maritime National Historic Site (Fig. 2-1). It can be found on the Salem, Massachusetts Quadrangle, USGS topographic series, with the following UTM coordinates: zone 19; 344,840mE; 4,709,250mN (Fig. 2-2).

The setting of the site is maritime, built only about 500' north of Salem Harbor. The house itself faces west and is oriented with its gable end on Essex Street. Historical sources indicate that until the early 19th century, the marshes of Collins Cove extended to the edge of Salem Common, less than a block north of the site. Excavated evidence suggests that a portion of Essex Street and the northeast corner of the Narbonne lot were increased in grade at about the same date.

The long narrow city lot, about 180' in length and varying between 40' and 60' in width, it now comparatively uniform in elevation. However, there exists archaeological evidence for an increase in grade of over 2' at the northeast corner of the lot; in addition, a neighbor recalls a "low spot" at the rear of the property which received a load of loam in recent years. Extensive disturbance during the past 300 years of domestic occupancy of the site has resulted in a broad plow zone or disturbed stratum of rich brown loam. This layer varied in thickness from 1' to 1.5' across the entire site, below which sandy yellow glacial subsoil was uniformly encountered.

II. GOALS AND METHODS

Archaeological investigations at the Narbonne site began on a very limited scale, designed to supplement the architectural research which focused on the house itself, and with no plans originally projected for a total excavation program for the site as a whole. During the spring of 1973, the principal investigator was contracted by the Society for the Preservation of New England Antiquities (hereafter SPNEA) to undertake a testing program under the floor of the gambrel-roofed ell, along with the builder's trench of the same, and to locate the historic grade for the exterior. The original research goal was imposed by the architectural consultant, and designed to answer certain questions concerning building dates and sequence of additions which were not apparent from either documentary records or surviving architectural fabric.

During the spring and summer of 1973, this testing program was accomplished with the assistance of a small crew of Bradford College students, local volunteers, and a brief, intensive contribution by the field crew of Plimouth Plantation. The features located during this first season provided the basis for a new research design, and the momentum for two additional seasons of field investigations. While important questions such as the sequence of structural changes to the house had been answered, the second research goal was designed to recover data concerning the broader patterns of domestic occupancy of the entire site from the 17th to the 20th centuries.

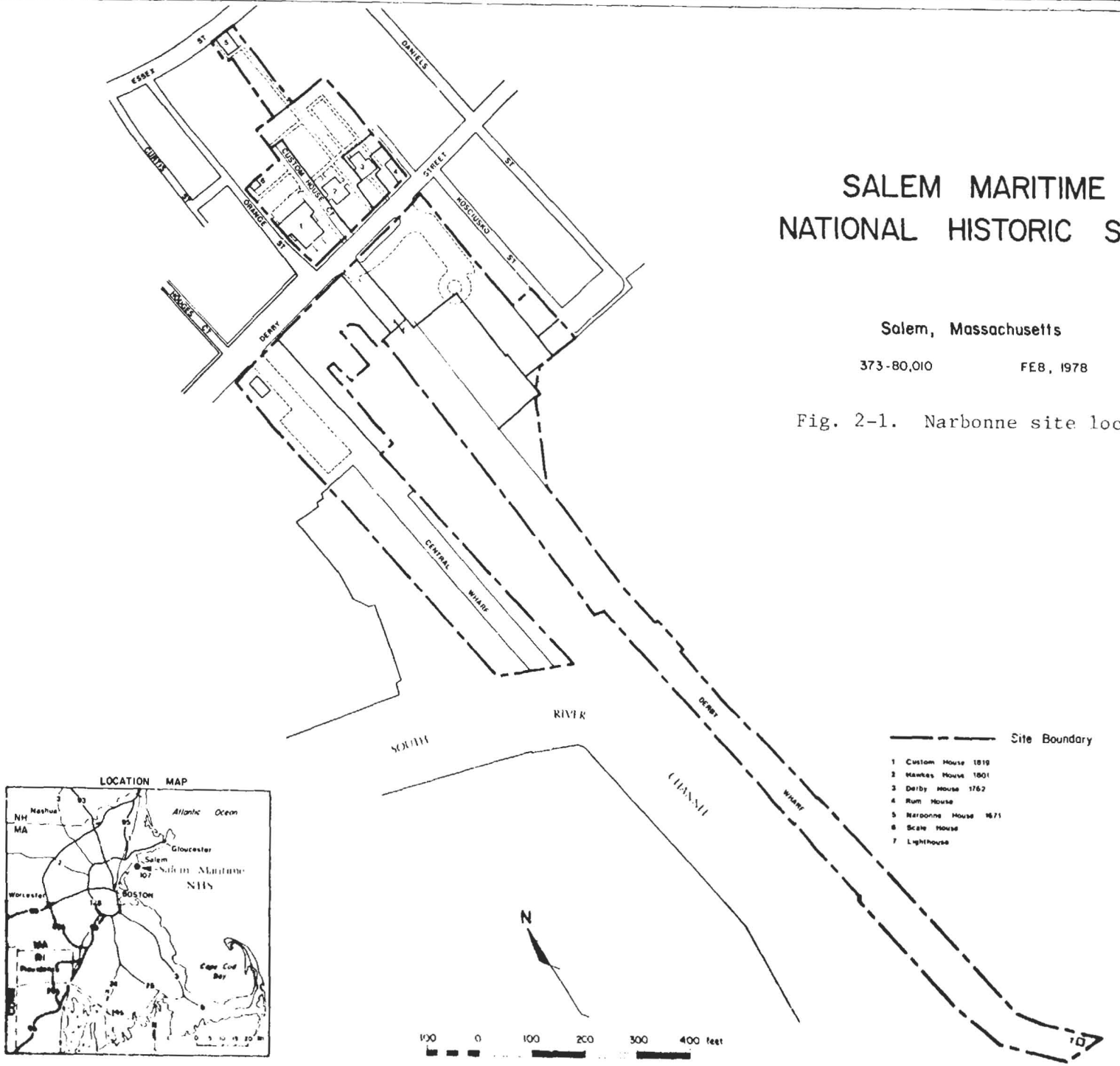


Fig. 2-1. Narbonne site location map.

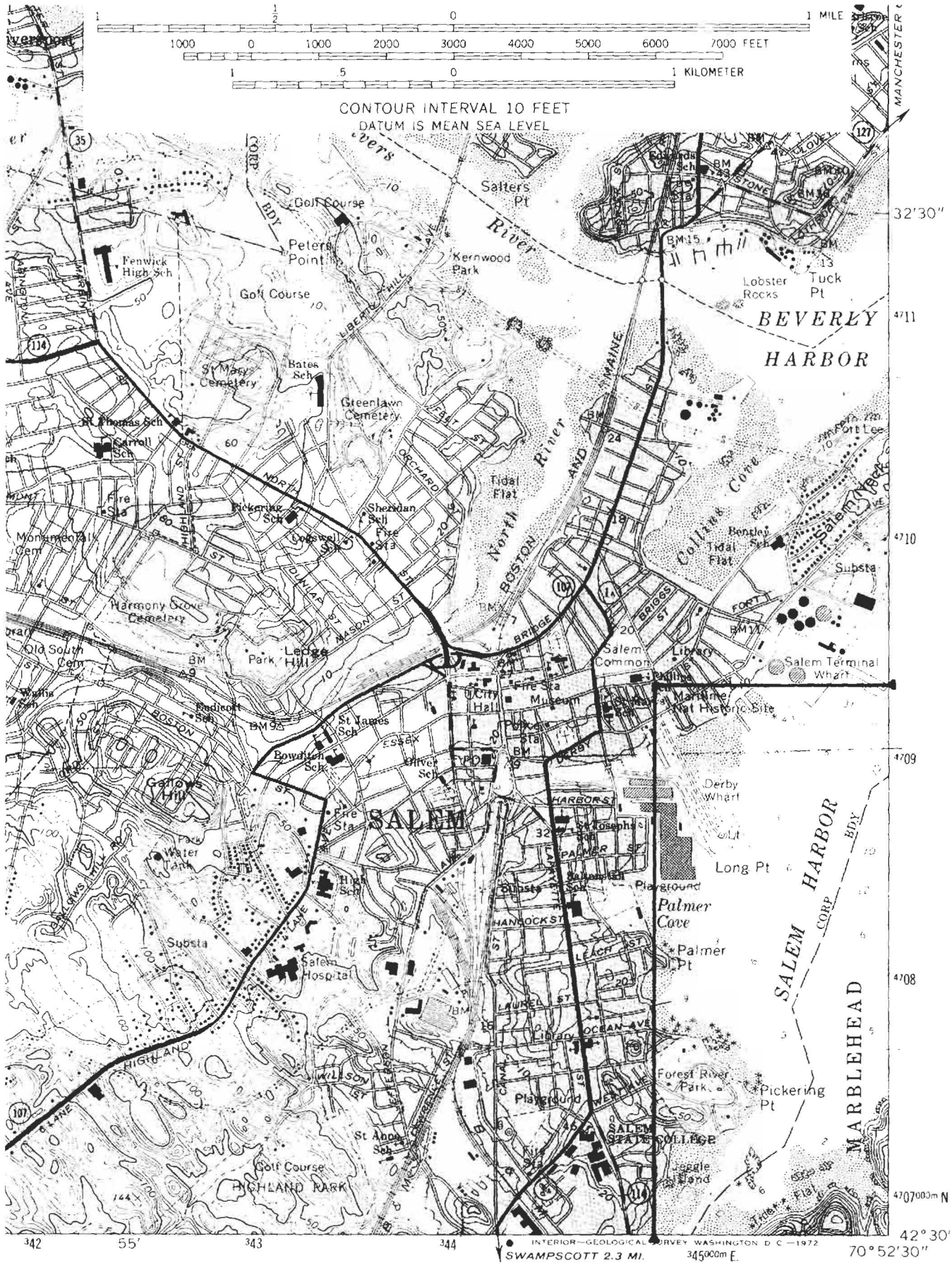


Fig. 2-2. U.S.G.S. Map, Salem Topographical Quadrangle

During the second field season (1974), a small paid staff and students from Bradford and other area colleges investigated features located the previous season and extended excavation units over much of the rest of the site. An additional grant in the summer of 1975 allowed for a month of excavation along the east property line. During that final field season, Moran conducted documentary research on the site at the Essex Institute, under a grant from the National Endowment for the Humanities, while Steven M. Horvath, graduate student in anthropology, Brown University, supervised a small paid crew.

Laboratory treatment, cataloguing, and analysis of the large amount of excavated cultural material were conducted on site in space provided by Park Superintendent Dobrovolny, although the bulk of materials were processed at the laboratory in Bradford College, Haverhill, Massachusetts and the Public Archaeology Laboratory, Anthropology Department, Brown University. The extraordinary assemblage has yielded several specialized papers and publications to date, and will continue to offer rich material for scholarly research. Catalogue inventory sheets have been prepared for the contents of all bags, faunal materials, miscellaneous iron/nails, and most bottle/window glass, while ceramics and other finds or artifacts have been given individual catalogue numbers based on the Canadian system which indicate their full provenience. Although hundreds of ceramic and glass objects have been reconstructed, with special attention to the contents of features and trash pits, more analysis and cross-mending is possible, especially among materials from unstratified levels.

Field procedures were based on those followed at Colonial Williamsburg, Plimouth Plantation, and Fortress Louisbourg, with measurements taken in English units. A 10' square grid system was established in the backyard (operation 2), although excavation units of smaller sizes were applied elsewhere on the site. The Canadian system of dividing the site into operations and suboperations was followed, with lots or levels and features being designated within the latter excavation unit (Fig. 2-3). Each feature was numbered individually within a suboperation, and a feature that embraced several suboperations would have as many catalogue numbers. For example, artifacts from one trash pit/privy along the east property line would be catalogued either 1E9MF2 or 1E9NF3, where 1E means "first site Essex County" (constant for the site), operation 9 is located along the east property line, M or N are the suboperations or horizontal excavation units, followed by Feature 2 or Feature 3 (number not preceded by "F" indicates lot or stratum).

The contents of the well and half of a major trash pit were excavated according to arbitrary vertical controls. Elsewhere on the site excavation utilized stratigraphic levels and was generally performed with trowels below the sod level (lot 1). In a few suboperations in the backyard, unstratified plow zones were removed with shovels, where no features were evident or sheet refuse was thin. Soil was sifted through 1/4" mesh hardware screen in all cases except the few suboperations which were shovel-cleared into wheelbarrows. In such cases the contents of the barrow was simultaneously "trowel-screened" by a second crew member. Wall profiles and plans, fieldnotes, and feature sheets were recorded in the field, together with photographs in black and white,

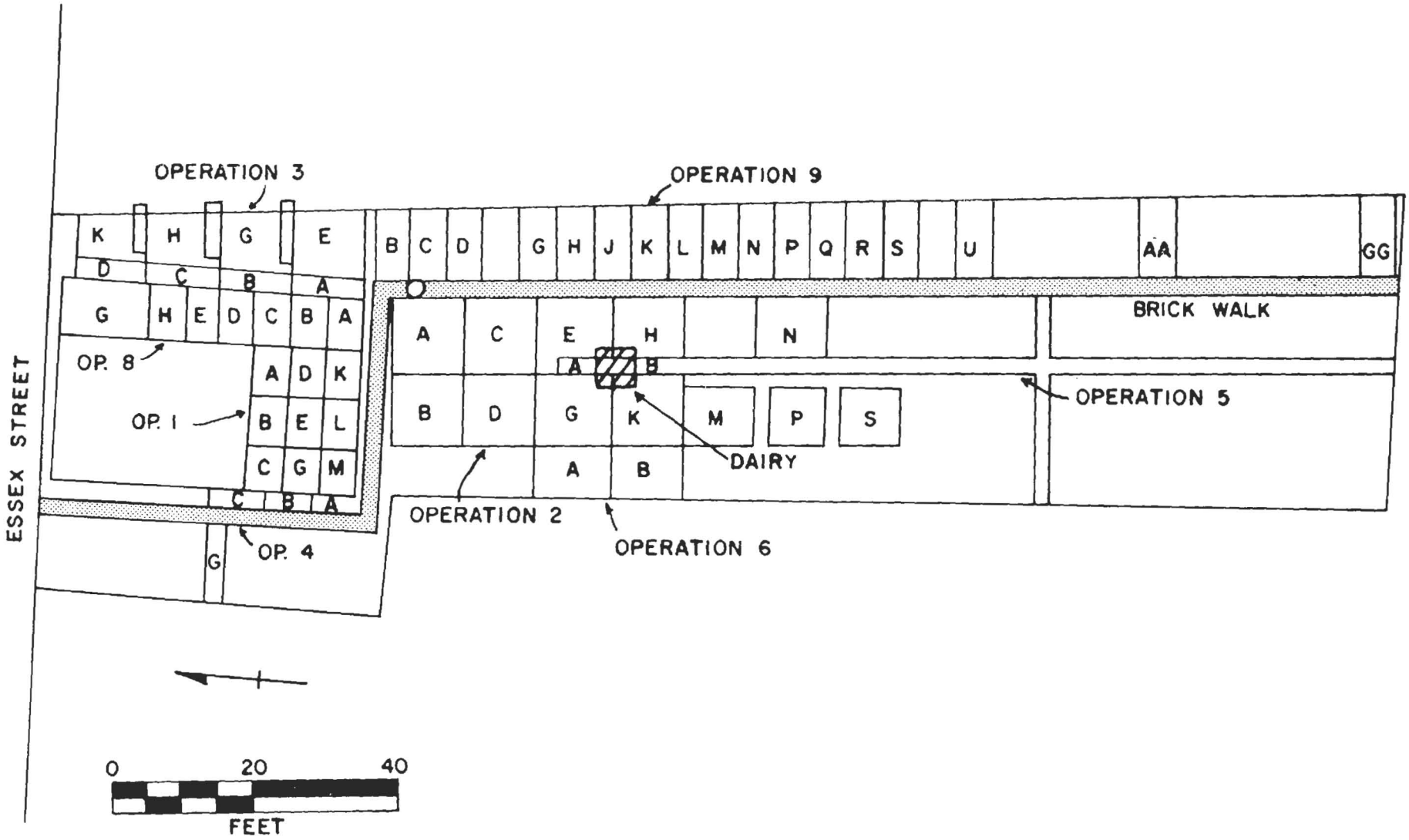


Fig. 2-3. Suboperation plan, Narbonne site. Excavation units and boundaries approximate.

and color transparencies, and are on file at Salem Maritime National Historic Site.

III. PROCEDURES

Field investigations began in April 1973 on the earth surface beneath the floorboards of the gambrel-roofed ell or addition to the south end of the original structure. This surface became operation 1. The architectural consultants dated this addition to the second quarter of the 18th century on the basis of stylistic evidence (Cummings 1962, 1972, 1973, 1974). It was clear that this addition replaced the southern storage shop and master chamber described in the Ives's inventory of 1695.

The interior was divided into nine equal suboperations (A through M) of about 4.5' by 6.0' by splitting the length and width of the room into thirds. Floorboards which ran the length of the room east-west had been removed except at each side. Against the fireplace wall, the presence of hearth and chimney girt prevented an examination of the earth surface against the south end of the first period structure. Likewise, the presence of floorboards underneath the corner cupboard (southwest corner) prevented an examination of the south foundation of the gambrel ell.

Operation 4 consists of a series of three excavation units placed between the gambrel ell and the brick walk, and designed to investigate the builder's trench and historic grade along the west exterior during the first field season. Only this builder's trench could be examined, since the southern builder's trench was recently disturbed by an adjacent brick walk set in a bed of reinforced concrete and crushed stone, and the east builder's trench was covered by the floor of the lean-to. Three suboperations 2.5' wide and 4' long were separated by 1' balks. The northernmost suboperation (1E4C) was doubled in length to extend under the doorway in order to detect grade changes in that area and examine the interface between the foundation of the gambrel ell and first period house. A test trench was extended opposite the front door of the property line on the west.

During the first field season, the east side of the property was investigated in operation 3. Four suboperations 10' by 3' in size and separated by 2' balks were located along the foundation of the lean-to and three cross trenches extended the width of the driveway leaving a central balk 2' wide. On the basis of features and grades located in these test units, the entire driveway was excavated during the second field season by expanding the cross trenches into four full suboperations.

During the second field season, stabilization work began on the Narbonne house itself. An area of vital concern to both the National Park Service restoration architect Flickinger and the archaeological investigator was the surface beneath the surviving flooring of the lean-to. Archaeological evidence in operation 3 had indicated an earlier lean-to of different dimensions than the surviving one, together with cobblestone driveway paving; both of these features were expected to continue under the foundation, sills, and flooring of the surviving lean-to which were slated for total rebuilding. Construction drawings even indicated the removal of fill and installation of a vapor barrier beneath the rebuilt floor.

Unfortunately, archaeological investigations beneath the lean-to floor were prevented because of potential conflict with the restoration calendar. Up to 18" of fill was removed by the contractor from this critically important context without archaeological supervision and stockpiled in the backyard, later to be designed as operation 8. As the removal of this dirt was unsupervised in archaeological terms, no interpretation of stratigraphic evidence could be made, and potentially important information about the lean-to and the various stages of its construction was lost. However, the workmen did attempt to apply vertical and horizontal controls to their excavation and the information this effort salvaged was preserved through the application of suboperation and lot designations to the 15 piles of dirt the workmen arranged in the backyard.

Investigations of the backyard, operation 2, were begun during the first season, when a grid system employing four 10' by 10' squares was excavated immediately behind the house and bounded on two sides by the modern brick walk which served as a base line. These four suboperations were designed to sample the area most likely to contain evidence of outbuildings, deposits of sheet refuse, and other features of nearly 300 years of domestic occupancy. Except for the brick walk, which had been laid by the National Park Service, no other surface evidence interrupted the grassy expanse of the backyard.

In addition to these four suboperations of operation 2, a test trench designed as operation 5 was extended the length of the yard with a cross trench at mid-point. During the first season, both the test trench and operation 2 utilized the west edge of the brick walk as a base line.

On the basis of features located during the testing of the first season, a second season was funded (1974) and the grid system was expanded over half of the backyard. Comprehensive testing over the remainder of the yard west of the brick walk indicated that no architectural features or trash pits remained undetected.

A strip along the east property line was left unexcavated because of the brick walk and the back dirt which was piled between the walk and the fence. The Narbonne yard flowed without interruption of fence or hedge into the yard of Frank Jarznka to the west. The principal investigator sought to avoid undermining Jarznka's carefully tended backyard and preserve good relations during the three seasons of field work. Therefore, except for the excavation of a major trash pit, excavation did not encroach closer than 5' to the west property line. Back dirt was located over the site of the well-documented carriage house at the south end of the lot, and during the second season, over the four backyard suboperations which had been excavated and mapped during the first season. At the end of the 1974 season, operation 2 was entirely backfilled so that considerable mobility was provided for back dirt during the final brief 1975 excavation season in the backyard.

The well was located about 12' behind the southeast corner of the house and clearly revealed in a published photograph of 1891 (Fig. 2-4). The National Park Service had laid the brick walk directly over the top of the well. During the 1973 field season, the south quadrant of the well's



Fig. 2-4. Narbonne house and yard. Note well head. Frank Cousins photograph, 1891. Courtesy Essex Institute.

builder's hole was excavated to a depth of 3.5' by tunneling under the brick walk. During the following season, portions of the walk were removed and the interior of the well excavated as suboperation W of operation 2. It was excavated in 6" levels since no stratigraphy existed in the predominately coal ash fill.

As the well was only 12' deep and structurally sound, no casing and very little shoring was used to reinforce the sides. A scaffold was erected over the mouth of the well, whose top course of bricks was covered by a plywood shield to prevent dislodging. An excavator in hard hat and harness was lowered into the well and attended at all times. Usually, a third member of the well crew retrieved buckets of fill, screened for artifacts, and tended the pump.

The location of the corner of a major wood-lined trash pit in suboperation 1E2G provided the impetus for operation 6. Two suboperations were located against the west property line in order to excavate this major feature. Operation 9 completed investigations in the backyard. During a brief field season in 1975, 17 suboperations were excavated along the east property line. These units measured 5' in width and varied from 8' to 10' in length between the brick walk and the fence. This strip had been the location of back dirt during the previous field seasons, and was available for investigation after operation 2 had been backfilled.

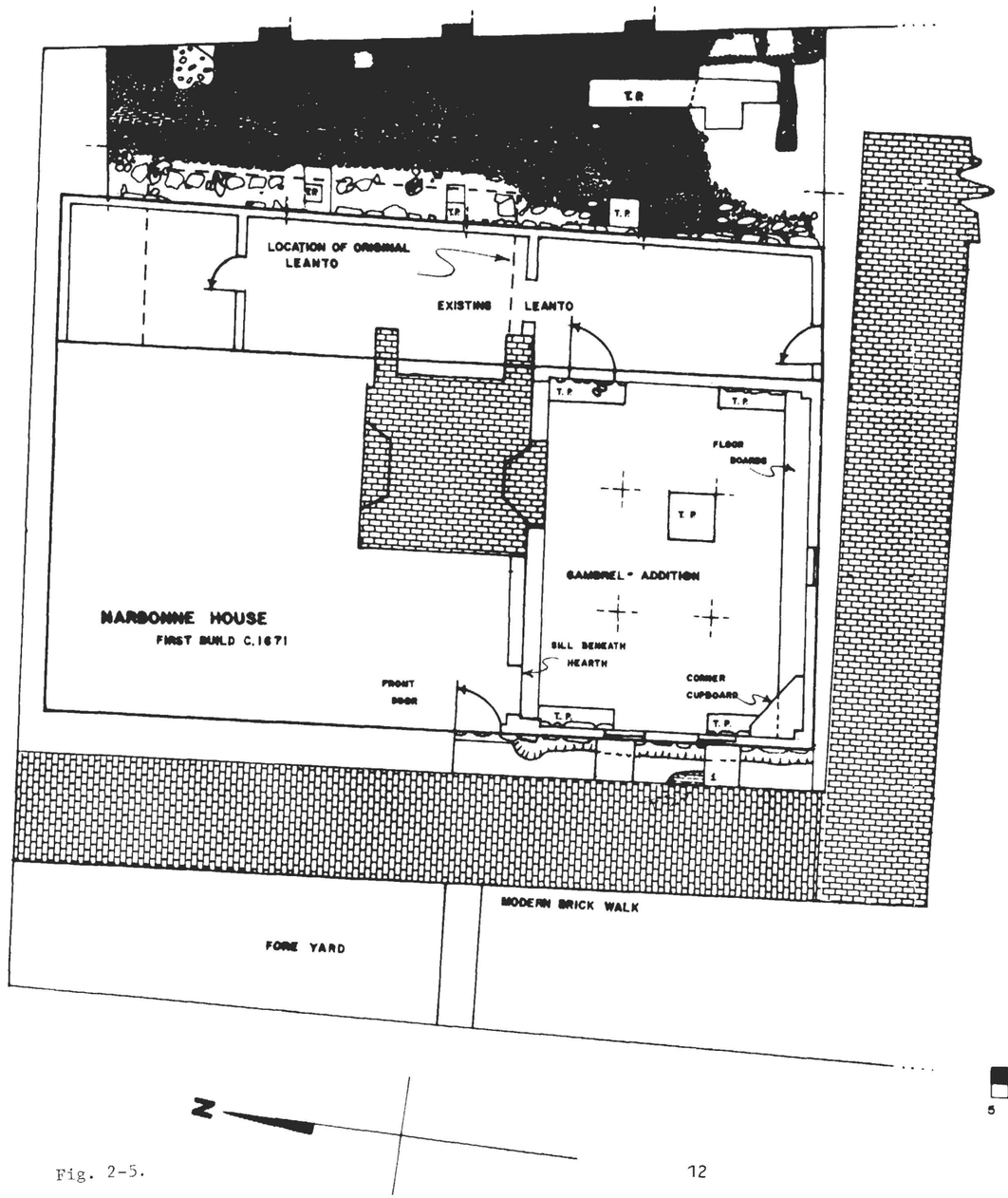
IV. FINDINGS

Figures 2-5 and 2-6 are base maps showing the location of the various features uncovered during the three seasons of excavation at the Narbonne site. These features will be discussed in the following section.

THE GAMBREL-ROOFED ELL

The SPNEA, architectural consultants on the Narbonne house, recognized that information concerning both the building date of the gambrel ell and its relationship to the earlier southern addition might be clarified by archaeological investigations in the presumably sealed context below the floorboards of the extant structure. The eight sleepers or floor joists of the gambrel ell are reused first period chamfered posts and framing elements, perhaps salvaged from the first period southern addition (Fig. 2-7). However, Cummings (1973, 1974) felt that the entire gambrel wing had been moved from a different location and attached to the first period structure. Although the earth beneath the floorboards had been trampled during the removal of the boards, the surface seemed to be otherwise undisturbed except for a galvanized waterline which had been extended from the basement, between joists six and seven, to exit in the southern foundation of the gambrel ell. Dry, loose earth touched the bottom of the joists on the eastern half but fell away to a depth of about half a foot from the joists on the western half. Seven of the eight joists were supported at mid-point by wood shims or, in the case of joists six and seven, ends of reused beams which were complete with tenon and trunnel holes. The joist on the west was supported by a stone.

The dry powdery surface stratum of operation 1 was liberally sprinkled with bone fragments and a few sherds of dark glazed redware. This stratum was carefully removed with trowels to a depth of 2" overall



BASE MAP OF EXCAVATIONS AT THE

NARBONNE HOUSE SITE PLAN I

SALEM MARITIME NATIONAL HISTORIC SITE

1973 - 1975

Geoffrey P. Moran, Principal Investigator
PUBLIC ARCHAEOLOGY LABORATORY
ANTHROPOLOGY DEPARTMENT
BROWN UNIVERSITY
PROVIDENCE, R.I.

LEGEND

- TRASH DEPOSIT
- COBBLES
- STONE
- BRICK
- DEPRESSION
- SUBOPERATION BOUNDARIES
- T.P. TEST PIT

METERS
1 0 1 2 3 4 5
5 0 5 10 15 20 25
FEET

373/25006
SHEET 1 OF 2

Fig. 2-5.

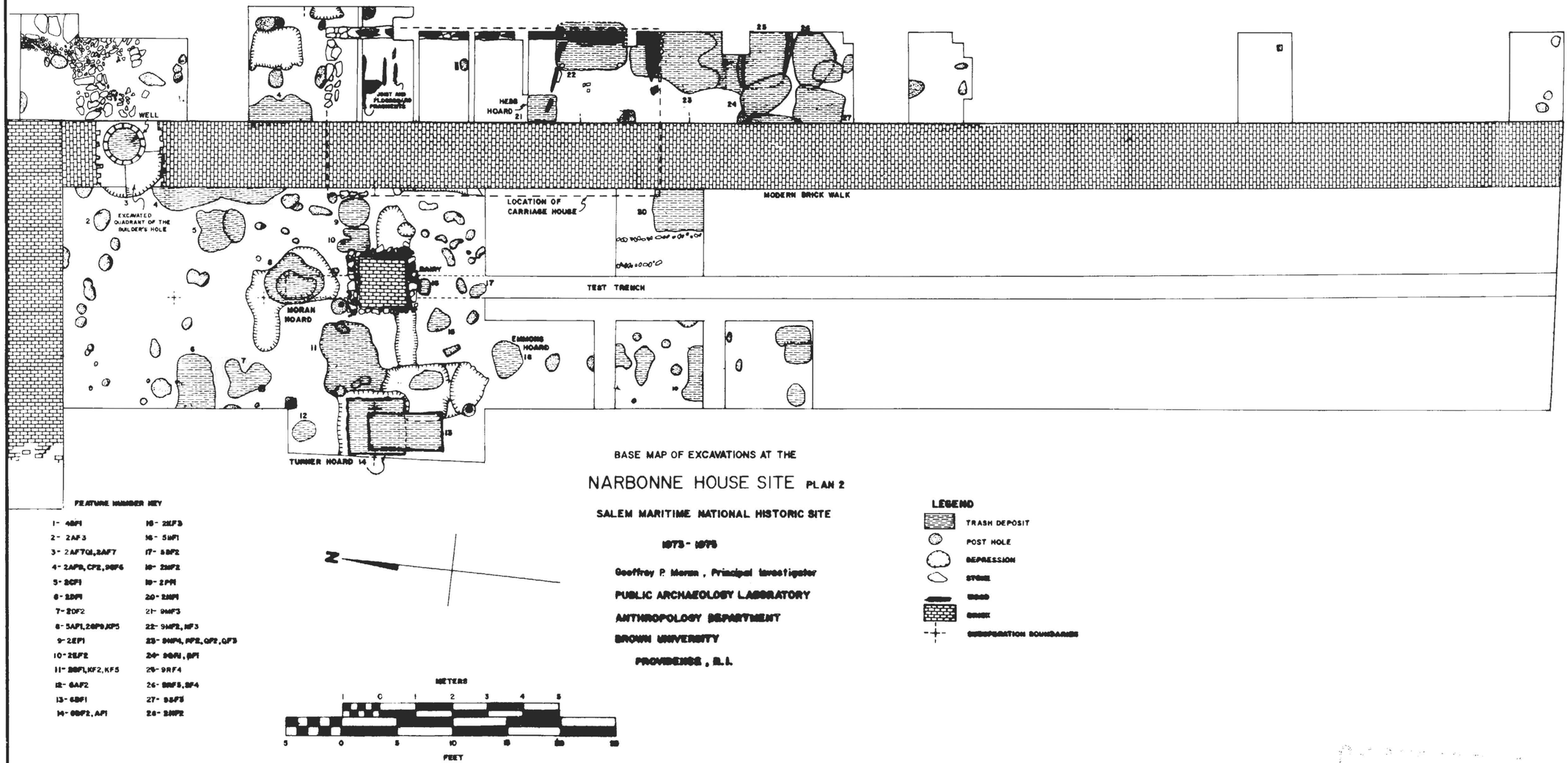

WELL
HERB BOARD 21
MODERN BRICK WALK
LOCATION OF CARRIAGE HOUSE
EXCAVATED QUADRANT OF THE BUILDER'S HOLE
PANTRY
TEST TRENCH
MORAN BOARD
EMMONS BOARD 18
TURNER BOARD 14
FEATURE NUMBER KEY
1- 4SF1
2- 2AF3
3- 2AF7G1, 2AF7
4- 2AF8, CF2, 9SF6
5- 2CF1
6- 2DF1
7- 2DF2
8- 5AF1, 2SF8, KF5
9- 2EF1
10- 2EF2
11- 2SF1, KF2, KF5
12- 6AF2
13- 6BF1
14- 9BF2, AF1
15- 2EF3
16- 5HF1
17- 5BF2
18- 2HF2
19- 2FF1
20- 2MF1
21- 9MF3
22- 9MF2, MF3
23- 9MF4, FF2, QF2, QF3
24- 9GF1, BF1
25- 9RF4
26- 9RF5, BF4
27- 9SF5
28- 2NF2
BASE MAP OF EXCAVATIONS AT THE
NARBONNE HOUSE SITE PLAN 2
SALEM MARITIME NATIONAL HISTORIC SITE
1973- 1975
Geoffroy P. Moran, Principal Investigator
PUBLIC ARCHAEOLOGY LABORATORY
ANTHROPOLOGY DEPARTMENT
BROWN UNIVERSITY
PROVIDENCE, R.I.
LEGEND
TRASH DEPOSIT
POST HOLE
DEPRESSION
STONE
WOOD
BRICK
EXCAVATION BOUNDARIES
N
METERS
1 0 1 2 3 4 5
5 0 5 10 15 20 25
FEET

Fig. 2-6.

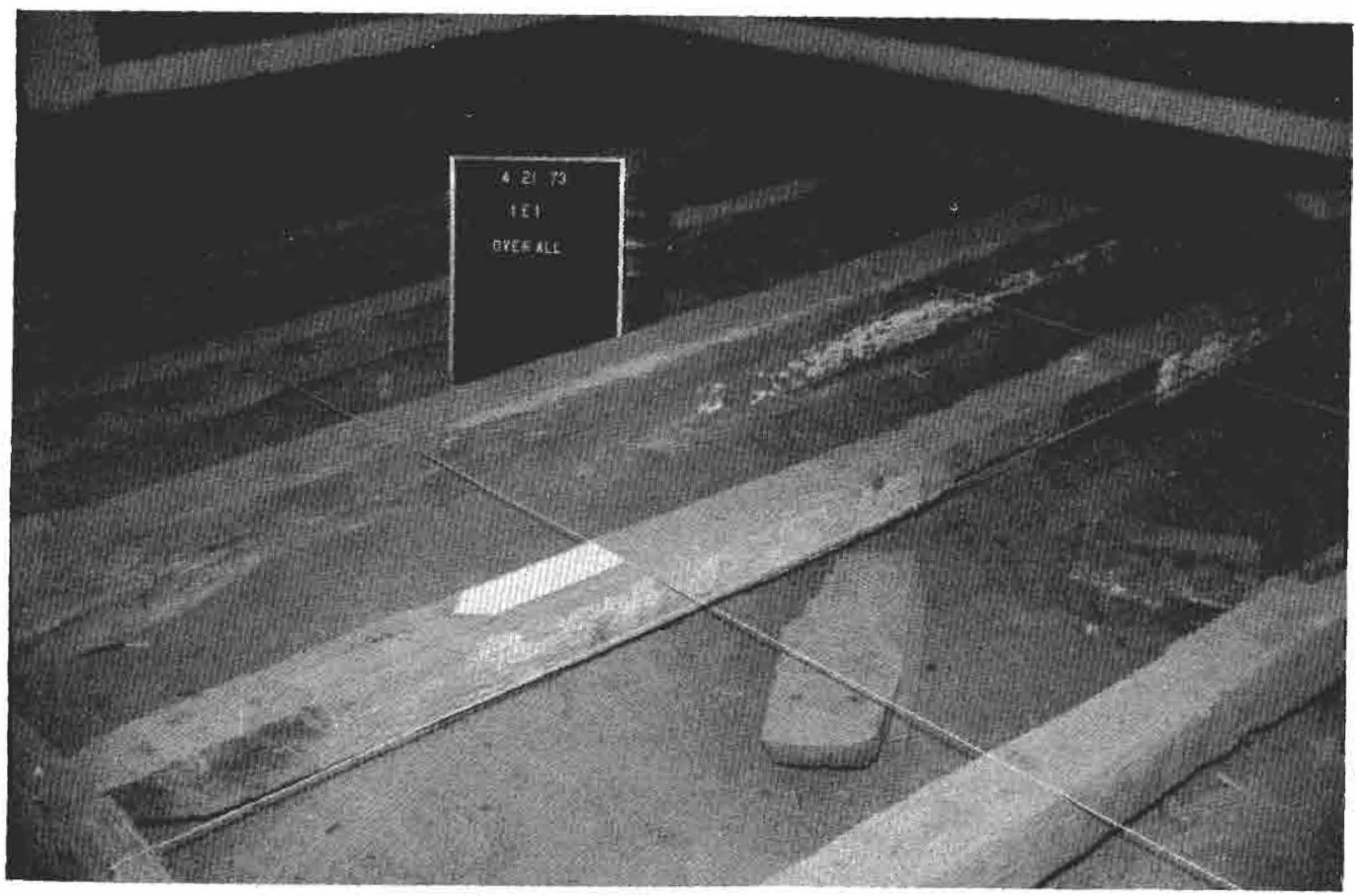


Fig. 2-7. Operation 1 before excavation. Note reused whitewashed posts and discarded tenon.

when the SPNEA reported that further investigations beneath the floor would have to be confined to a few test pits for fear of undermining the foundations and the even more precarious chimney base.

Five test pits were excavated, one in each corner and one in the center between joists four and five. In all of the corner pits, the soil had been riddled through with rodent burrows. About 1' of soil bearing cultural material was removed to undisturbed orange subsoil in each test pit except in the southwest corner. In that location, disturbed soil continued to a depth of more than 2', with excavation to undisturbed subsoil hindered by the confined conditions of the test pit.

In each location, light brown loam with lenses of redeposited yellow subsoil contained nails, brick fragments, mortar and plaster fragments, and assorted artifacts and faunal material. In those test pits against the foundation, lenses of charcoal-flecked grey clay were found, corresponding to the clay mortar binding the foundation itself and packing the builder's trench on the exterior. Two lead strips, perhaps calms from the casement window, were found in this stratum which seems to represent the debris from the first period addition.

The test pit beneath the door from the gambrel ell to the lean-to revealed beach cobbles which, together with the clay mortar, were found beneath the threshold and filled voids of the larger foundation stones. In addition, beach cobbles were randomly distributed in the strata down to the undisturbed subsoil, but no cobbles were found in other test pits. Investigation of the central test pit revealed the joists four and five were supported at their centers by large stones and wood shims (Fig. 2-8).

Although excavation was limited to five test pits, certain conclusions can be tentatively advanced. The centers of the floor joists were all supported by a combination of stones and wood shims or joist fragments. They rested on or near the undisturbed yellow subsoil according to evidence from the central test pit. After the central support system was completed, but before flooring and probably exterior siding was installed, about 1' of fill was redeposited to carry the grade level up to or near the bottom of the joists for the purposes of insulation. This same procedure has been noted by James Deetz (1975) in contemporary dwellings from the Plymouth area.

The appearance of cobbles in and adjacent to the northeast test pit (IEIA) suggests that, at the time of the construction or rebuilding of the gambrel ell foundation, the cobble driveway on the east exterior extended to its vicinity. During January 1975 the lean-to floor immediately east of the gambrel ell was removed for stabilization and the principal investigator had the opportunity of viewing additional cobbles within the entire west face of the exposed foundation of the gambrel ell. In addition, the cobble paving of the exterior was seen to continue for about 1' underneath the lean-to foundation. However, the cobble paving failed to connect with the line of cobbles in the gambrel ell foundation. Unsupervised earth removal by the contractor prevented an examination of the relationship of the gambrel ell and lean-to foundations to the cobble drive of the east exterior. With the exception of building debris in disturbed association with later materials, no other evidence was found

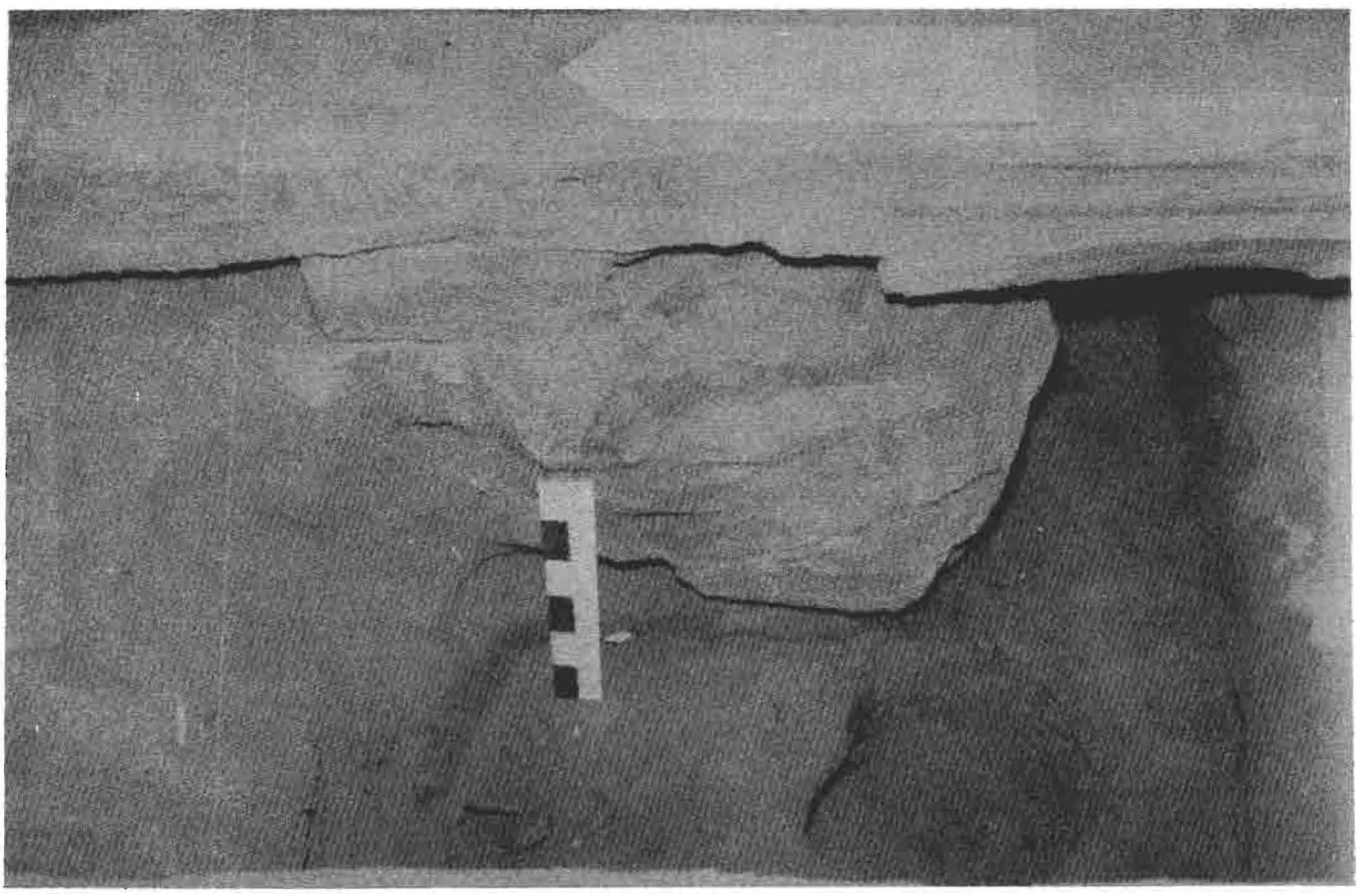


Fig. 2-8. Test pit 1E1E. Note stone and shim supporting floor joist.

for the southern addition whose contents were listed in the 1695 inventory (see Fig. 3-1). Indeed no clearly defined 17th century context has been located beneath this apparently sealed context or elsewhere on the site. Artifactural evidence located in this operation (operation 1) and from the builder's trench of the west exterior foundation (operation 4) suggests that the existing gambrel ell was built in situ, rather than moved from another location. The large amount of brick, plaster, and mortar fragments in the interior strata suggests that the first period southern addition was dismantled and its various parts reused in the new gambrel ell. At the time of the rebuilding, the foundation of the first addition was apparently rebuilt with clay mortar. Indeed, the foundation may be contemporary with the gambrel ell for it would not have been unusual for Ives's original addition/storage room to have been post supported or laid its sills directly on the ground. The rule of parsimony suggests that a structure corresponding so closely to the width of the first period building, and probably the first period addition, was built on the site incorporating used materials, and perhaps the existing foundation. Otherwise one must resort to the hypothesis that the owner made the fortuitous discovery of a gambrel structure of the right width somewhere in the neighborhood, and despite all the obstacles presented by structures abutting the narrow city lot, moved the structure to the back of his house.

The problem of dating this addition has been approached by an examination of artifacts from the interior and the builder's trench along the west exterior. The interior, unhappily, was far from the sealed context hoped for. The disturbance of rodents (and several dessicated examples were excavated) probably accounts for the intrusion of incongruous artifacts, although some may have worked their way between two layers of flooring. Part of a plastic threaded ring, modern hairpins, and safety pins, together with two pieces of 19th century ironstone were probably transported by rodents, as were bones and seed husks. Three creamware sherds were found in the surface deposit together with examples of decorated pearlware which conform exactly to types found in an early 19th century trash pit. These probably also exist as intrusions. The majority of ceramics were mid-18th century types: Westerwald stoneware, combed and trailed slipwares, delftware, saltglazed and scratch-blue stonewares. A sample of 47 pipe stems gives a date of 1729.952 by the Binford (1962) regression formula. This chronology cannot be taken at face value, however, since the sample appears to have an overlapping bimodal distribution, with three-fourths of the sample pointing to a date around 1750, and one-fourth of the sample showing a peak for the 30 year period between 1650 and 1680. It is likely that the earlier distribution reflects debris from the first period southern addition, while the later dates are from the period of reconstruction.

Artifactural evidence from the west builder's trench (operation 4), although less numerous, presents fewer problems due to intrusion. Among the ceramics retrieved, delftware was the most numerous and creamware was conspicuously absent. This is consistent with the predominance of tin-glazed earthenwares in ceramic assemblages which predate the introduction of creamware in the 1760s. Together with the delftware, saltglazed stoneware, trailed slipware, and a single mottled-ware sherd, all point to a date around 1750. The application of

the Binford (1962) formula to the comparatively small sample of 20 pipe stems yielded a date of 1738.637.

WEST SIDE OR FRONT YARD OF HOUSE

The excavation units of operation 4 extended between the house and the brick walk along the west foundation of the gambrel ell and overlapped with the end of the first period foundation (Fig. 2-9). Undisturbed yellow subsoil was encountered from 9" to 15" below the surface. The unstratified overlying dark brown loam contained a mixture of artifacts dating from the 18th to the 20th centuries, probably indicating the use of this location next to the front door as a garden plot. A test trench was extended opposite the front door to the property line on the west. Subsoil was encountered at the same depth except for one area of considerable root disturbance. A few random cobbles were found in this test trench, and several cobbles were found redeposited along with the crushed stone of the brick walk base. The latter appearance of cobbles suggests that cobble paving was disturbed when the modern walk was installed, but no juxtaposition of cobble paving and modern walk was found at any location in the site. A large flat stone was removed from in front of the door, but no example of cobble paving could be found in front of the door or anywhere else on the west exterior. If any walkway or prepared surface existed during the early periods of occupancy, its destruction was complete when the modern brick walk was installed. Early grade levels on the west exterior were probably consistent with existing grade, since the builder's trench of the gambrel ell survived intact only 6" below the surface.

The builder's trench was filled with light brown clayey loam, containing residue of the grey clay mortar of the fieldstone foundation (Fig. 2-10). The north end of the foundation was only two courses deep where it butted against the corner stones of the first period structure, and extended only about 1' below grade. However, about halfway along its length the foundation began to get deeper, extending 30" below grade at the southwest corner. The extension of the foundation was also noted in the interior test pit, but the combination of restricted interior excavation and the brick walk of the exterior prevented a fuller exploration of this feature. It should be recalled that no cellar or storage chamber exists beneath the floor of the gambrel ell, although such a chamber might have existed for the first period southern addition.

Of unusual occurrence was a small aboriginal midden partially excavated in suboperation 1E4B and extending under the walk. Shell and charcoal, but no lithic materials, were found in this feature (feature 1 on Fig. 2-8).

EAST SIDE OR DRIVEWAY AREA

The results of the excavation in operation 3 between the lean-to and the eastern property line seem relatively straightforward in terms of historic grade, but are exceedingly complex in relationship to an excavated foundation and its associated stratigraphy.

During the first season, four suboperations 10' by 3' in size were located along the lean-to, and three cross trenches extended the width of the driveway. The entire driveway was excavated during the second

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Postholes

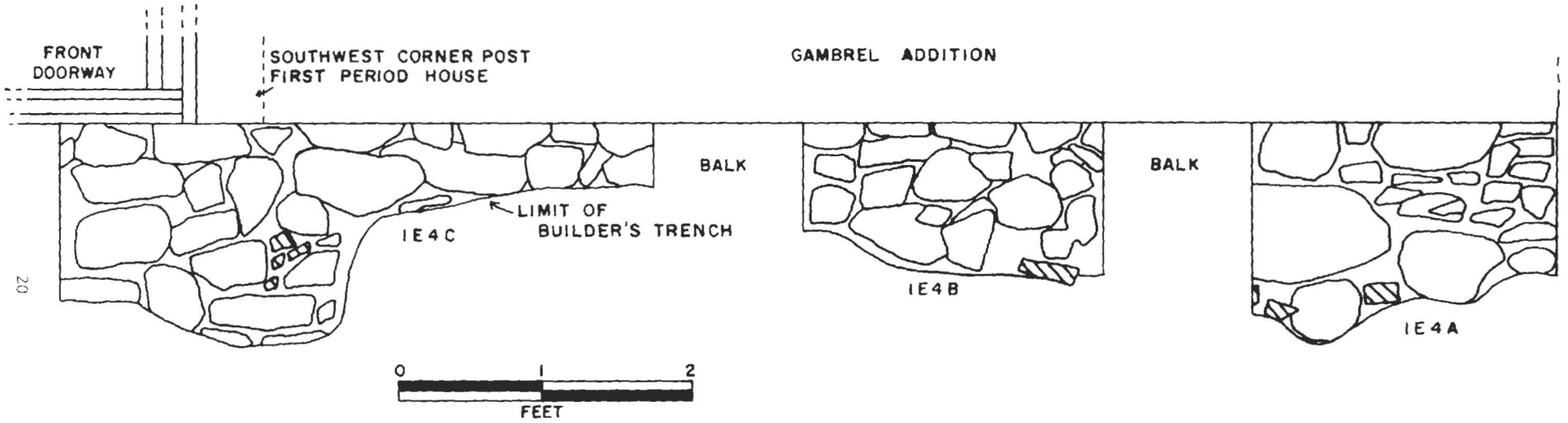


Fig. 2-9. Profile of east face of gambrel addition foundation, operation 4.

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Posthole

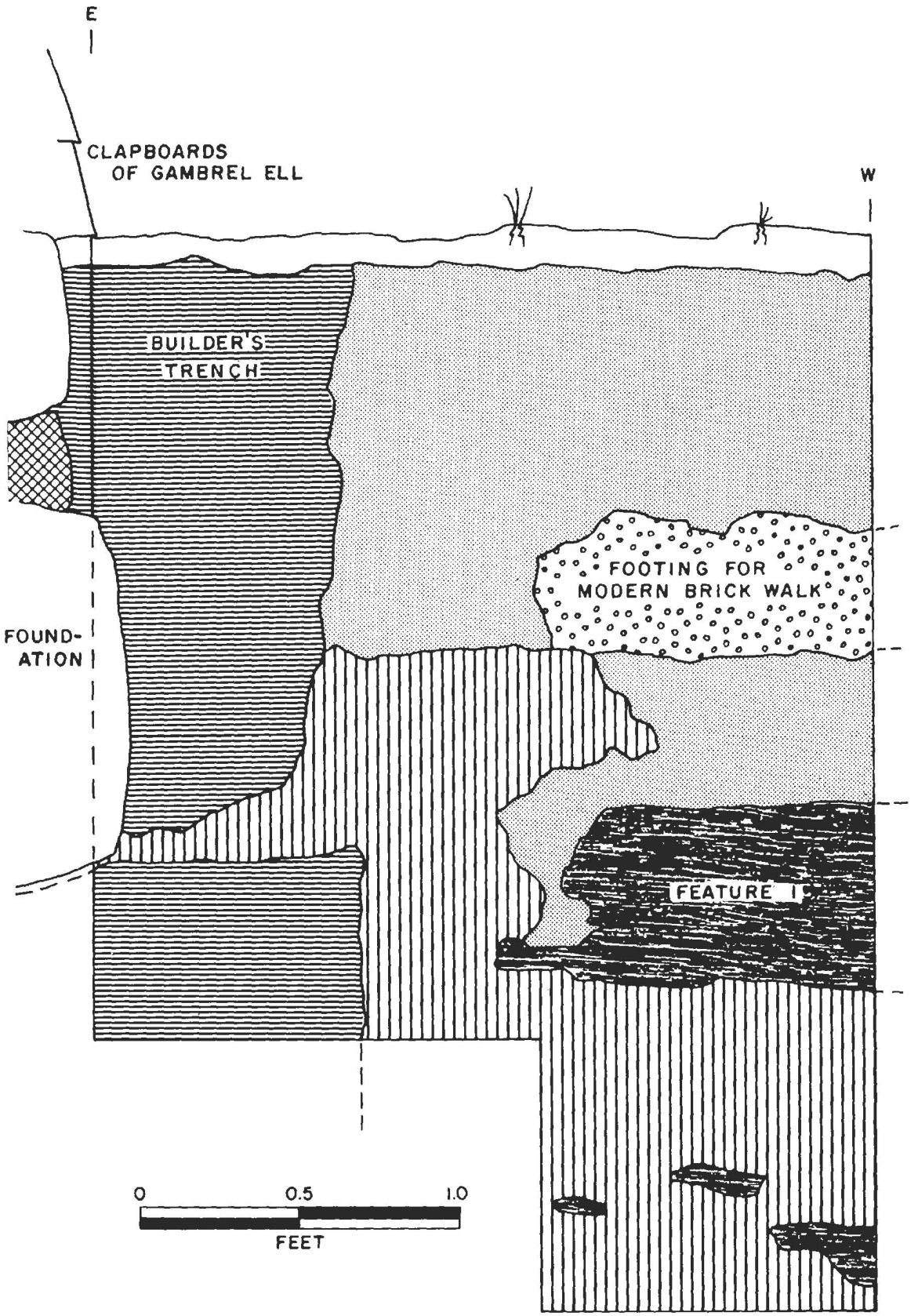


Fig. 2-10. Profile of 1E4B, south face, showing builder's trench and prehistoric feature 1.

season, fully exposing a beach cobble drive, its drainage system, and its relationship to a foundation of the first period lean-to (Figs. 2-11, 2-12).

The slight incline in existing grade level from sidewalk to backyard only dimly reflected the much steeper incline in the historic cobblestone paving. Whereas cobbles were encountered only 10" to 12" below the surface near the back of the driveway, they were buried 30" below the level of the existing street sidewalk. The surface of Essex Street has evidently risen dramatically over the years.

According to diarist William Bentley (1904-14, IV: 349, 623), cobblestone yard paving was common in the 17th century, but a rarity in the late 18th century. However, by 1815 he notes them coming back into use, and a late 19th century photograph shows Essex Street itself paved with beach cobbles similar to those excavated in the driveway.

Further examination of archaeological evidence from the contexts associated with cobble paving should be undertaken in the future. However, the cobble paving acknowledges the presence of the first period lean-to foundation, and since it proceeds under the foundation of the existing lean-to, it establishes a relative chronology between the cobble paving and the two periods of lean-to construction.

Beginning at a point about 2' east of the existing lean-to and in line with the back of the first period house, the excavated foundation extends about 22' parallel to the foundation of the existing lean-to but at a lower level. Cummings eagerly accepted this as the foundation of the lean-to described in the Ives inventory of 1695. The removal of the flooring in the existing lean-to in January 1975, during the stabilization program, revealed cross foundations and a hearth below the level of the surviving one and paved with unglazed tile. It is particularly regrettable that archaeological investigation of these contexts was not permitted, and that over 1' of soil and cultural material was removed by workmen.

The present lean-to was built in two different periods and is only about 7.5' in width. The width of the first period lean-to would have been about 9.5' to 10', corresponding more closely to the New England lean-to module, according to Cummings. It is worth noting that this original lean-to did not extend along the entire back of the first period house, but ended about 5' short of the northeast corner.

The early lean-to foundation is of fieldstone, one course high at the southeast corner, and two courses at the street end, corresponding to the slope in grade level of the cobble paving. The adjacent stones where they survive are chinked with clay mortar, rest on or near disturbed subsoil, and project about 6" to 10" above the adjacent cobble paving. The evidence for an early hearth level and brick flooring discovered during the stabilization program was found about 1' below the existing lean-to floor. This indicates that the original lean-to floor level was lower than the floor in the main room of the first period house, and corresponded to the lower elevation of the east side of the lot. Further information about the lean-to was lost in the unsupervised excavation of that area by the construction crew.



Fig. 2-11. Overall photograph, operation 3.
Cobble driveway looking south.
Note first period lean-to foundation.

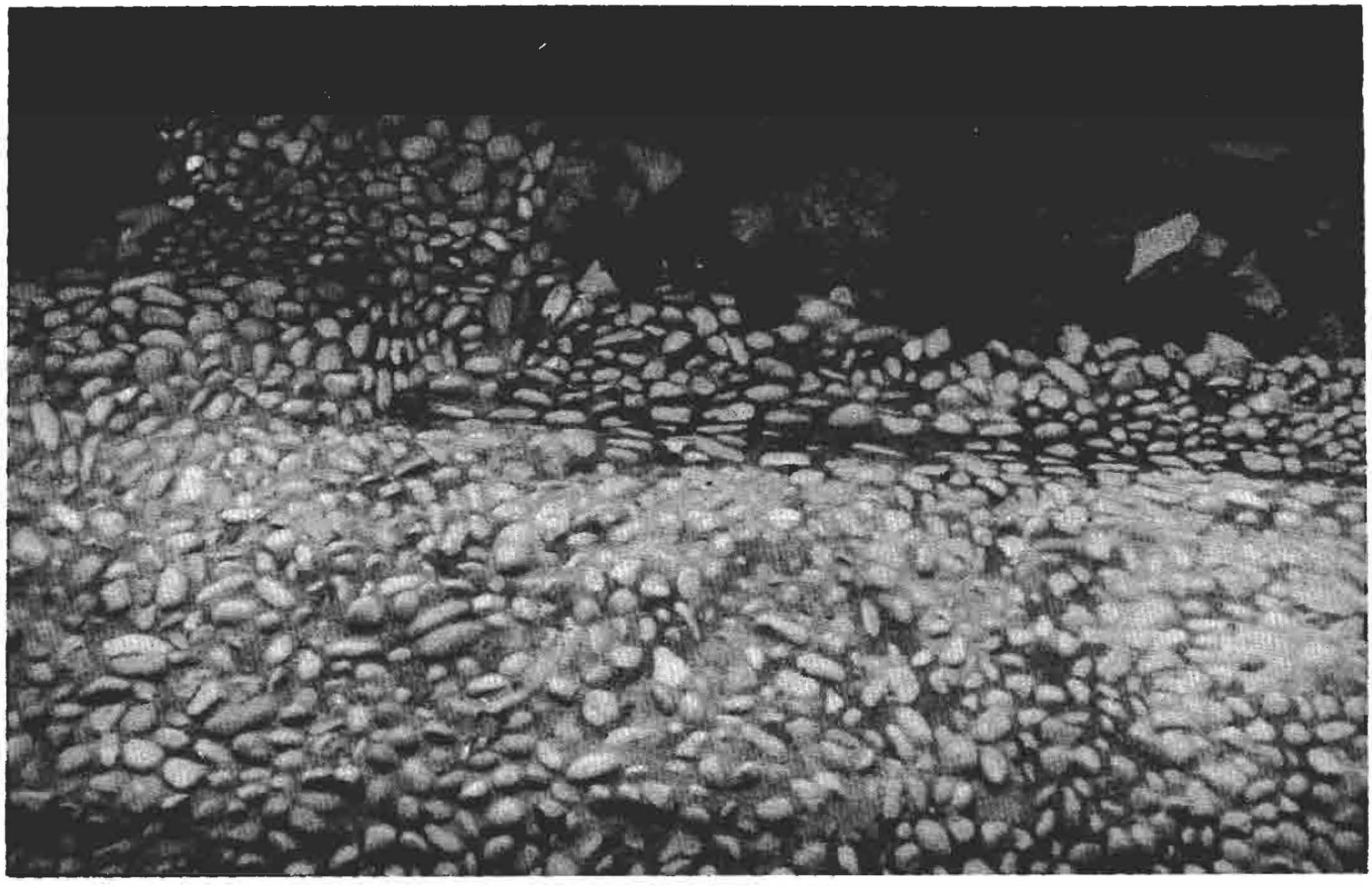


Fig. 2-12. Operation 3 showing cobble drains, southeast corner of first period lean-to foundation, and cobbles going under later lean-to foundation.

The cobble paving was covered by several strata in an apparent effort to keep pace with the rising level of Essex Street. There appear to be three basic periods of fill, each covering a more extensive section of paving than the one before it. With the final stratum, the entire cobble paving, together with the foundation of the first period lean-to, was covered.

The first fill level extended about 5' or 6' south from the sidewalk along Essex Street, and covered the cobble paving to a depth of 6" to 10" at the north end of suboperation 1E3K. This sandy, clayey brown loam contained numerous large pieces of ceramics, glass, and bone. Saltglazed stoneware, delftware, Westerwald sherds, and the absence of any refined earthenwares or creamwares point to a deposition date in the 1740s or 1750s. The large size of the sherds and bones suggests either that this first fill level received very light traffic, or that it was soon covered with the clean beach sand which was the second fill stratum and far preferable to the rubbish-filled loam in terms of drainage (Fig. 2-13).

The clean sandy layer extended almost half the length of the driveway and varied in depth from 2", where it met the foundation of the first period lean-to, to 10" in the center (Fig. 2-14). The sand did not extend evenly across the width of the drive, but tapered off on line with the west edge of a strip of stone paving. The stone paving was about 15" wide and located about 1.5' from the east edge of the property. This mixed stone and cobble strip was bedded in brown sandy loam which overlapped the clean sand and covered the original cobble paving along the east edge of the driveway (Fig. 2-15). Although the later paving strip is clearly in the sandy loam context, it conforms to the elevation of the clean yellow sand. The fill sequence for this level was apparently as follows: clean sand was dumped over the western lower third of the drive, additional sandy loam was used to level off the eastern edge, and a single strip of paving was laid in the loam and graded into the earlier cobble paving near the point where the sandy fill ended (in suboperation 1E3H). Although the sand was comparatively free of rubbish and artifacts, several sherds of hand-painted pearlware in the brown sandy loam suggest a very late 18th century date for this second major raising of the grade over the cobble drive. It should be noted that the original cobble paving was still exposed along the southern half of the driveway, and that the first two levels of fill did not raise the grade above the foundation of the first period lean-to.

The third fill level was dark brown loam containing numerous brick fragments, artifacts, charcoal flecks, and bones. In the southern half of the driveway, where this level was heavily deposited, the ceramic and bone fragments were large. Among the ceramics examined, hand-painted and shell-edged pearlwares were abundant. In addition, this stratum contained several matching sherds of roso antico (a dry-bodied, red stoneware) from nonadjacent suboperations. These sherds form part of a teapot lid which nearly matches the roso antico teapot found almost in its entirety in a c. 1805 trash pit (feature 14). This third increase in driveway grade extended above the level of the first period lean-to, and completely covered the cobble stone paving. Therefore, by the early 19th century, the east side of the property had been transformed considerably. Both the cobble paving and the early lean-to had

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Postholes

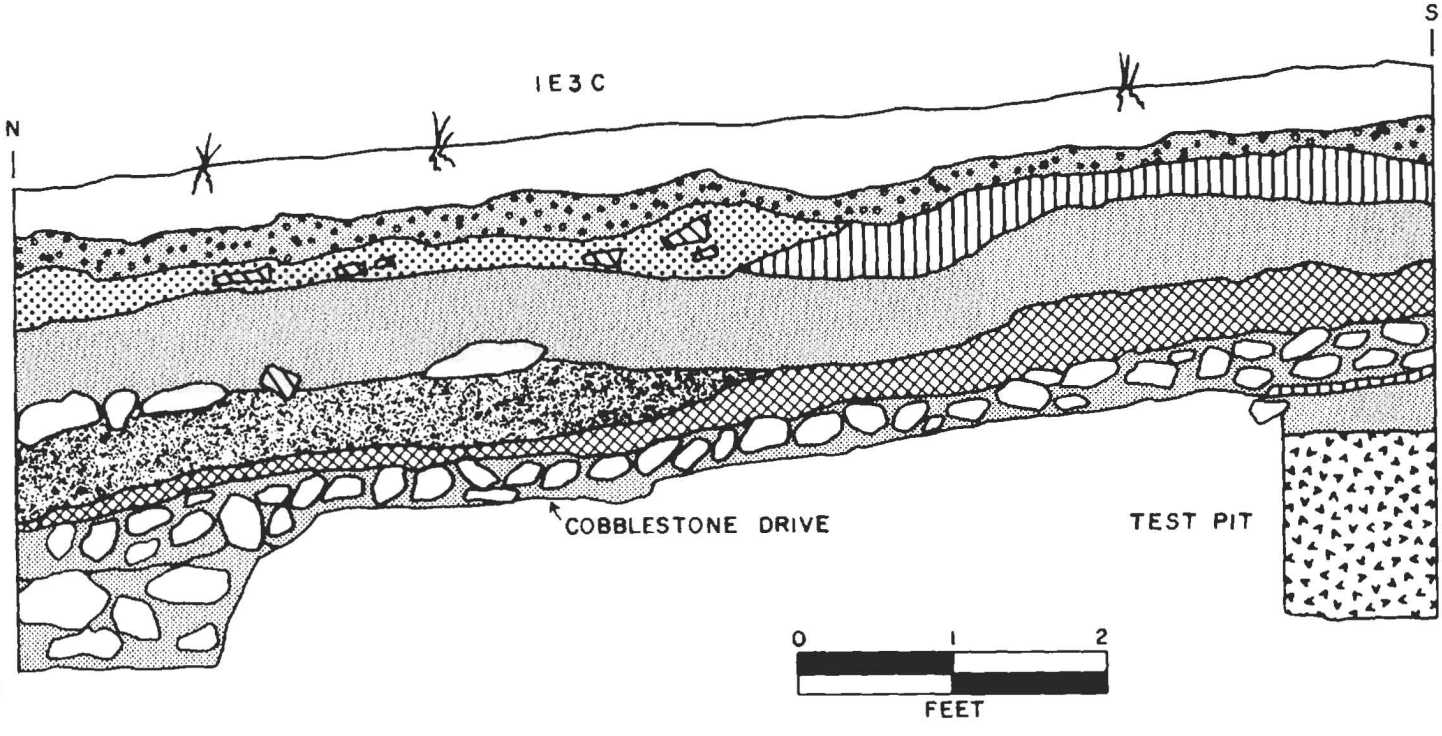


Fig. 2-13. Profile of central balk, 1E3C.

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Posthole

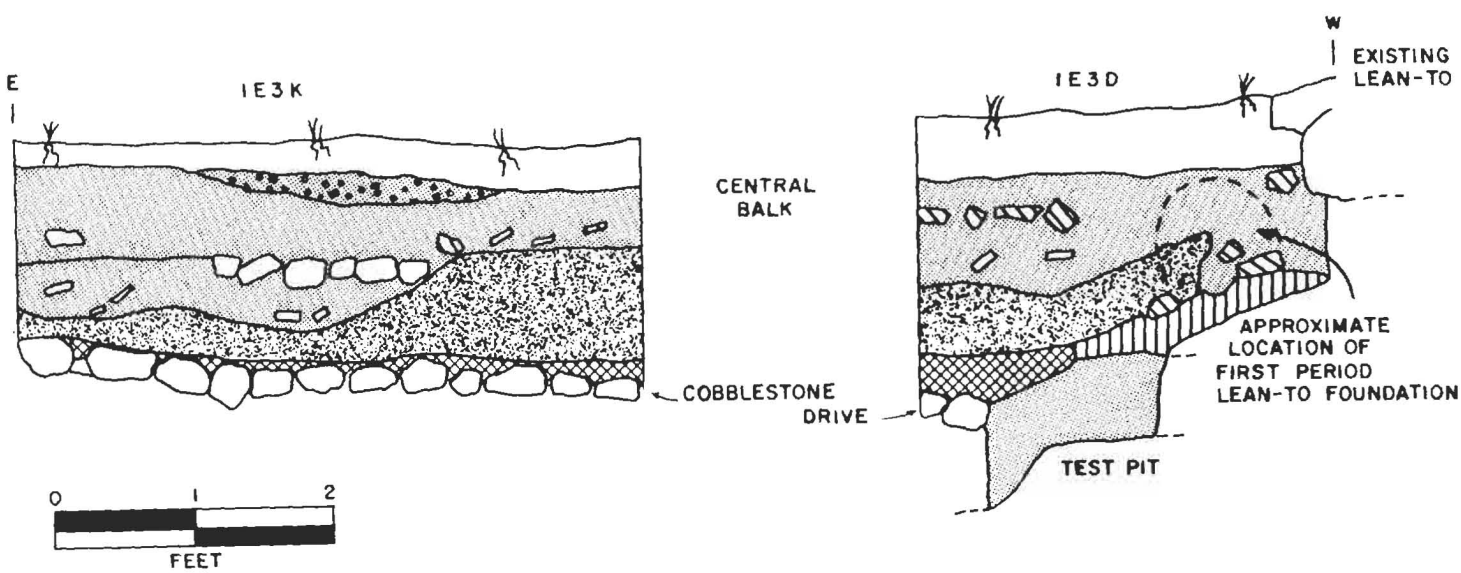


Fig. 2-14. Profile across operation 3 at 1E3D and 1E3K.

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Posthole

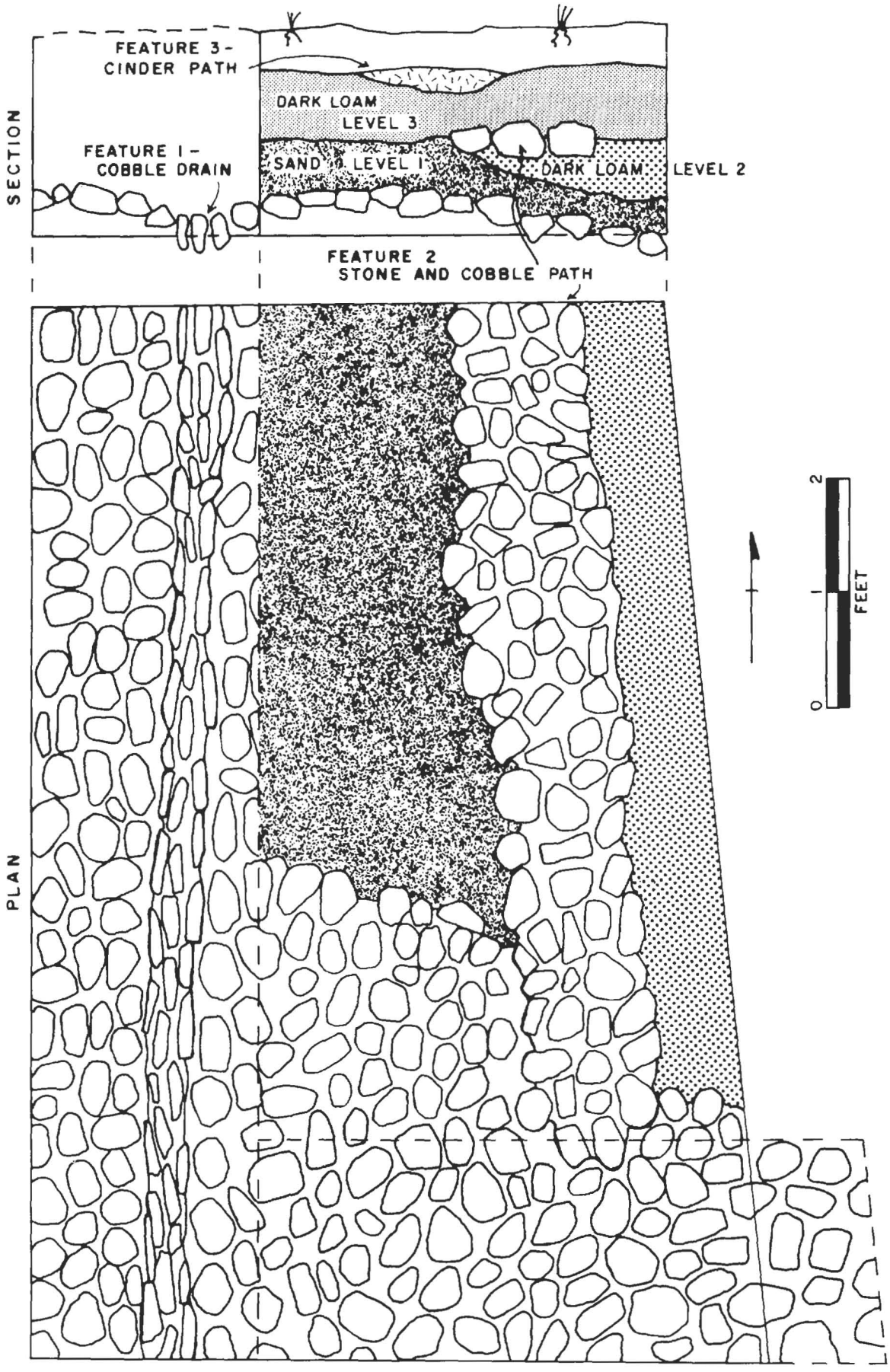


Fig. 2-15. Simplified plan and section of JE3H with feature and major fill levels.

disappeared. It is unlikely, on the basis of archaeological evidence, that the existing lean-to dates in whole or in part to before this date. Although the southern end of the existing lean-to has a foundation that rests directly on the cobble paving, it is quite likely that a builder's trench was sunk to that level. The cobble paving would have provided a good bearing surface. Elsewhere along its length, the existing lean-to foundation seems to be set directly in a context of dark loam.

Mention should be made of several other aspects of this operation. The cobble drive has two drainage systems, both made with cobbles set on edge. One runs east-west under the lean-to foundation and intersects with a drain designed to carry water to the street. The paving is strongly crowned, either by design or usage. Near the south end of the driveway is an area that was apparently robbed of cobbles. A test trench through this area proved inconclusive. Finally, a later stone drain was constructed to carry water from the southeast corner of the lean-to roof to a stone-lined ditch or catchment basin. The location of this drainage system would seem to render passage for wheeled vehicles nearly impossible.

During the later 19th and 20th centuries, crushed rock and coal clinkers were applied as surfacing, further increasing grade. The addition of 2" to 3" of loam above the cinders brought the soil in contact with the sill of the lean-to, resulting in severe deterioration.

THE BACKYARD

Except for the presence of a brick walk, the entire lot was covered with grass and uniform in elevation. No architectural features were visible above grade, although a fine Federal period carriage house, reportedly too deteriorated to be stabilized, was torn down within the last decade by the National Park Service. Also a brick walk of formidable specifications was laid by the National Park Service, although the house was not open to the public. Set in reinforced concrete and bedded in 8" of crushed stone, the walk extended the length of the backyard, across the back of the house, and turned again to continue to the street. In the process it was laid across the location of the carriage house, continued directly over an 18th century well clearly identifiable in published photographs, and disturbed the southern builder's trench of the gambrell ell. Taken in combination with the effect of the recent stabilization program on early living surfaces within the lean-to, it could be argued that the Narbonne site has actually lost ground since it was acquired by the National Park Service.

During the first field season, work began on operation 2. Four suboperations, A - D, were opened up, and a test trench, operation 5, extended the length of the backyard. The features encountered during the first season included the well, a trash pit, and a small brick-floored architectural feature; these discoveries justified the expansion of the grid system over much of the backyard in the second season (Fig. 2-16).

During the second season in 1974, these features were excavated, together with a large number of postholes and larger irregular features which included domestic trash in their fill. Extensive areas of sheet refuse as well as major and minor trash pits were also excavated. The

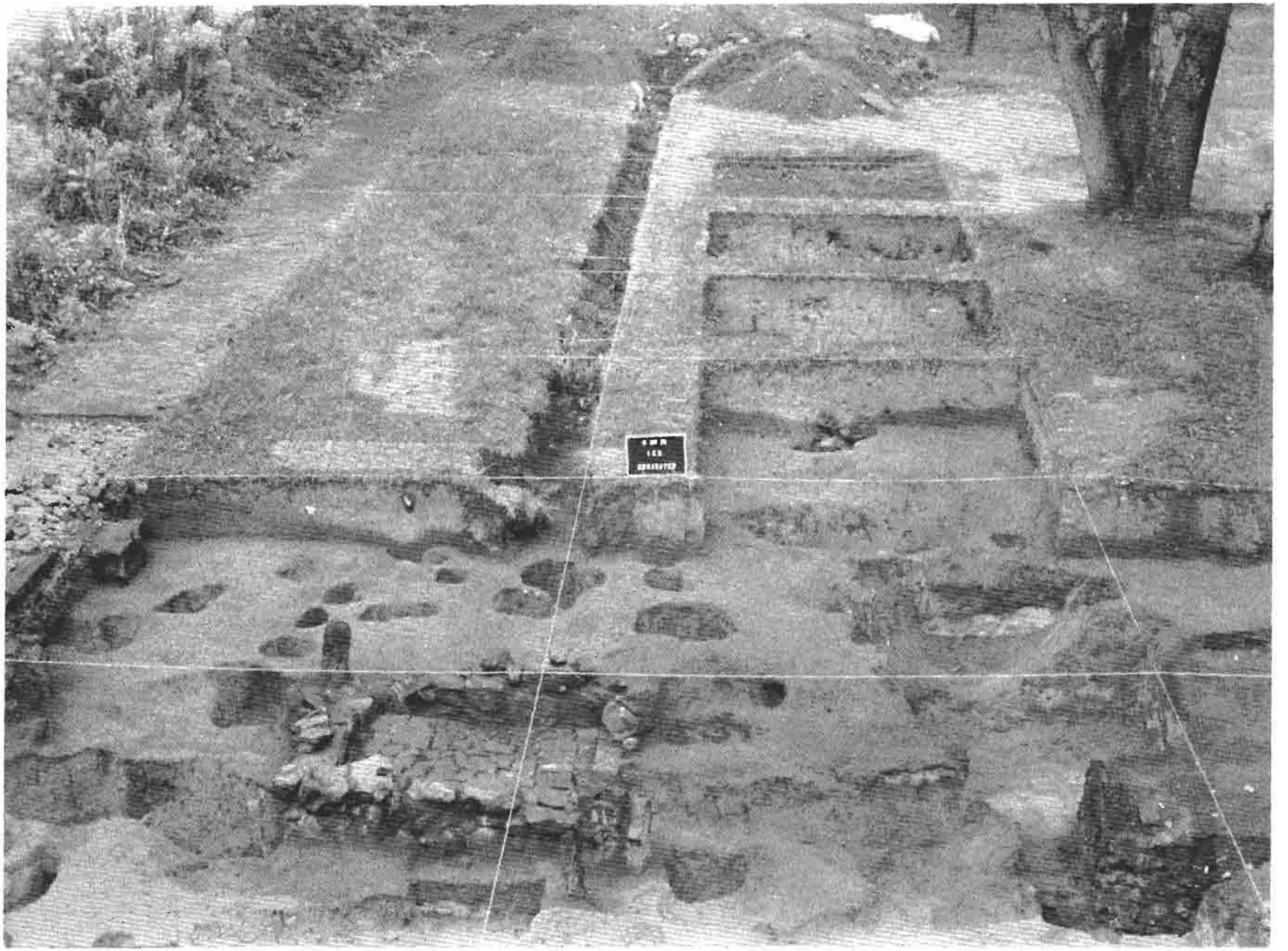


Fig. 2-16. Operation 2 near end of 1974 season. Overall view looking south. Note Dairy in center, partially excavated feature 14 on right.

most extensive trash pit on the site, feature 14, was encountered at the west edge of suboperations 1E2G and K, and operation 6 was opened up to allow for its full excavation.

In the final field season, 1975, the east boundary line of the site was investigated as operation 9. The foundation of a recently demolished carriage house as well as numerous privies and trash pits were excavated. The significant features in the backyard will be examined below while other features and the patterns of trash deposition are discussed elsewhere in this report.

The Dairy

The most important architectural feature encountered in the yard (Fig. 2-17) consisted of an area of unmortared brick flooring, 4' square, set directly on the subsoil 2' below the existing grade. This surface was surrounded by an unmortared fieldstone foundation which survived two courses high in most places (Fig. 2-18). The approximate location of earlier grade levels at this end of the yard can be projected from the top of an adjacent trash pit, whose dense accumulation of artifacts was encountered at about 1' below existing grade, the same height as the top of the surviving course of the dairy foundation. Assuming that the trash pit which contained household refuse was covered with at least a thin layer of dirt, the brick floor must have been at least 1' below the grade of that period. About 4 square ft of bricks were removed from the northeast corner, but no artifactual evidence was found beneath them. They were replaced. The shallow builder's trench of the southern foundation was excavated and two pieces of creamware point to a date after 1760. More important chronological evidence is the existence of three bricks which correspond exactly to those which survived in the well. These bricks appear to be associated with the backfilling of the builder's trench of the dairy. This suggests that the two structures are contemporary. Artifactual evidence dates the brick well to about 1760. Dairies were often built in conjunction with wells in the 19th century to utilize the cooling properties of well water for better preservation of dairy products. At the Narbonne site, though, these two features are clearly separated. Their only connection appears to be their contemporary construction.

The excavated dairy corresponds closely to a firmly documented dairy excavated in Yorktown by the Southside Historical Sites Foundation in 1973 (Sasser 1974). Although the Yorktown dairy is about 8' square and much closer to the house, it too features an unmortared brick floor sunk about 1' below the 18th century grade. No fire box or signs of burning are found in either case, thus eliminating the possibility of a smokehouse. A brick floor would be particularly advantageous in an outbuilding used to store dairy products. Sunk below grade, it would contribute to a clean cool environment. The absence of mortar between the bricks would be essential for the proper drainage of spillage from dairy products. Other brick-floored dairies in New England are located much closer to or within the house itself, and neither this investigator nor the Southside archaeologists know of other examples of detached, brick-floored, above ground dairies. Southside has excavated several cool storage pits in Virginia, one of which contained a number of broken milk pans, but none of which featured foundation walls or flooring.

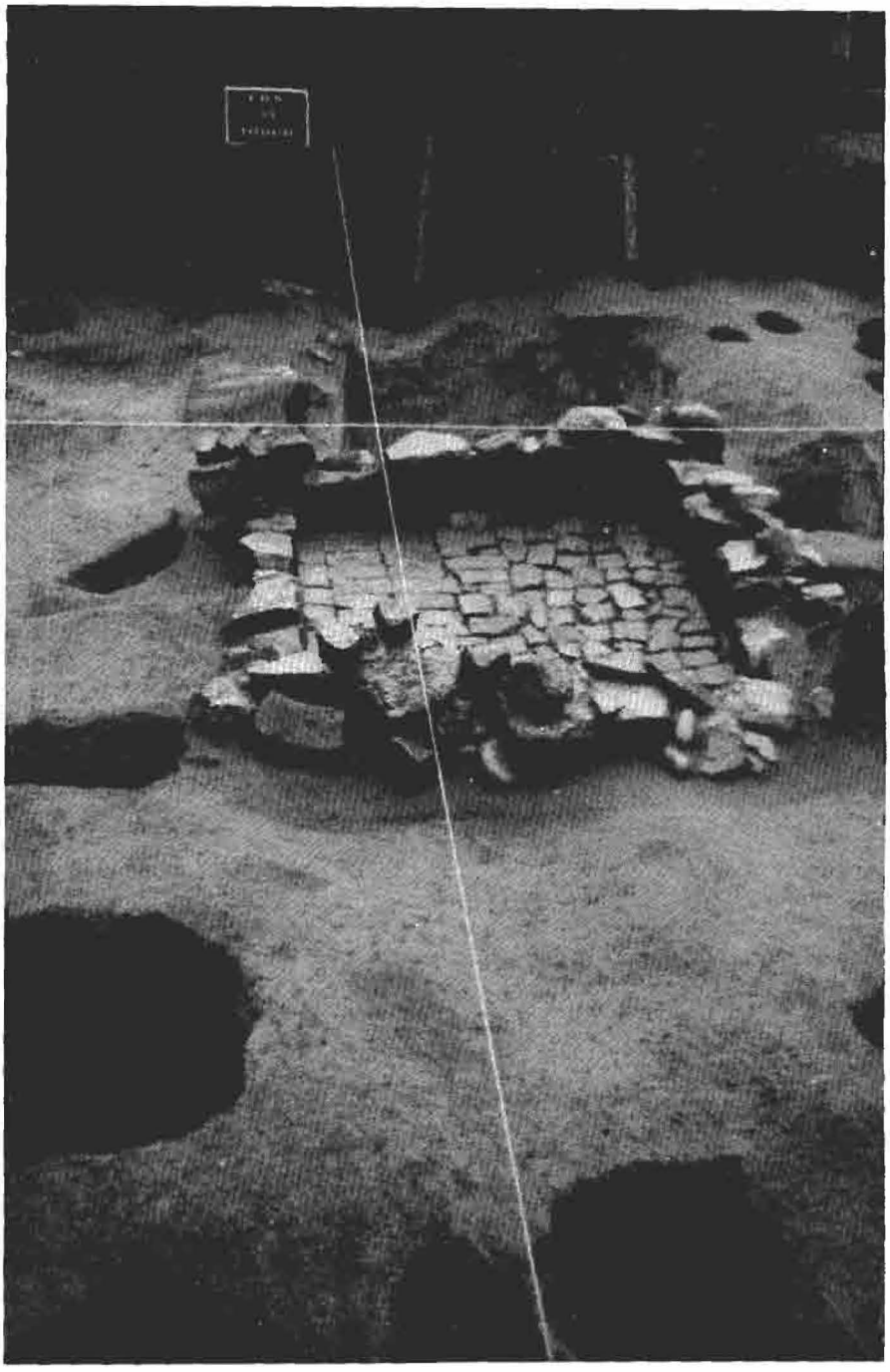


Fig. 2-17. Dairy looking north. Note well bricks in northwest and southwest corners. Bulkhead retains four suboperations excavated in first field season (1973).

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal



Historic Artifacts


Mortar

Wood Fragments


Posthole

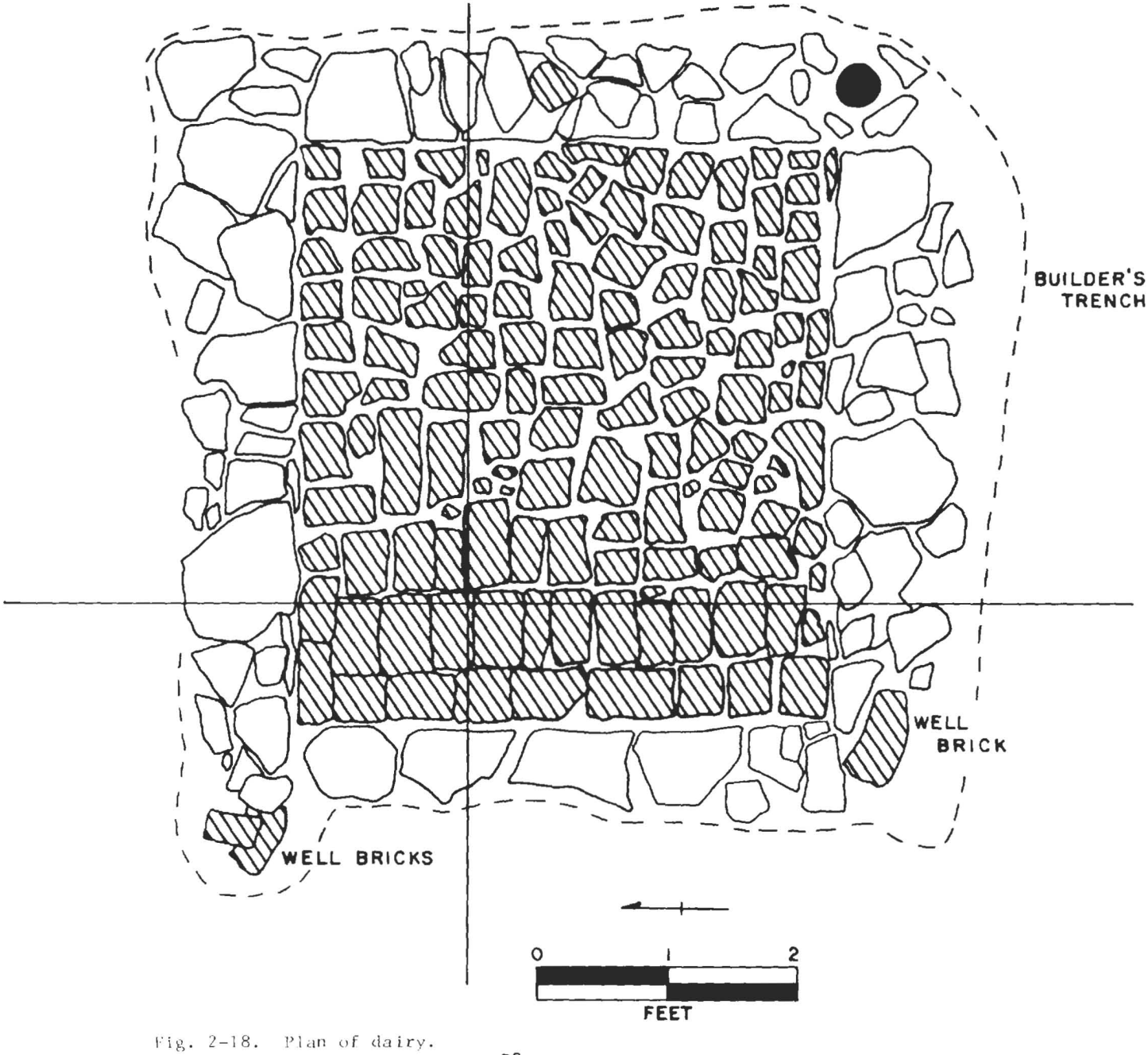


Fig. 2-18. Plan of dairy.

KEY TO SYMBOLS


Sod


Brown Loam


Dark Brown Loam


Crushed Rock or Gravel


Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal



Historic Artifacts


Mortar

Wood Fragments


Posthole

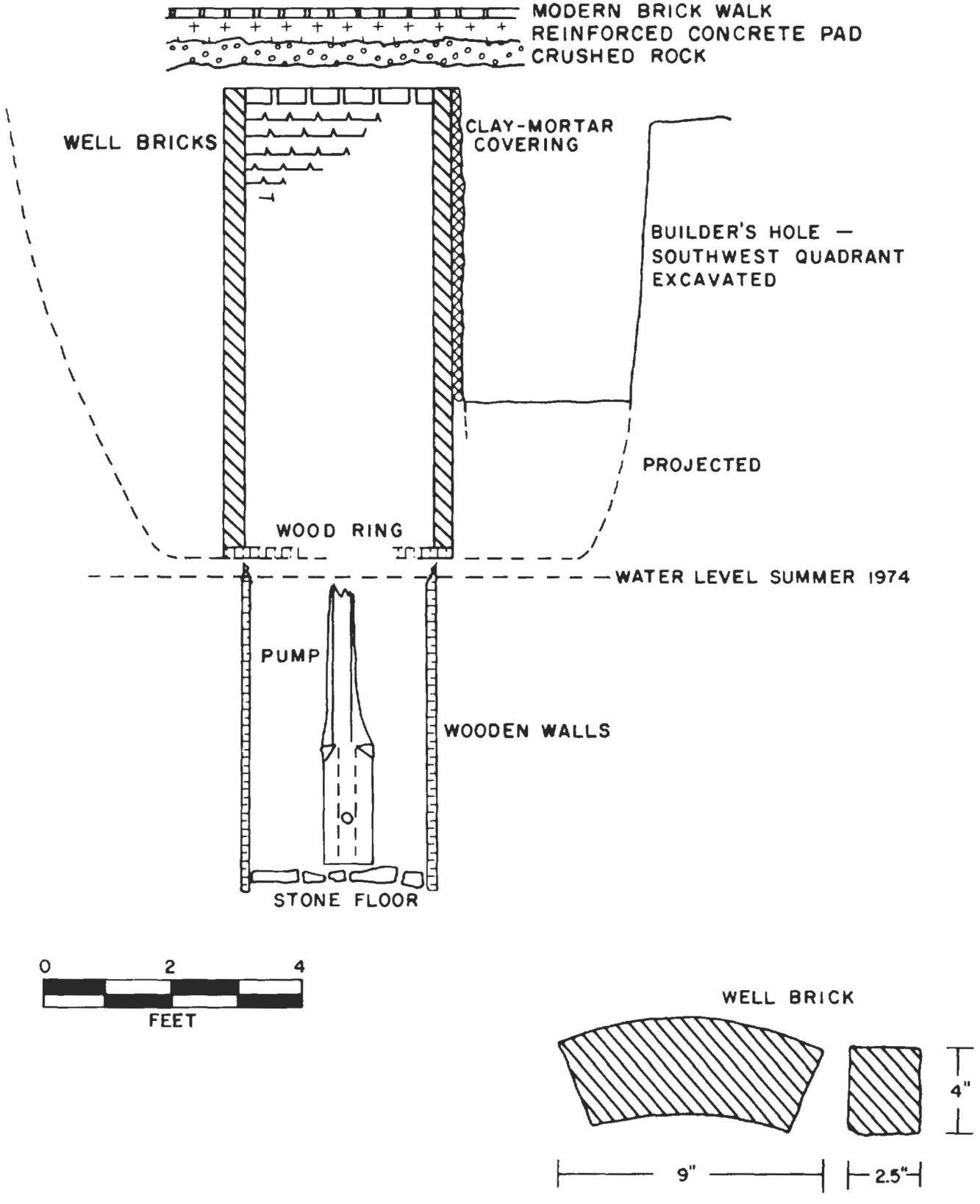


Fig. 2-19. North-south section through well.

The Well

The well was located about 12' behind the southeast corner of the house, as revealed in an 1891 photograph (Fig. 2-4). The National Park Service recently laid the brick walk directly over the top of the well (Fig. 2-19). During the 1973 field season, the southwest quadrant of the builder's trench was excavated to a depth of 3.5' by tunneling under the walk. In the following season, that portion of the walk was removed and the interior of the well excavated. This was done in 6" levels since no stratigraphy existed in the predominantly coal ash fill.

The uppermost course of well brick was located about 5" below the crushed rock bed of the brick walk, or about 1.5' below existing grade. The well bricks were not pie-shaped but rather curved and measured 9" maximim length, 4" in width, and 2.5" in thickness. The well was narrow with an inside diameter of slightly less than 2' at the top, and was only 12' deep because of the high water table at the site. Only the upper 7' of the well were lined with brick, while vertical wood planks 0.75" thick and 5" wide were used for the lower 5' (Fig. 2-20). The combination of these two techniques in the same well is most unusual. The lower, wood walls were submerged, whereas the brick walls were above water level. The wood was in fair to good condition, except for considerable deterioration in the upper 6", the portion not continuously covered with water. In contrast to other wood wells, there were no iron hoops or fastenings of any kind to prevent the inner collapse of the wood, except at the bottom, which was floored with flat fieldstones inside the planks.

The upper brick portion of the well was also constructed in an unusual way. Rather than being built from the inside out, a spacious builder's hole up to 9' in diameter was dug, and the bricks laid up in clay mortar from the outside. The exterior of the brick surface received a clay covering 1" to 2" thick. Fragments of a wood ring were still intact below the bottom course of brick, and would have served to keep the initial brick courses level.

Ceramics from that portion of the builder's hole excavated included a predominance of delftware, combed and trailed slipware, and plain saltglazed stoneware, with small samples of Westerwald stoneware, Jackfield, and "scratch-blue" stoneware. The ceramic assemblage points to a date around 1760, with refined earthenwares poorly represented. The application of the Binford (1962) regression formula to a sample of 29 pipe stems yielded a date of 1722. This is unreliable, though, because the insufficient sample size resulted in a distribution with two clear peaks. The association of both well bricks and creamware in the builder's trench of the dairy, then, supports a date in the early 1760s for the construction of both the dairy and the brick-lined well.

One reference to a "well" appeared in a deed of 1729. Given the absence of any other well located on the site and the unusual methods of construction in the excavated well, the possibility exists that the earlier well was rebuilt in the 1760s. Although it is rare to dig a builder's trench for a well--even a shallow one--because of the amount of fill that has to be removed, there would seem to be no other way to rebuild a well whose walls had deteriorated. This hypothesis also accounts for the termination of the brick walls at water level, below which the earlier

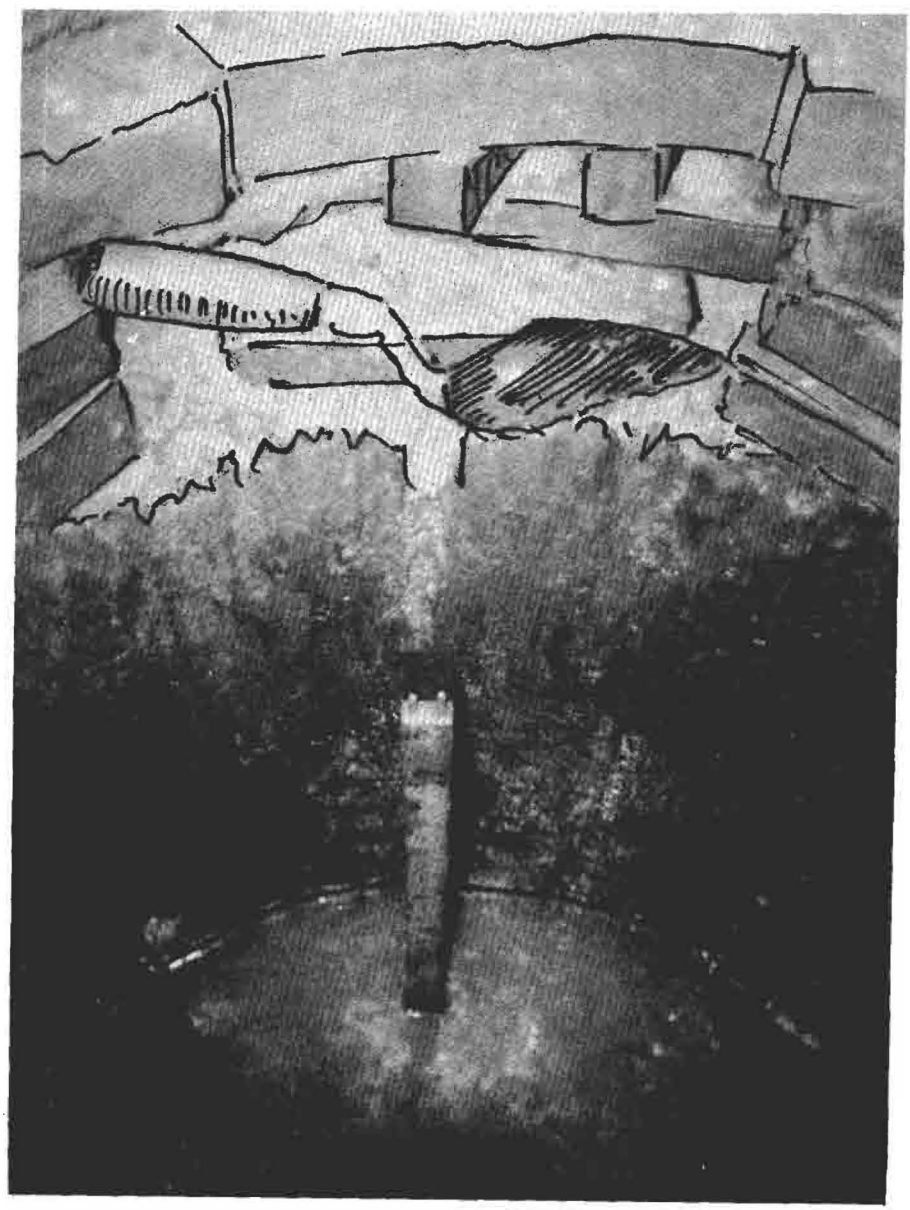


Fig. 2-20. Photograph of the well interior (retouched) at the juncture of the wood walls and brick shaft. Shims and minor shoring were introduced behind the trowel and the point where the decay of wood failed to support well bricks.

wooden walls were presumably stable, as indeed they were when excavated two centuries later. Further comparative information on early New England wells is unavailable. Plimouth Plantation has never excavated a brick well or a firmly dated colonial well, and wood wells known to this investigator have been of square, box-like construction in a tradition that stretches back to ancient Rome (Coe 1975).

The well was filled with a fine assemblage of mid-19th century ceramics and glass, deposited in a context of grey coal ash at a time which corresponds closely to the date when public water was extended to Essex Street, 1868. The contents of the well have been examined in detail and included as Appendix D. The most significant single artifact from the well is the base of a wooden pump, preserved below water level (Fig. 2-17). It is likely that this pump corresponds to marine bilge pumps which must have been commonplace only a block away from the Narbonne house.

The Carriage House

Brick and rubble traces excavated during the first excavation season in suboperations 2K and 2H were tentatively interpreted as remains of the carriage house foundation. The architectural feature was then more fully exposed along the east property line during the final excavation season. The fine Federal period carriage house, reportedly too deteriorated for stabilization, was torn down by the National Park Service in the mid-1960s. Although much of the west half of the structure was subsequently covered by the brick walk, a major part of the foundation together with traces of sills and floor was excavated in 1975.

The foundation material varied from stone rubble and brick footings to poured concrete, revealing a history of rebuilding and repair. Support was entirely lacking from around the southeast corner of the south wall where the wood sill was laid directly on the soil. Some evidence in the form of possibly different floor levels and foundation materials (or lack thereof) suggests that the southern third of the building was a later addition. But John Souza, who helped demolish it, could not recall any visible or structural evidence for such an addition.

The sills remaining along the east and south ranged in width from 8" to 12" and were much decayed. At the southeast corner the sills were butted simply against each other, lacking any lapped or mortise and tenon joint. Four large wire spikes remained imbedded in this corner. Since wire nails did not become dominant until the late 19th century, their presence represents repair or rebuilding, or possibly an addition to the structure as suggested above. Near the north end, traces of three floor joists and a section of wood flooring were uncovered.

Major Trash Deposits

The Narbonne site is exceptional for the quantity of domestic refuse and the quality of ceramics found in its trash pits and privies. Of particular note is the high incidence of porcelain found in all refuse contexts. This suggests a wider availability than anticipated of this choice ceramic type to residents in the seaport of Salem. Although utilitarian redwares, probably of local manufacture, are the most numerous type in any Narbonne context, the site is exceptional for the fine imported English ceramics.

The major problem in an analysis of discrete locations of trash disposal is the lack of comparative data from other urban New England sites. Of the eleven major locations of trash at the Narbonne site, one was dug originally as a well, five were probably dug for purposes of trash disposal based on the density of refuse and lack of evidence for prior use, and the remaining five, all along the east property line, originally may have been dug as privies.

The two major trash pits in operation 2 (features 8, 14) are related in both time period and contents to a third in operation 9 (feature 21). They were named the Moran Hoard, the Turner Hoard, and the Hebb Hoard as a devise to sustain the morale of a largely volunteer crew; a mid-19th century trash pit was named Emmons Hoard. Although several privies contained excellent and extensive artifacts, crew members declined the opportunity of associating their name with that category of feature.

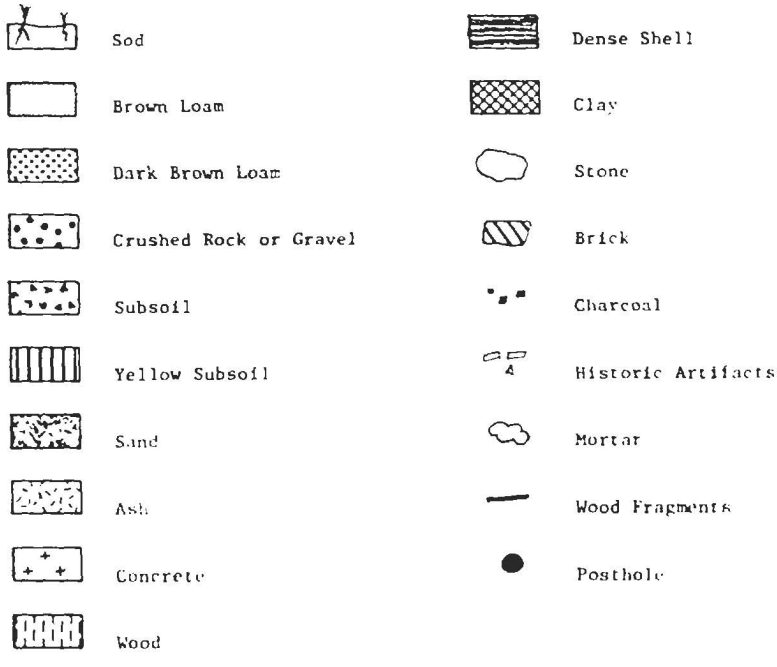
The Moran Hoard contained only 7,332 artifacts, exclusive of faunal materials, about one-half of the number from the Turner Hoard (12,592). In addition to being the smaller of the two, the Moran Hoard is also the earlier, judging from the presence of English and Rhenish stonewares and lead-glazed slipwares which were practically absent in the Turner Hoard. The Moran Hoard dates to about 1790, while the Turner Hoard dates to the first decade of the 19th century (see Appendix B).

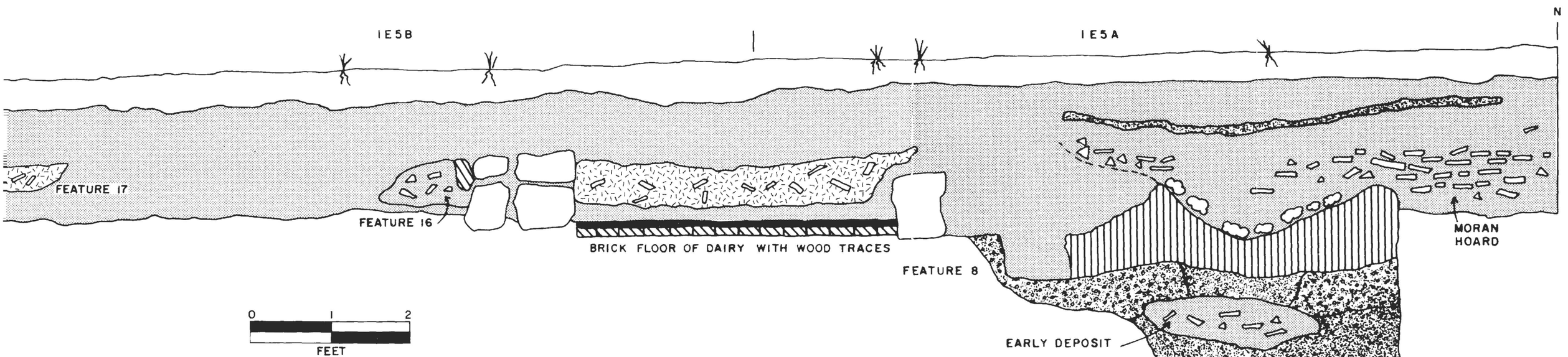
The Moran Hoard was the first major trash pit to be excavated, and was located in the middle of the yard, about 25' behind the house. It was first encountered at the north end of the central test trench, operation 5, but it extended into adjacent suboperations (Fig. 2-21). A dense accumulation of artifacts about 1' thick was encountered at approximately 1' below grade. The deposit lacked the wood sides that contained the Turner Hoard, and kitchen gardens and subsequent disturbances succeeded in scattering artifacts into the surrounding unstratified soil. Nevertheless, a fine assemblage of late 18th century English ceramics was excavated. Among the ceramics creamwares predominated and creamwares, pearlwares (shell-edged and hand-painted) and porcelains appeared in sets.

This late 18th century trash deposit filled only the upper level of a much larger irregular depression to the north of the dairy which extended nearly 4.5' below grade. The Moran Hoard was separated from lower fills by a lens of plaster. Early 18th century ceramics were encountered in the lens of dark loam, suggesting a widely separated filling sequence for this depression; the other sandy to gravely fills were quite clean of artifacts. It seems clear that the Moran Hoard only occupied a comparatively restricted and shallow portion of a much larger depression which was excavated and at least partially filled nearly 50 years before the Moran Hoard was deposited. In the absence of diagnostic artifacts, structural, or achitectural elements, the original function of the larger pit remains unknown.

The Turner Hoard (feature 14) does not present the same interpretive problems as the Moran Hoard or other depressions where trash disposal seems to have been only a secondary function. This trash pit was located about 30' to the rear of the house, against the west

KEY TO SYMBOLS





ig. 2-21. Profile of west face of central balk in test trench 1E5A and 1E5B.

property line. It was 5' square and framed with wood and bottomed out 5.5' below existing grade (Fig. 2-22). Above the Turner Hoard, which began about 30" below the surface, was a much smaller mid-19th century trash pit both framed and floored with wood (feature 13). The Turner Hoard, then, represented a trash pit 5' square and 38" deep, or nearly 80 cubic ft of densely packed faunal material and 10,350 artifacts. In the absence of any visible stratigraphy or evidence which indicated the size of the deposit, the northern half of the pit was excavated without any vertical controls. The southern half, however, was excavated in 2" vertical levels (Fig. 2-23). Neither the humble nature of the Narbonne house itself, nor the previously excavated Moran Hoard, had prepared the field crew for the extent, variety, and quality of the ceramics encountered. Nevertheless, continuity in ceramic types exist between these two major trash pits. The Turner Hoard has been dated to c. 1805, or slightly later than the Moran Hoard, on the basis of a larger proportion of pearlware and a dated "1804" stoneware jug (see Appendix B).

A third major trash pit (feature 21), the Hebb Hoard, is related in contents and apparently time to the larger pits excavated in operation 2. Like the Turner Hoard, it was square in shape and densely packed with artifacts, but its smaller sides (37" wide, 38" long, 28" deep) were not supported by wood or other shoring. Levels of mortar, plaster, and broken brick were present at the top and bottom of the pit, with 2,892 artifacts (exclusive of faunal material) packed in a 14" level between the two. Among other late 18th century ceramics which are similar in type and even pattern to those of other pits, one large sherd of creamware cross-mended with a chocolate pot from the Moran Horard. Located about 5' from the east property line and later covered by the carriage house, there is no evidence that this pit was dug for any reason other than trash disposal. The same cannot be said, however, for at least five of the six other large depressions excavated south of the Hebb Hoard along the east property line (Horvath 1976). Features 22, 23, 25, 26, and 27 are all larger and deeper than the Hebb Hoard, and yet with the exception of feature 22, contain smaller absolute members of artifacts in their fill. Feature 22, immediately southeast of the Hebb Hoard and also later covered by the carriage house, had 4,110 artifacts (exclusive of faunal material). This number is not quite twice the count of the much smaller neighboring trash pits, but considerably larger than the number for the five pits to the south. These six pits all vary in depth from 4' to 6' and, with the exception of feature 24, have been identified as a line of privy pits which received comparatively small deposits of domestic trash along with larger amounts of loam and clean sandy fill.

Feature 24 was apparently designed as an ash and garbage dump from the first. It contained a neat deposit of intact and sealed canning jars on the bottom, with miscellaneous cultural materials in a matrix of coal ash in the rest of the pit. The coal ash fill seems to be diagnostic of all late 19th and early 20th century trash deposits on the site.

Evidence for wood framing or shoring was encountered in two of the five privy pits along the east property line. In feature 22 nails were found in the corners and traces of friable organic material in the soil on the sides. Feature 25 had parallel shallow trenches in the bottom along

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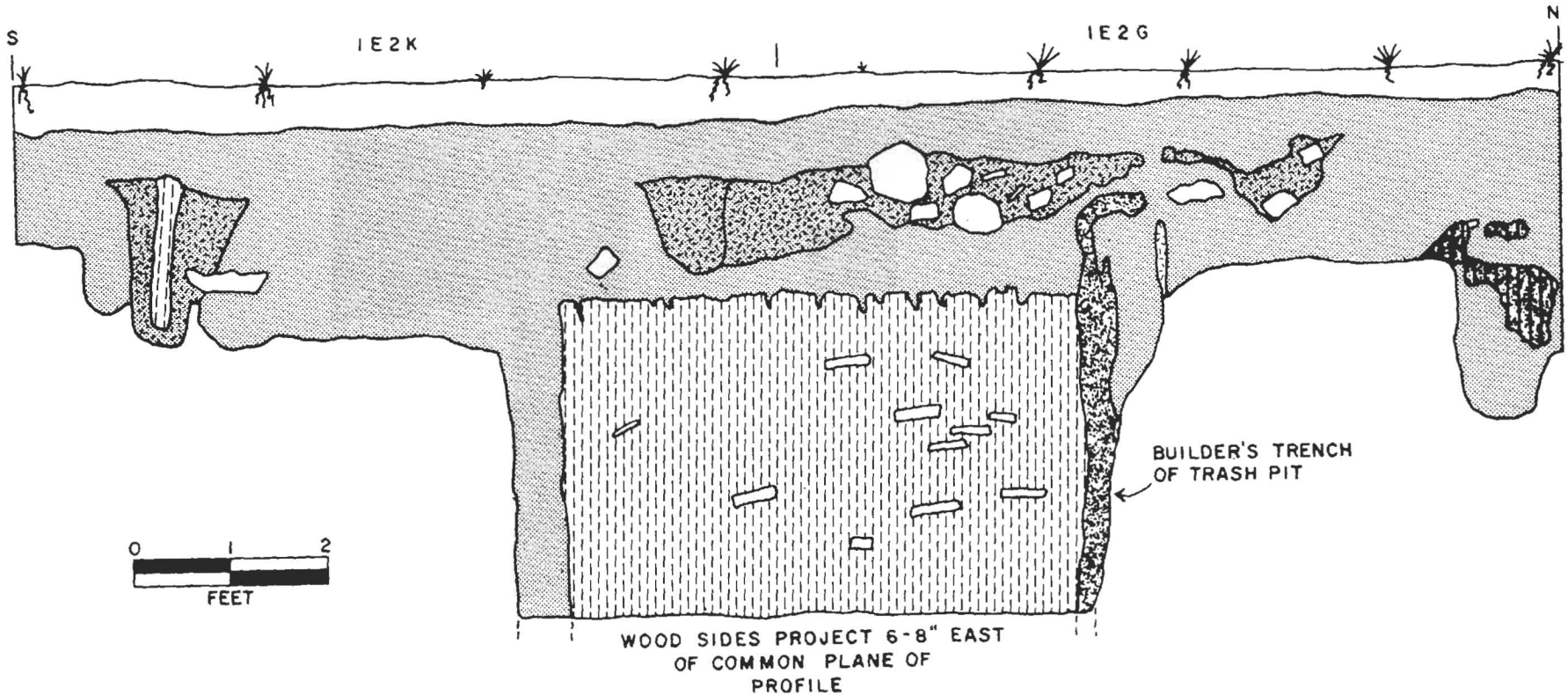


Fig. 2-22. Profile of west balk 1E2G and 1E2K showing east wood siding of feature 14, the Turner Hoard.



Fig. 2-23. Turner Hoard, feature 14, half excavated.

two sides, probably representing trenches for a wooden support system. It is likely that the other three privy pits also contained some shoring for which no trace remained after abandonment and filling. Steep-sided privy holes designed to function over an extended time period would require some support to prevent collapse of the sides.

Feature 22 was distinguished from the other pits by the much larger amount of cultural debris in the fill. Most of the material was concentrated in a 6" layer of white sand at the bottom. In feature 23 a different fill pattern was found with domestic debris located in discrete pockets. These possibly represent individual bucket loads. Clean sand covered lenses of dark brown organic loam sloped to the center of the pit. The sand was perhaps used to periodically seal off offensive odors. The large size and irregular contours of this pit may have been caused by short-distance relocation of the privy structure or side wall slumpage resulting from the lack of or the decay of a wood lining. Although soil samples were taken from these privy pits, chemical analysis to determine the presence of fecal material has not been undertaken. Nevertheless, the configuration and contents of this line of features strongly suggests their original function as privy pits, even while they served as locations for trash disposal.

Numerous trash deposits, usually of small size, are scattered about the site and contain later 19th and 20th century materials in a context of coal ash. The well is the largest single repository of late 19th century materials and has been discussed above and in Appendix D. The other major 19th century trash pit examined is the Emmons Hoard (feature 18) which contained 1,947 artifacts exclusive of faunal material. A full range of domestic refuse, including leather and tin objects, date to about 1850 on the basis of marked ceramics.

Miscellaneous Postholes and Features

In addition to the major features investigated, the Narbonne site was literally dotted with a large number of postholes, minor trash pits, and depressions which contained secondary deposits of domestic refuse in their fill. Because of the intensive and continuous occupation of the site for nearly 300 years, it seemed to be impossible for any hole in the ground, large or small, to escape receiving some cultural debris, no matter what original purpose was intended.

Twentieth century postholes, for instance, might easily contain secondary deposits of sheet refuse that would suggest an 18th century date. Other small pits, no larger than most postholes, were clearly dug to receive a single discrete trash deposit. This interpretation is based on the density of the cultural materials present. It is regrettable that the excavations did not yield more data regarding backyard features. Typically barns, woodsheds, and other structures are recorded in early probate records. In particular, two major depressions in the backyard (features 8 and 11), which contained significant but very local trash deposits, were originally excavated for some specific purpose, probably structural. Additional intensive examination of the contents of these minor features, together with the abundant field drawings and feature sheets, may with further research reveal correlations which presently remain undetected (Fig. 2-24).

KEY TO SYMBOLS


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Dark Brown Loam


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Subsoil


Yellow Subsoil


Sand


Ash


Concrete


Wood


Dense Shell


Clay


Stone


Brick


Charcoal


Historic Artifacts


Mortar

Wood Fragments


Posthole

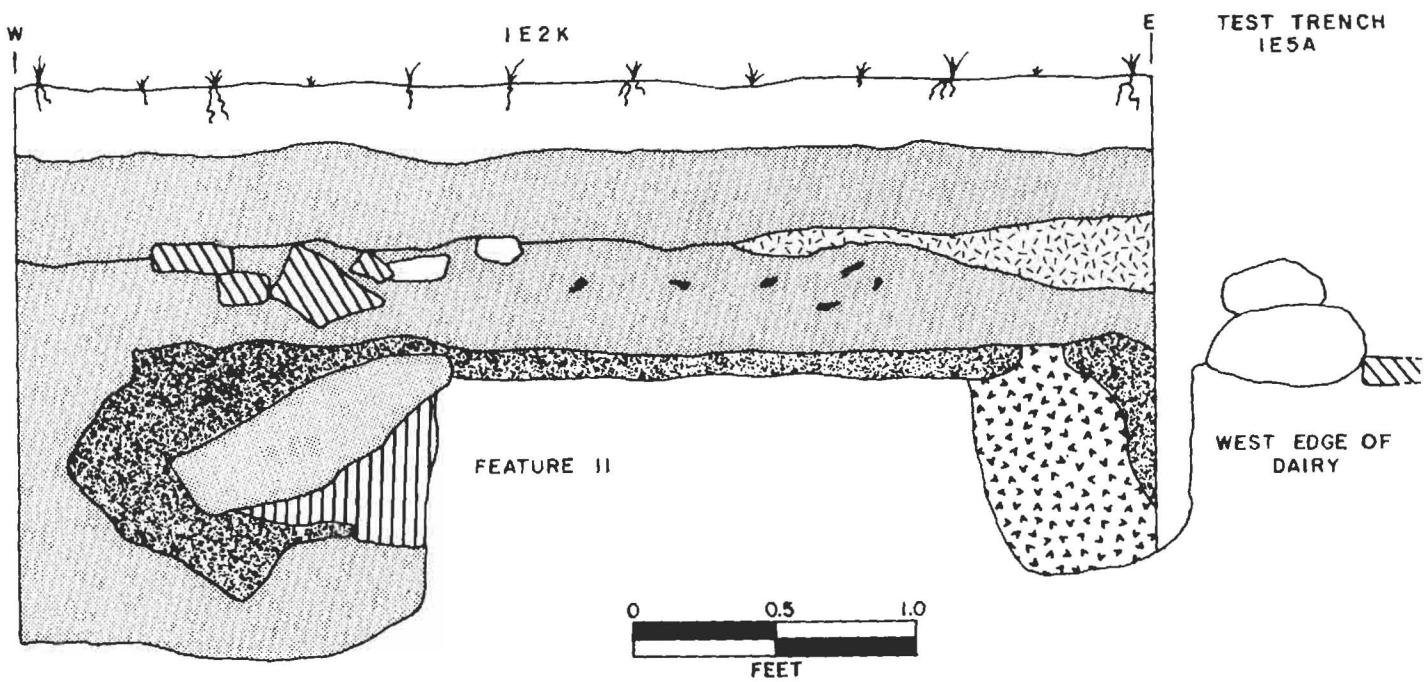


Fig. 2-24. Section of north balk 1E2K between dairy and feature 11.

CHAPTER 3 - OCCUPATIONAL HISTORY AND SITE DEVELOPMENT

I. INTRODUCTION

In colonial New England, the family was the basic unit of society and the mechanism for maintaining social stability. This discussion of the occupants of the site at 71 Essex Street and of their development of the site is therefore divided into five periods based on shifts in the families that owned or occupied the house.

Permanent European settlement in the Salem area first occurred in 1626, about 45 years before the earliest portion of the present house was built on the Narbonne site. The first settlers were remnants of the Dorchester Company, a fishing and trading venture that had earlier settled on Cape Ann. The first group, and the settlers who arrived within the next few years, combined strong religious convictions with an interest in commerical ventures, particularly those oriented towards the sea and maritime trade. This orientation prevailed in Salem for centuries thereafter, and is reflected in the artifact assemblage from the Narbonne site.

During the years just prior to the construction of the Narbonne house, Salem entered an era of economic expansion. A new social order, based predominately on secular, urbane values and an emerging capitalistic economic system was developing. Merchants, mariners, and associated tradesmen made Salem a serious rival to Boston as the dominate trading center in the Massachusetts Bay colony. Exports from Salem's wharves included grain, pork, beef, cod, mackerel, horses, lumber, masts, and other naval stores, while imports included tobacco, sugar, rum, and cloth, as well as British and German ceramics and glasswares (Andrews 1934-38).

The first several families to occupy the Narbonne house lived in a hierarchically structured colonial society, although social mobility was possible and no social ranks could be considered "closed." Wealth and occupation were the basic determinants of social position. At the top of the occupational scale were powerful merchants and professionals, particularly men with maritime orientations and interests. Below this level were a variety of less wealthy merchants, shopkeepers, shipmasters, and artisans. At the bottom of the social scale were sailors, servants, "the laboring poor," and vagrants. Various occupants or owners of the Narbonne house represented all of these positions within the social structure of Colonial New England, but most often the occupants were from the middle group.

The earliest residents, Ives (c.1672-1700) and Willard (1700-57), were petty merchants and artisans. During the Hodges ownership (1757-80), the site was controlled by members of the wealthy mercantile class, but the house was probably occupied by renters nearer the bottom of the socio-economic scale. The period of Andrews occupation (1780-1820) marks a change. Jonathan Andrews was a rising entrepreneur when he died in 1782, two years after buying the house. His sons became traders and shipmasters. His son-in-law, Matthew Vincent, who shared the house with Jonathan's widow Mary for at least a few years, was a foreman at a ropeworks factory. The long-lived 19th century occupants of the house,

Sarah Narbonne (daugher of Mary Andrews) and her spinster daughter, Mary, worked as seamstresses and presumably operated the small "Cent Shop" that occupied the northern end of the lean-to.

The following discussion is divided into five time periods based on shifts in the families owning or occupying the house. In each period attention is paid to the family involved with the house, the changes they made in the house, and the development of the rest of the site. In the Ives period, emphasis is placed on the house itself since it is during these years that the structure achieved the basic form it presently retains. There have been only minor rebuildings and modest additions since that period. Attention is also given throughout to the ways in which these people and their actions reflect characteristic patterns of colonial life pertaining to birth, marriage, and death, and the ways in which these events altered the use and visible fabric of the site.

II. IVES PERIOD, c. 1672-99

THE FAMILY

The history of occupation of the site at 71 Essex Street begins in the 1670s after Thomas Ives, a "slaughterer" or butcher, purchased the land from Paul Mansfield, a fisherman. Neither archaeological nor historical evidence suggest that any earlier dwelling existed on the long narrow lot. The lot consisted of about 30 poles, approximately 900 square yds, as described in its earliest recorded deed in 1690. This continues to be its approximate present extent (Cummings 1962).

The first period of occupation of the site began with the building of the house for Thomas Ives in the 1670s and ended in 1699, when Ives's widow and her new husband, John White, sold the property. The excavation of the site added to our knowledge of the Ives/White occupation, but the richest sources of information about these people were documentary (vital records, tax lists, and probate records) and structural (the house itself).

Thomas Ives's place of birth is not known, but he was in Salem as early as 1668 (Perley 1924-27, Vol. II: 424). Four years later he married Martha Withe, and apparently at about that same time the first portion of the house at 71 Essex Street was built (see Cummings 1962 for a detailed discussion of the structural and documentary evidence supporting this building date).

Thomas and Martha Ives had their first child, Elizabeth, within their first year of marriage. She died at seven months. Two more children, a son and a daughter, were born in the succeeding years but their fate is unknown as neither marriage nor death records remain. Their mother, Martha, died between 1675 and 1679 when Thomas married his second wife, Elizabeth. Thomas and Elizabeth had four children between 1680 and 1692. Thomas Ives died in September of 1695, and the following January his widow married John White, who, like Ives, was a slaughterer. Elizabeth and John had two children before they sold the house in 1699, and just a few years after the sale Elizabeth White was again a widow.

To this bare history of a young, growing family, often enlarged by the births of children and altered by the deaths of children and of parents, the documentary record adds more details. In addition to his unrecorded purchase of the Essex Street house lot, Ives is known to have bought and sold a number of other houses (Cummings 1962). Apparently he was in possession of these additional properties in 1683 when he paid a tax of six shillings, compared to the average rate of between two and three shillings (Perley 1924-27, Vol. III: 419-21). Ives must have suffered some reversals for by 1690 he had temporarily relocated to Lynn and mortgaged his Essex Street house. On his death in 1695 he was again living in that house, but he had not repaid the mortgage.

The inventory of Ives's estate (Fig. 3-1) that was prepared following his death provides a glimpse of how he and his family lived. When considered together with the evidence of the standing house, certain patterns of use of the house can be seen. The first revelation of Ives's probate inventory is that at the time of his death, he is by no means a wealthy man. His estate of £127-06-00 was far below average in total value. In 1682, for instance, the average value of probated estates in Essex County was £229-19-06 (Davidson 1967:313). The real value of Ives's estate was even lower, for his house and land, which represented £95 of the estate, were mortgaged at the time of his death. However, Ives's implements and household furnishings were valued at £32-06-00, which is within the average range for most Essex County households of the period (Davidson 1967). The low total value of Ives's estate may reflect losses in real estate dealings. So while Ives was not wealthy, the value of his furnishings indicate he could have lived in his home much as other families in the area did, with average furnishings in terms of value and presumably in terms of kind and quality as well.

THE HOUSE

The inventory also suggests the form the house assumed in 1695, for it lists Ives's household goods room-by-room, and reflects the probable activities that took place in each area. While the original form of the house (Fig. 3-2), with single rooms on the ground and chamber levels, must have met the limited spacial needs of Ives and his wife at the start of their marriage, by 1695 the family had increased by four to six children. In the original house, the cellar and garret would have provided storage space, the ground floor room would have served as a cooking, eating, and perhaps even sleeping area, and the chamber room would have been used for sleeping and/or storage. By 1695 the inventory noted the existence of an addition to the south side of the house, consisting of a ground floor room and a chamber above, and a kitchen with chamber above, apparently in a lean-to on the east side of the house.

The activities that took place in these spaces and the rest of the house are suggested by the goods they contained. On the first floor, the original northern room contained the diverse furnishings one expects in a 17th century "hall," indicating the room was used for sleeping ("a bed and furniture"), sitting ("8 old chayrs"), eating ("a square table," "a warming pan," and "earthenware"), reading ("ye books, most of them small" and "candlestick"), and storage ("a presse for cloaths," "a little trunk," and "two small guns or carbines"). Conspicuously absent from

Essex County Probate Records

Probate Inventory of Thomas Ives

An Inventory of the Estate of Thomas Ives, late of Salem Dec'd as it was Aprized: by us whose names are underwriten this 26 Septr 1695.

Impr	a house & land: mortgadged to Mr. Turner	95-00-00
To:	in the northern room below: a bed and furniture	02-05-00
To:	a presse for cloaths: a little trunk and a square table, all old	00-14-00
To:	8 old chayrs, 8s; two small guns or carbines, 16s; a looking glass, 6s	01-00-00
To:	payr of brass hand Irons; a warming pan; Iron dogs & candlestick	01-14-00
To:	ye books, most of them small, and earthenware	01-00-00
In the chamber of the northern end:	a bed & trundle bed with bedsteads	01-10-00
To:	a cupboard, 8s; in the southern chamber: seven chayrs, 10s	00-18-00
To:	a chest of drawers and linen in it; a chest and round table	06-00-00
To:	a bed & coverlit, boulsters & pillows	01-15-00
To:	his wearing aparrill	02-10-00
To:	in the southern lower room: old wheels; old cradle & other old things	00-10-00
	a poudering tub & other old barils & things	00-07-00
In the kitchen chamber:	Sadle & pilion, kneading tough & Iron things	01-05-00
In the kitchen:	a Jack; two spits; a pair of dogs & hand Irons & fender	01-10-00
To:	two Rakes, a smoothing Iron & bellows; a brass kittle 2 Iron pots	01-15-00
To:	peuter, 2-05-00; a morter & pestle & some earthenware 4s	02-09-00
Tooles:	in the shop & old payls 6s; a mare,25s	01-11-00
To:	three swine & 5 small pigs	01-15-00
To:	two old seives, two bushels, a pary of Cards, a Jug & earthrn pots	00-06-00
To:	in Money	02-02-00

Aprized by us this 26 September 1695:
John Huston and Elizabeth Ives (mark)

Fig. 3-1.

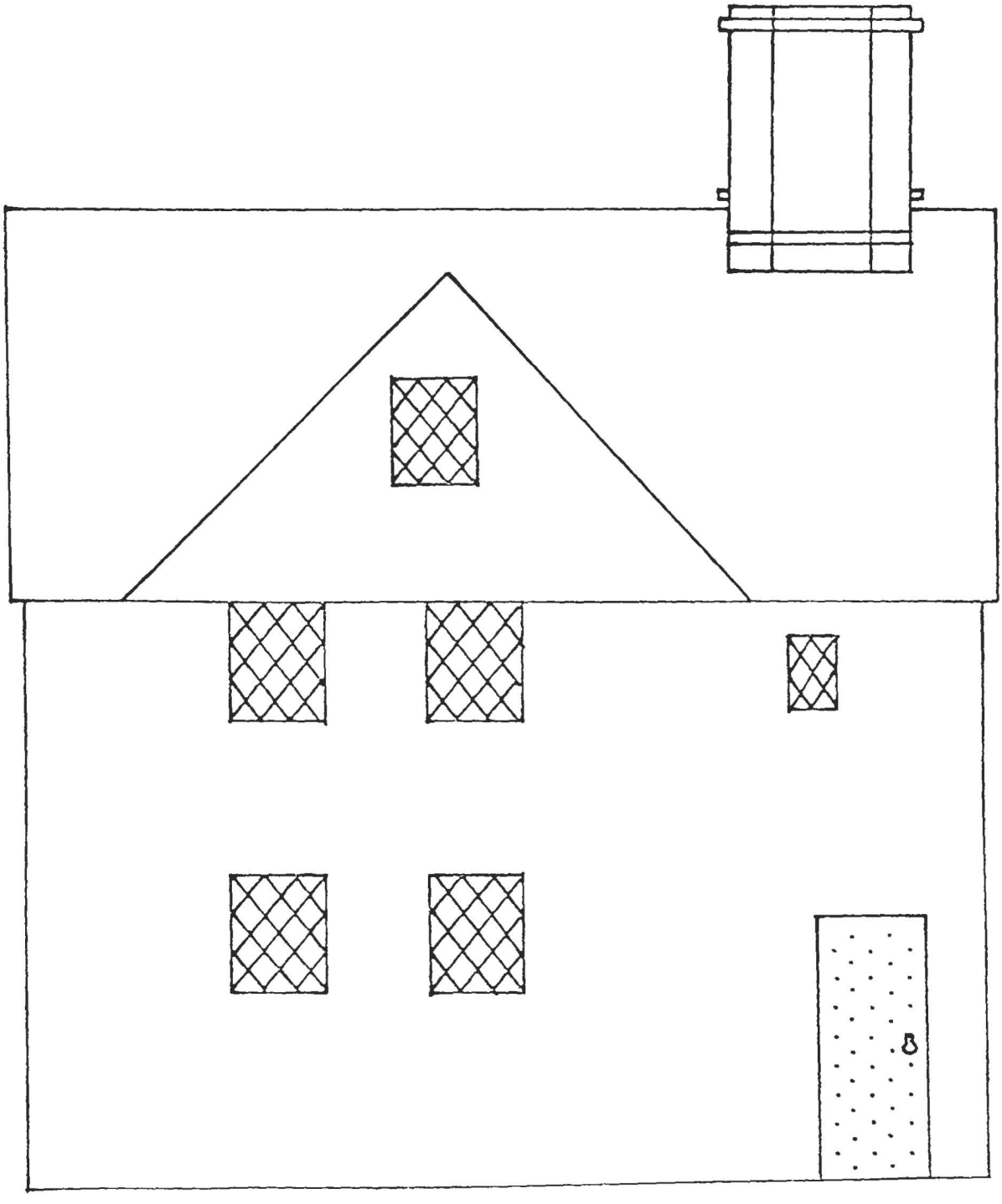


Fig. 3-2. Measured elevation, showing appearance of the west front as originally constructed. Gable location and size determined by cuts in the roof boarding; door location approximate; fenestration one of two or more possibilities based on pin hole evidence in the front girt; second story entry window wholly conjectural. Courtesy, SPNEA.

the room are implements for food preparation, which are listed under a separate "kitchen" heading.

The addition of an attached kitchen to remove the cooking activities from the hall was characteristic of both the time and the place. Kitchens began to be added to New England houses about the middle of the 17th century, invariably as a lean-to, with the flue of the new fireplace utilizing the main stack. In similar English houses and in the southern colonies, such service rooms were often located in outbuildings, but the harsher New England climate made it advantageous to retain the heat of cooking within the main house.

Ives's inventory lists in the kitchen a variety of cooking implements, including two spits, a "jack" (for turning the spits in order to cook meat evenly), a brass kettle, two iron pots, a mortar and pestle for preparing grain, and various fireplace tools and fixtures. Earthenware and pewter are also listed, but their forms are not specified. The former could have included cooking as well as serving pieces, while the latter probably was confined to eating and drinking utensils.

The remaining ground floor room in the inventory represents another addition to the original house, and seems largely to have served as a storage area. Its contents included old wheels (probably for spinning yarn), an old cradle (in storage, unless used by three year old Benjamin), and "other old barils and things." The only specific item in the inventory that directly relates to Ives's occupation is the "poudering tub" (used for salting meat) listed in the southern room, but whether Ives stored it there, as seems likely from the room's other contents, or carried out his work in that room is not known.

The second level of the house consisted of northern, southern, and kitchen chambers. The kitchen chamber served to store the saddle and pillion for Ives's mare, a kneading trough for making bread, and "Iron things." The two bedsteads listed in the house (one a trundle bed) were both in the north chamber, while the southern chamber contained seven chairs and a round table, a chest, and a chest of drawers, as well as bedding and Ives's clothes. The furnishings in that chamber suggest it served the twin functions of best (social) room and parents' bedroom. The last function was commonly served by the downstairs "parlor" in 17th century New England houses.

The only outbuildings mentioned in the inventory is "the shop" which apparently contained tools. A mare, three swine, and five small pigs are also listed, but no barn is mentioned. "Outhousing" was listed in 1699 in the deed conveying the land to Simon Willard (Cummings 1962).

The major material evidence remaining from the Ives period is the structure of the house itself. The original, northern portion of the house embodies the post-medieval English timber-construction tradition in its heavy mortice and tenoned frame, exposed to view and decoratively chamfered. Although the ceilings are now plastered, whitewash can be seen on the joists through the cracks between the upstairs floorboards. This indicates that the joists and undersides of the floorboards had originally formed the ceilings of the rooms below and had been brightened

with whitewash, a very common characteristic of 17th century New England houses (Cummings 1962). The windows were originally filled with leaded glass casements. Remains of the glass and window leads were found during excavations under the ell, and in a trash deposit, feature 14. The roof frame of the original portion of the house utilizes the system of principal and common rafters, which, as Cummings (1962) states, is "typical of houses built well before 1700." By the turn of the 18th century, the rafter and purlin system was nearly universally used. Diagonal cuts in the roof boards on the west side of the house reveal that the house once had a gable on the front facade, another typical 17th century feature.

The high roof follows the form of the thatch-covered English roofs, which were steeply pitched to shed rainwater. Thatching proved impractical in the New England climate. The availability of wood encouraged shingling with wooden stakes, but New England houses retained their steep pitches throughout the 17th century.

The staircase also represents a blend of English and Anglo-American traditions. The staircase is made of "winders," or wedge-shaped treads--an English style--and ascends to the second floor at the front of the house, the preferred placement in an Anglo-American home. In English dwellings the staircase was more frequently found in the rear of the house. The whole construction is enclosed with vertical sheathing which, in the second-story entry, is handsomely molded. Cummings (1962) states that the profiles of this "spline" molding are as elaborate as any which have survived from the 17th century.

Another characteristic New England aspect of the house it its lavish use of wood throughout. Whereas English carpenters had been facing a serious wood shortage since at least the turn of the 17th century (Cummings 1973), the Narbonne house and most surviving 17th century New England houses have massive frames and employed clapboards to sheath the exterior walls, vertical planks for interior partitions, and shingles for the roof.

Although the house as it now stands includes a lean-to and a southern addition, examination of those structures indicates that they are not of 17th century construction (Cummings 1962). However, the excavations along the east side of the present lean-to unearthed the fieldstone foundation of the original lean-to. The foundation was found about 2' east of the present lean-to, or about 10' east of the original house, and extended north and south about 22'. As the excavated foundation corresponded in length only to the original portion of the house, it seems likely that it was built before any addition was made to the southern end of the house. Evidence of the brick flooring and hearth of the first lean-to was found about 1' below the level of the northern room, corresponding with the lower elevation of the east side of the lot.

Ives's southern addition to his house in effect completed the structure, turning it into the common central-chimney floor plan familiar to many 17th and 18th century families. Unfortunately very little remains of this addition. It is not currently possible to clearly define its

foundation lines. The artifacts recovered from under the ell were analyzed in hopes of detecting, through uneven patterns of distribution, a "ghost" or shadow image of the first southern addition. Late 17th century ceramic types were recovered in greater quantity from the northern two-thirds of the area under the present ell, while the southernmost third had a greater concentration of later ceramic types and of artifacts in general. If this distribution reflects the dimensions of the original southern addition, then it was only about 12' wide, two-thirds the width (north and south) of the present ell. However, the incompleteness of the excavation allowed under the ell lessens the reliability of this interpretation of the "ghost" image. Also the quantity of objects listed in the southern chamber room in Ives's inventory seem inconsistent with such a narrow, cramped room.

THE SITE

Aside from the original house and the remains of its addition, little on the site can be definitely linked to Ives. As discussed in the previous chapter, Ives may have laid the cobblestone paving found east of the house, which acknowledges the presence of the foundation of Ives's lean-to but proceeds under the foundation of the present day lean-to built c. 1800 (Fig. 3-3).

There was no clearly defined, undisturbed 17th century context found anywhere on the site. Pipe bowls of a familiar 17th century shape were found, as were fragments of spoons of types made in that century. A few dozen pieces of sgraffito ware, occasional Frechen stoneware sherds or Westerwald with manganese-colored, sprig-molded floral motifs, and various fragments of combed and dotted slipwares were found. These are all ceramic types used in the last part of the 17th century. But in general, the vast quantity of mid-18th through mid-19th century objects strewn or buried across the backyard eclipses the meager material culture representing the Ives family.

Further obscuring the Ives remains is the fact that most of the ceramics possibly linked to them continued to be sold and used through the first quarter of the 18th century. Consequently, without undisturbed early contexts in which to find Ives evidence, none of the artifacts can be placed with assurance in the Ives period of occupation. One can only report that these artifacts were found in minute quantities scattered throughout the yard from the cobblestone driveway and front (west) yard out across the length of the backyard to the southern boundary of the lot. They are most visible in the unstratified sheet refuse, but even here they are obscured by the mass of later ceramics, pipe stems, glass, and other objects. What these artifacts show best is the minor role played by ceramics in the cultural system of 17th century New England--in vivid contrast to the increased use of ceramics on this site and elsewhere in the later part of the 18th century, and the high level of disturbance of early contexts that occurs on a continuously occupied urban site.

III. THE WILLARD PERIOD, 1700-50

In 1699, when Simon Willard purchased the Narbone house, the town of Salem was part and parcel of the emerging world of the 18th century--an urbane, commercial, secular world with close-knit ties to the

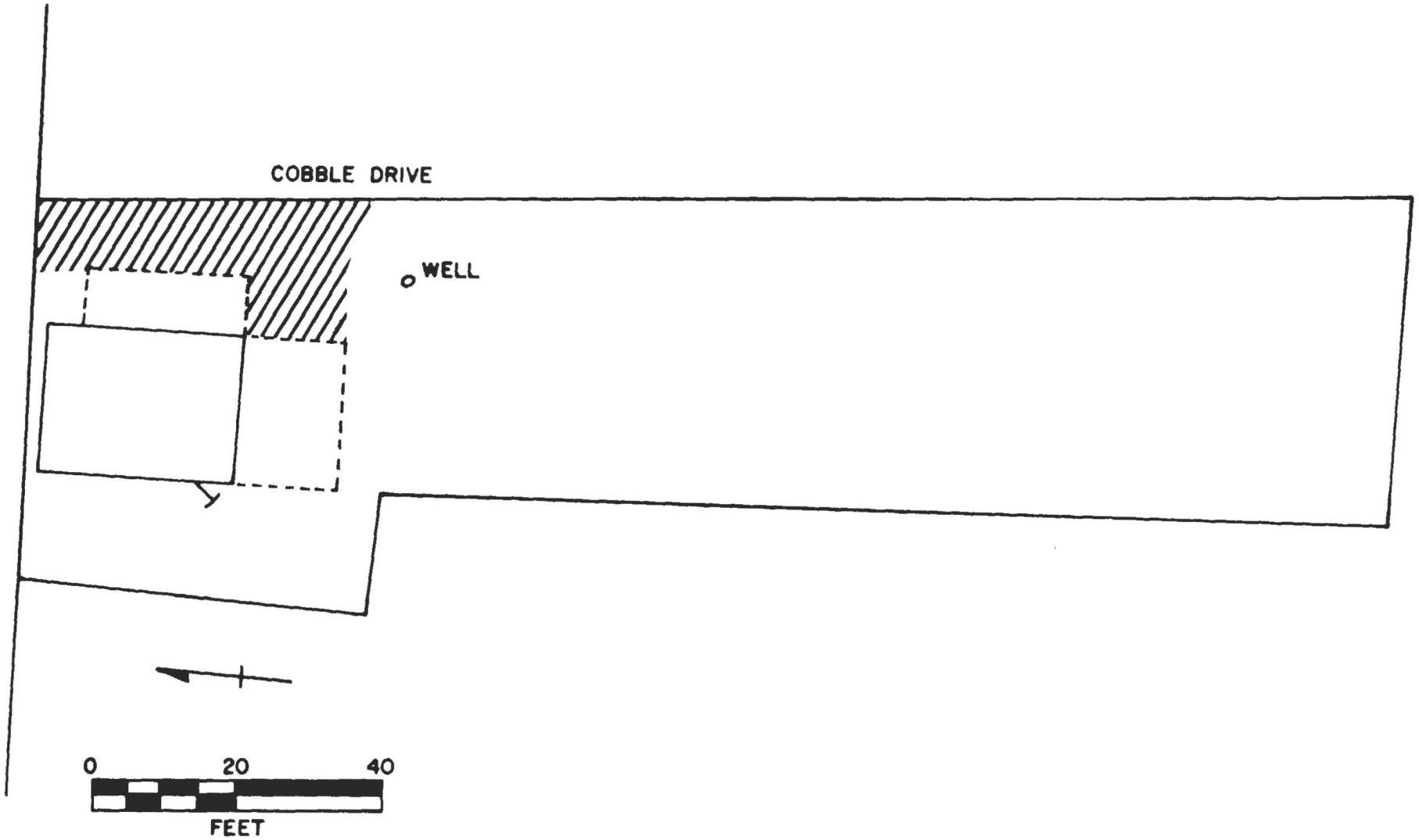


Fig. 3-3. Site development plan, Ives Period, c. 1670-1700, showing locations of original lean-to and southern addition in dotted lines.

past. The era of witchcraft hysteria had passed. Salem was becoming more closely tied to the sea and to overseas market ventures. Up and down Essex Street stretched a row of homes where seafarers and fishermen lived with their families.

THE FAMILY

Simon Willard was 50 years old and his four surviving children were almost grown when he purchased the dwelling from John White and his wife Elizabeth who was Thomas Ives's widow. Willard is listed in deeds as a "weaver," "worsted comber," and "cloather," and the location of the house must have seemed ideal because of its proximity to the commercial center of town and to customers for wool and cloth. The house was not large but under normal circumstances Willard's family would no longer expand and if his children left when they married, more space would become available. Life would have been different in the house than in its earlier years because Willard and his family represented a different occupational and domestic cycle in a colonial family. A careful look at what occurred in the house during this period gives an understanding of the process of aging and death from a different perspective than that provided by the events of Thomas Ives's life.

Initially, Simon Willard's family life followed a predictable pattern. In 1704, his eldest son Jacob married a Salem woman named Sarah Flint; his second son Josiah married Jane Jacob in 1708; his third son Richard, a mariner, married Hannah Butman, a widow, in 1714. The Willard's only daughter was married in 1718 and she either died the year following the birth of her son or moved out of town. At this point the Simon Willard family was one that demographers would term "complete." He and his wife, after more than 20 years of marriage, were entering old age and their children were grown and married.

Yet the old couple did not live alone in the house, nor was Simon alone after Martha died in 1721. Instead, two common practices were followed by the Willards that reflect the value colonial society placed on belonging to a family group. This value was so strongly held that one court ordered an Essex County resident to become part of a family and rid himself of the "sin and iniquity which ordinarily are the companions and consequences of a solitary life" (Thernstrom 1975). One of the practices for maintaining family groups was for widows and widowers to remarry, as both Thomas and Elizabeth Ives did when their young spouses died. Even though Simon Willard was 72 when Martha died, he too remarried within a year, to Mrs. Priscilla Buttolph. The other common practice for preserving family groups was for children and their families to share the house of their parents, and at least two of Simon Willard's sons and their families shared his house at various times.

However, the remarriage and shared housing may have reflected family upheaval as much as family stability in Simon Willard's final decade, and this is also reflected in what happened to the ownership of the house. First came the death of his son Richard's wife, Hannah, and by 1726-67 he was remarried to Susanne Parkman of Boston. Josiah's wife Jane died in 1726 at age 44, leaving three or four minor children. In 1728-29, Simon sold his house and land to this son, but Josiah owned an inn elsewhere in Salem and there is no indication that he ever moved with

his children back to his father's house. Instead, he sold the northern half of the house to Richard in 1729, who immediately mortgaged the property to a Captain Thomas Ellis and within the same year died, leaving his widow Susanna with six minor children from his first marriage. The inventory of Richard's estate, made in 1734 (Fig. 3-4), listed no other real estate than the northern half of the house he had bought from Josiah, and it is likely that his widow and children lived there.

In 1731 Josiah died. Simon, then apparently aware his own death was near, deeded to his daughter-in-law Sarah (wife of Jacob, his eldest son) all his household goods for "Love, good will & Affection" (Essex County Deeds LIX-37). Simon also filed notice

> That whereas my Wife Priscilla had Left me for a Considerable Time, in all my Sickness & Illness, and not attending on me, according to our Bargain, I . . . do Renounce her . . . from having or Recieving [sic] any part or Portion or proportion of my Estate, as not Carrying to me as my Wife (Essex County Deeds LIX-37).

Shortly thereafter Simon died.

It is likely that Simon lived in the house until his death, despite its sale to his son Josiah, with his son Richard and his family occupying the northern half of the house during Simon's lifetime and for some time thereafter. While Josiah owned the southern half of the house, it was Jacob's wife who received Simon's household goods. On Josiah's death, his assets were listed as including rent from Jacob Willard for half a house, probably the southern half of the old family home (Essex County Probate Records, Docket No. 29947).

How long the widowed Susanna Willard and her children and the Jacob and Sarah Willard family shared the house is not clear. Some of Josiah's younger children might even have joined the household following their father's death. Richard Willard's mortgage of the northern half of the house to Thomas Ellis was never repaid, so if Willard heirs lived in that part of the house in subsequent years, they did so as tenants of the Ellis heirs. Other tenants may have occupied the house in later years, before Joseph Hodges bought half of the house and land from Josiah Willard's children in 1750 and the remainder from Thomas Ellis's heirs in 1757.

THE HOUSE

During the very period when the house's ownership was divided and its tenantship unclear, a major alteration was made in the structure. As discussed in the previous chapter, the artifacts found in the builder's trench for the foundation of the gambrel-roofed southern half of the present house indicate that this addition was made in the 1730s or 1740s, replacing the original southern addition of the Ives period (Fig. 3-5, 3-6, 3-7). The sliding sash windows on the new gambrel addition are matched by those on the original portion of the house, and presumably the latter windows were changed from the 17th century type--leaded, diamond paned, casement windows--at the same time as the new addition was made. Some of the surviving 18th century interior features of the house--the

Essex County Probate Records Docket No. 29951

Probate Inventory of Richard Willard

An Inventory of the Estate of Mr. Richard Willard, Mariner, late of Salem desed, taken by use ye subscribers September ye 9th 1734 in Observance of a Direction to us From ye Hon John Appelton Esqr, Judge of ye Probates for the County of Essex.

one half of A dwelling house and About one Eight part of an Acre of Land formerly bought of Josiah Willard at	125-00-00
To twenty Rods of Land next ye new meeting house	10-00-00
to one half of A pew in ye new meeting hous	8-00-00
Item to personel Estate viz: one chist of Drawers, 4-00-00	
To one Trunk 2s; one ould tabell, 3s; one ditto, 1-00-00	5-16-00
To Eleven ould chares 22s; one looking glas 45s	
To one warming pan, 4s; one Bras cittel 35s	5-06-00
To one kittel 1s; one iron pot with hooks, one iron kittel, one iron trammel	0-14-00
To one chafeing Dish, andirons, one pare of tongs and fire shouvell, and pr of andirons and traws and candlestick, 15s	1-17-00
To one spit, 3s; one box iron & heeters 4s	
To one (?), knives & forks, 2 glass bottels and other glass	
To one tin (?) and earthenware 3s; one trunk, 4s	7-03-00
To wareing clothes 6-10-00	6-10-00
To one fether bed, ruge & bedstead	5-10-00
To one bed with ye furniture	7-05-00
To puter, 2-06-00; A Bibell & other books 1-00-00	3-06-00
To three pare of sheets, 40s; Eleven napkins 20s	3-00-00
To five pillow cases, 12s, two tabel clothes 5s	0-17-00
	40-14-00

Fig. 3-4.



Fig. 3-5. Narbonne house: existing elevations, west above, east below. Source: Narbonne house restoration construction drawings, SPNEA, 1974.



Fig. 3-6. Narbonne house: existing elevations, north above, south below. Source: Narbonne house restoration construction drawings, SPNEA, 1974.

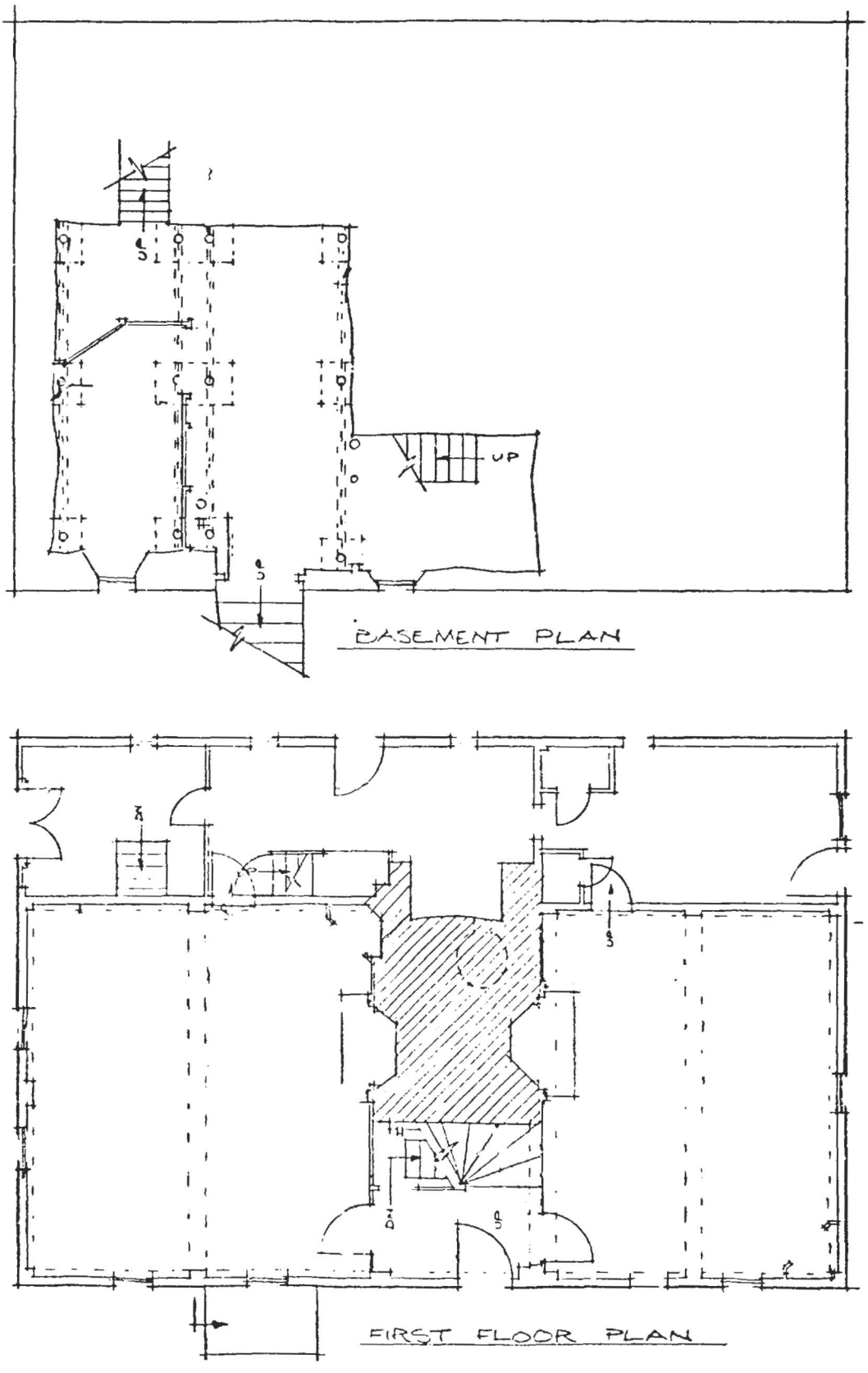


Fig. 3-7. Narbonne house plans. Source: Narbonne house restoration construction drawings, SPNEA, 1974.

corner cupboards in the two main downstairs rooms, the folding shutters, and the paneling of the fireplace walls--may also date from this remodeling of the house.

With the occupancy of the house unclear during this period of rebuilding, it is difficult to be certain of the function of the addition. Viewed together, the family history and the structure suggest certain possibilities. Josiah Willard's children owned the southern half of the house at the time it was taken down and rebuilt. If they shared the house as members of their uncle Jacob's family, then ownership and occupancy might have been closely enough linked to explain this major rebuilding. At other sites, such as the Mott farm in Portsmouth, Rhode Island, renovations occurred at points in the family life cycle when ownership shifted from one member of the family to another (Upton 1977). Such renovations may have symbolic meaning as well as meeting changes in the functional requirements of a structure. At the Narbonne house, such symbolic representation of a new phase of ownership and a new style of life within the house may have been a factor in the rebuilding. The possible deterioration of the original southern addition and a desire to secure more headroom on the second floor may have been other factors leading to construction of the gambrel-roofed addition. In any case, the changes were made, and the gambrel roof and sliding sash windows gave the house a more up-to-date appearance.

THE SITE

Unlike the Ives period, for which no undisturbed deposits remained on the Narbonne site, a few features with contents dating from later in the Willard era, 1750-57, were identified (Fig. 3-8). These include three postholes west of the well (features 2, 5, and 7 on Fig. 3-8). A larger Willard era feature (feature 4) was excavated as a long, rather shallow depression extending under the brick walk just southwest of the well. This may relate to a pit with similar artifacts which extends under the walk from the east. If these are, in fact, a single feature, it would measure about 10' wide (east-west) and 15' long (north-south). Its position near the head of the cobblestone driveway and its size suggest the location of a small outbuilding, dismantled in the Willard era, leaving a depression which gathered a concentration of the trash strewn over the site. The brick walk makes the connection of these pits from its east and west sides, and their interpretation, quite conjectural. Whether the substantial underpinnings of the walk destroyed the evidence of the full extent and other characteristics of this feature is not known.

Sheet refuse indicates that the Willards disposed of most of their trash in the backyard adjacent to the house, and along the eastern property line. Very little such trash was found in the center of the yard where a dairy structure was later built. Possibly this is because outbuildings stood in this area during the Willard period. All of the Willard period features and the sheet refuse distribution patterns are discussed further in Chapter 5.

The Willards may also have been responsible for the original digging of the wood-lined well on the site. A well is first mentioned in the deeds of the 1720s when the brothers split the house and lot. It is likely, however, that the Ives had a well during their occupation of the house, and only the one well discussed in Chapter 2 was found on the site.

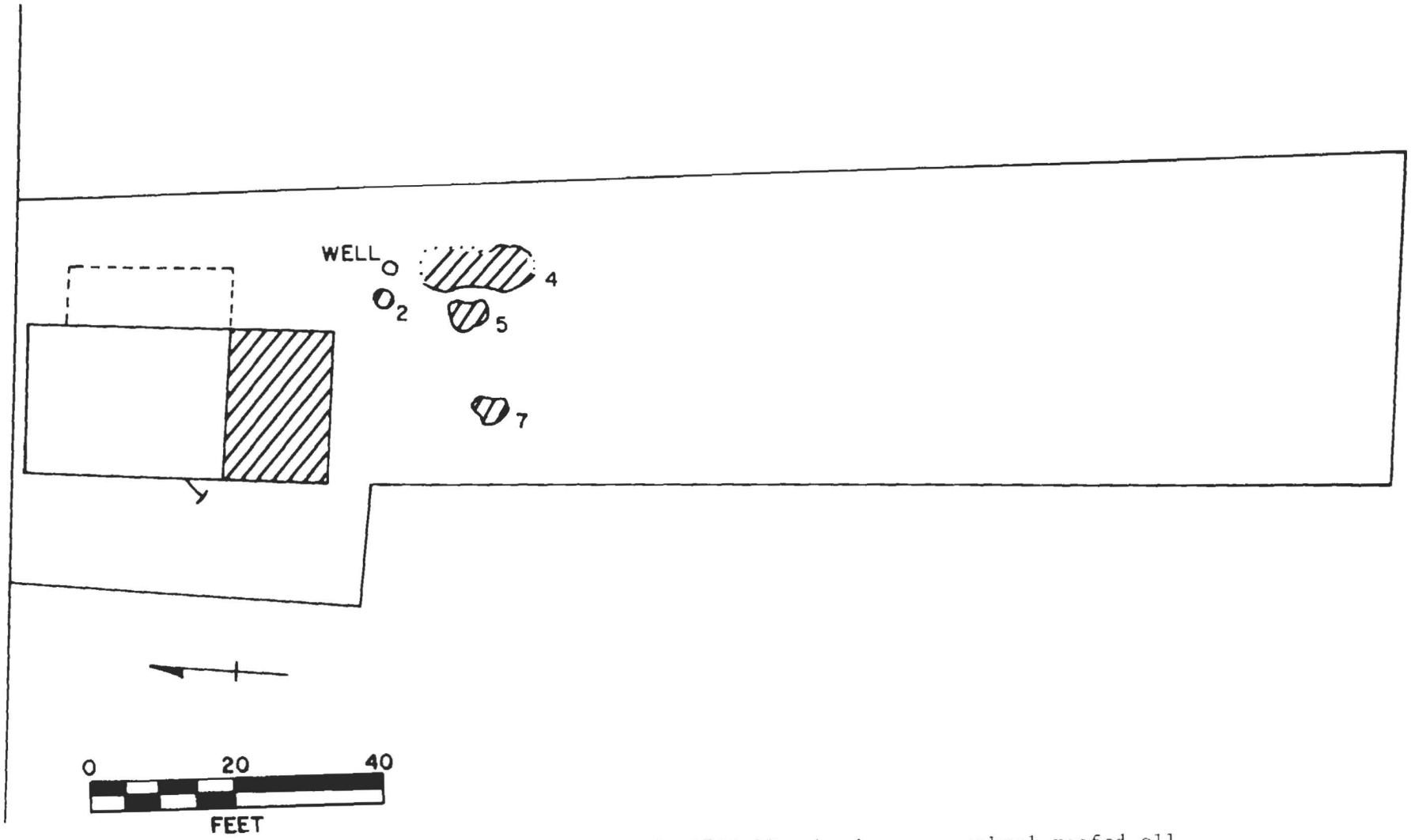


Fig. 3-8. Site development plan, Willard Period, 1700-50, showing new gambrel-roofed ell.

IV. THE HODGES PERIOD, 1750-80

THE OWNERS

Captain Joseph Hodges, who consolidated the ownership of the Narbonne house and lot in the 1750s following over two decades of divided ownership, was born in 1714-15. He married Elizabeth Stone in 1742. No children were born of their union. Hodges followed a familiar pattern in coastal New England, beginning his career as a mariner and later becoming a merchant of considerable wealth.

When he first bought the Narbonne house, Hodges was still taking to sea. He was master of the schooners Eagle and Mary, and of the sloop Success on voyages to Virginia and the Barbadoes, and back to Salem (Essex Institute, Historical Collection: LXIII, 152; LXVIII, 56; LXIX, 164). Other mariners and merchants made their homes near the docks, and it is possible that childless Joseph and Elizabeth lived in the house he had acquired on Essex Street. The street was well populated with families named Hodges at the time of the 1780 census. In his will of 1778, however, Captain Hodges bequeathed to his brother "my Mansion House I now live in," and at the time of his death in 1785, after he had sold the Narbonne property, the inventory of Hodges' estate lists "his Mansion house . . . in East Parish" (Essex County Probate Records, Docket No. 13482). If the Hodges had ever lived in the humble house on Essex Street, it is clear that they vacated it by 1778.

THE HOUSE

Certain interior features of the house can be assigned a general mid-18th century date--corner cupboards, shutters, paneling--and could reflect remodeling carried out in the Willard or the Hodges periods of ownership. Never in the house's history, however, did it receive a thorough remodeling; never, for instance, were the exposed, chamfered beams in the original portion of the house hidden behind casing. While it is possible that the Hodges occupied the house for a time, and then moved to gain a more stylish residence, it seems unlikely that a rising mariner-merchant would have lived for long in the house without a more substantial remodeling.

THE SITE

While Hodges's impact on the house was slight, certain important developments occurred on the site during the period of his ownership (Fig. 3-9). Most are quite functional in nature, as opposed to the Willard heirs' changes in the house which may have been motivated by fashion as well as function.

A very practical change in the site that began about the time Hodges purchased the property was the filling of the cobblestone driveway east of the house to keep pace with the rising grade of Essex Street. As described in an earlier chapter, the first, partial filling of the driveway area raised the level of the northern end as much as 10" over the cobbles.

Excavation of a builder's hole around the well yielded artifacts that date the repair of the well to the Hodges period. As discussed in Chapter 2, the well must have originally been lined with vertical wood

planks along its entire depth until the wood exposed to the air began to rot. Repairs were made by digging a large pit around the well shaft and building a new brick lining up from the waterline. This must have required an expenditure of effort equivalent to or exceeding the digging of a new well. This suggests that the well's original placement continued to be particularly advantageous in Hodges's time, perhaps in relationship to contemporary outbuildings now long gone from the site.

Also assigned to the Hodges period of ownership is the construction in the backyard of the small building discussed as the "dairy" in Chapter 2. The lack of comparable structures excavated on other New England sites makes it difficult to determine whether this feature would have been a common outbuilding of the mid-18th century or reflects a specialized use of the site, perhaps by a renter during Hodges's ownership.

Other features associated with the Hodges's period are numbered 23, 25, and 26 on Fig. 3-9. These three pits along the east property line seem to reflect a new deliberateness in both their digging and their filling. All three are fairly large pits, and feature 25 displayed evidence of having been shored with wood. The possibility that both features 23 and 25 were dug as privies is discussed in Chapter 2, but what also distinguishes all three of these features is what appears to be a deliberate component of trash in their fill. In feature 23, distinct "bucketfulls" of artifact-laden trash were found within the rest of the fill, while a large proportion of the artifacts in feature 25 could be reconstructed into complete or nearly complete ceramic and glass vessels. This indicates that there was a direct deposition of household trash in the pit. In the next period, large pits apparently dug specifically to receive large amounts of trash were found. The Hodges era pits then represent a link between the earlier pattern of sheet disposal of trash, and the later, highly deliberate pattern of trash pits. These patterns are discussed at greater length in Chapter 5.

V. THE ANDREWS PERIOD, 1780-1820

THE FAMILY

Mary Gardner and Jonathan Andrews were married in 1760. Mary's father, Captain Jonathan Gardner, Sr., was eulogized at his death in the Salem paper as "one of the leaders in that noble group of merchants who made Salem famous in the eighteenth century." Together with her uncle and her brother, Mary's family was one of the important merchant families in Salem. They were related to other members of the "merchant aristocracy" like the Cabot, Orne, Hodges, and Derby families by business and marriage. Mary's husband, Jonathan Andrews, was the son of a master mariner but unlike others in his family, he chose the trade of a tanner.

Although this pursuit lacked the social prestige of the mercantile profession, leather manufacturing was to become a key industry in Salem which lasted long after the glitter of the Derbys had faded. Jonathan Andrew was a pioneer in this Salem industry and one of the first to prosper. Not only did his tannery on the shore of nearby Collins Cove flourish, but Jonathan probably also purchased shares in the overseas economic ventures of his father and brothers-in-law.

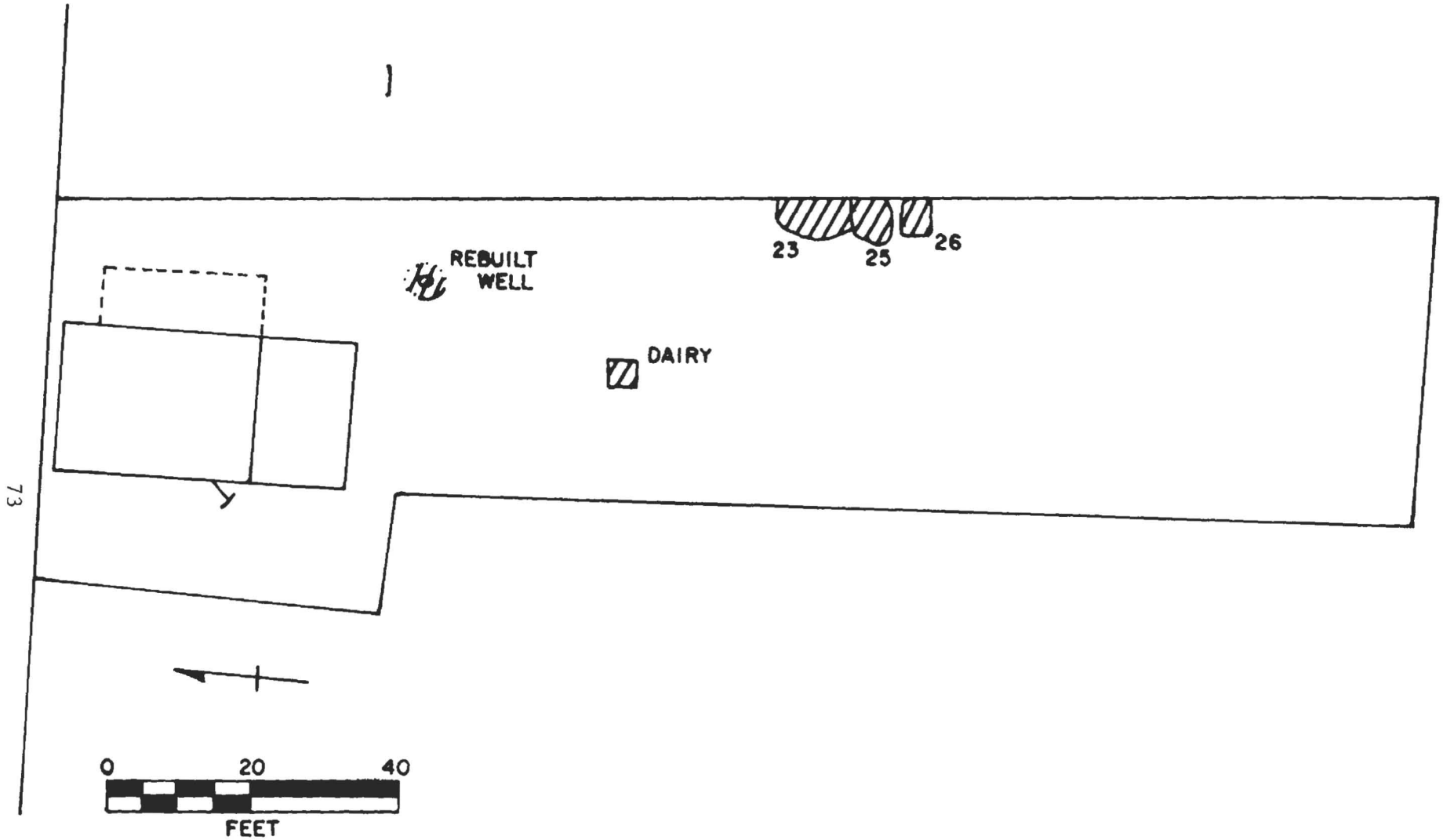


Fig. 3-9. Site development plan, Hodges Period, 1750-80.

In 1780, 20 years after their marriage, the Andrews family purchased the house on 71 Essex Street. Mary Andrews bore eleven children, most of them in quick succession. However, of her first six children, only Mary lived to adulthood. One can see the importance of "family" names common to that era in the repeated habit of naming children after relatives. Three of the children were named "Nathanial" after their paternal grandfather, three "Jonathan" after their father and maternal grandfather, and two "Sarah" after their mother's relative. Only two of the eight children survived to adulthood.

When the Andrews family moved into their new home, they had seven children ranging in ages from 3 to 19 years. In this sense, the Andrews family represents a pattern of domestic occupancy differing from the Ives or Willard families. When the Ives built their home, their family was just beginning; when the Willard family purchased it, their family was almost full grown; while the Andrews family was established but many members were still young. In common, though, with each of these resident families, death interrupted the pattern of nuclear family life in the Andrews family and left one parent as head of the household. Jonathan Andrews lived only a year at his new home before he died at the age of 44.

Fortunately, at the time of his death, he was able to leave his family well situated, with his widow receiving £1300. Far indeed from being destitute, Mary Gardner Andrews also received a bequest of another £650 and "a pair of Silver Canns" from her father's estate only two days later. Even by the inflated currencies of the day, the widow Andrews's assets placed her in the upper middle class. This represents the high watermark in economic terms for any known resident of the Narbonne house.

Given such comfortable economic circumstances, it is curious that the widow Andrews chose to remain at 71 Essex Street. The living conditions must have become rather crowded and the structure had become a decidedly small house by late 18th century standards. We know little about how she lived after her husband died. Documentary evidence indicates that she continued to raise her five or six children under that roof, and that at least one married daughter, Sarah Vincent, raised her family of four there. A second daughter, Mary, married into the socially prominent Hodges family (nephew and namesake of former owner Captain Joseph Hodges) and apparently lived nearby. In addition, the widow Andrews may have been comforted by the presence of her sister in the house abutting to the south, although the contrast in physical circumstances and life style represented between the house at 71 Essex Street and the splendid Elias Hasket Derby mansion must have been striking.

Nevertheless, Mary Gardner Andrews continued to live at 71 Essex Street until her death in 1820, outliving both her married daughters. While documentary evidence seems to indicate crowded conditions, at least for some period of time, and repeated tragedy as several more children died, excavated evidence suggests that the Andrews family boasted a high level of material culture among those nonperishable articles that survived in trash deposits.

THE HOUSE

At least two changes were made to the house in order to make it more stylish and comfortable for the Andrews family. In the main house, certain minor redecorating clearly took place during this period, with simple early Federal period mantle pieces being inserted into the paneled Georgian fireplace walls of both major ground floor rooms. This architectural change is thoroughly consistent with the large number of fine ceramics and tea-service wares excavated in the backyard. The widow Andrews probably attached some importance to a properly stylish setting in which to display her imported ceramics and partake of the fashionable tea-drinking ceremony.

A more extensive structural change is represented by the building of a new and more extensive lean-to addition to the east side of the house. This may have been necessary, as by the late 18th century the filling of Essex Street and the adjacent cobble driveway had raised the surrounding grade above the level of the first period lean-to foundation, as explained in Chapter 2. The Andrews family apparently rebuilt the lean-to in one or two stages, so that it extended for the first time along the entire east side of the house. Although the new lean-to was narrower than the original, it resulted in more usable space overall for the Andrews family since it included a new room behind the gambrel ell.

THE SITE

The major structural change to the house seems to be related directly to other important changes on the property (Fig. 3-10). The construction of the carriage house at the end of the driveway can be tied to the Andrews period on the basis of architectural style and the narrow size of the new lean-to on the house. This shape was probably calculated to allow sufficient room along the east property line for the passage of a carriage. Even in her widowhood, Mary Gardner Andrews apparently attached considerable importance to maintaining several forms of stylish public display. The existence of a new carriage house which presumably housed an appropriate vehicle, fine tea-service items, and interior redecoration would help her to maintain visible evidence of the status of her family.

A correlation also seems to exist between the new lean-to and another backyard feature. Among other items of household rubbish found in feature 14 were numerous pieces of diamond-shaped glass, or quarrels. These represent debris from some local source, probably the old lean-to which was replaced during this period. Architectural evidence dates the double-hung sash in the main house to the mid-18th century, although old fashioned leaded windows might have survived in the less important lean-to addition dating from the Ives period. When that structure was replaced around 1800, its old fashioned windows would have been inappropriate for reuse by a family who was calling public attention to the eastern side of the property with the construction of a new lean-to and carriage house. Leaded windows must have been regarded as anachronistic to a family who prized the most recent imported ceramics.

Excavated evidence in the backyard shows that an attempt was made for the first time in the site's history to dispose of trash in a deliberate way. At least three pits were dug for the orderly and sanitary disposal

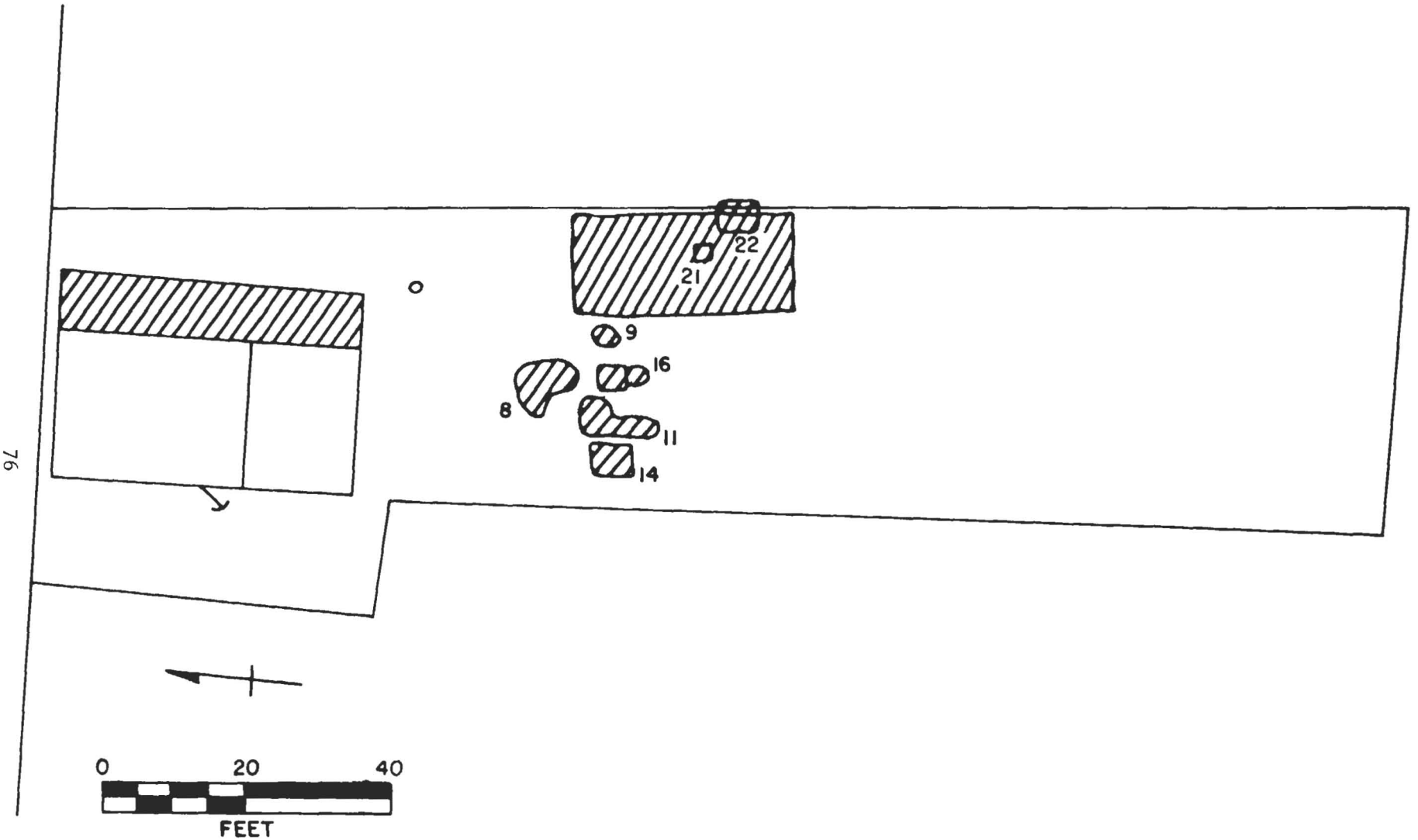


Fig. 3-10. Site development plan, Andrews Period, 1780-1820.

of household refuse, features 8, 14, and 21. The "Hoards" described in detail in Chapter 2 contained an extraordinary quantity of fine imported English and Chinese ceramics, as well as other categories of domestic refuse. There can be little doubt that these materials all originated within the same household and both the elegant ceramics and the discrete trash pits themselves reveal a new concern for amenities.

In addition to these trash pits, rubbish disposal also continued to adhere to an earlier pattern associated first with the Hodges period of occupancy. Existing depressions or holes were used for trash disposal, such as the privy (feature 22), which was apparently phased out when the carriage house was built on its site. During the Andrews period, the active use of the dairy ceased, and the interior of that structure and associated feature 16 also received domestic refuse.

VI. THE NARBONNE PERIOD, 1820-1905

THE FAMILY

The declining level of use of the house through the 19th century is foreshadowed by the fact that the final 19th century shift in the occupation of the house was marked not by a sale of the property and the changes a new owner might bring, but rather by the death of Mary Gardner Andrews in 1820. She had shared the house with the family of her daughter and son-in-law, Sarah and Matthew Vincent. Sarah had died nine years before her mother, and Matthew died a year later in 1821. Four or five of the Vincent's children, who ranged in age from Sarah who was 26 in 1821 to Jonathan who was 16 continued to occupy the house. Within the 1820s, three of the children married. Two apparently moved out of the house, while Sarah made her home there with Nicholas Narbonne after their marriage in 1823.

The Narbonnes had two children--Mary Andrew in 1824 and Nathaniel. Nicholas's death is not recorded, but in 1842 Sarah is listed in the Salem directory as a "seamstress" living at 71 Essex Street with her uncle, Jonathan Andrew, a son of Mary Gardner Andrew. In 1844 Jonathan died leaving to Sarah Narbonne, "widow," the house and land. There Sarah stayed until her death in 1895 at age 100. Her unmarried daughter, Mary Andrew Narbonne, remained in the house throughout her mother's life and to her own death in 1905.

THE HOUSE

Few changes in the house are linked to the Narbonne period. A wide door was placed on the north end of the lean-to. The room was operated as a tiny "Cent Shop." In general, though, the ladies and the house seem to have grown old together.

Photographs taken inside the northern room on the ground floor in the 1880s and 1890s show furniture from the 18th and early 19th centuries: the corner cupboard, mantle shelf, and tables crowded with ceramics, and several photographs of the house framed on the walls or propped up on tables. A print of the photograph here presented as Fig. 2-4 sits on the table beneath the clock in Fig. 3-11. Both photographs were taken in 1891. This interest in their own house considered together with the long period the mother and daughter occupied the structure without making major changes in it seems to reflect an awareness of the structure's antiquity,



Fig. 3-11. Fireplace wall of front room. Frank Cousins photograph, 1891. Courtesy Essex Institute.

and perhaps even a desire to preserve its increasingly anachronistic qualities. Heirloom values were apparently important to the ladies, for it is possible to detect several vessels in the cupboard that might originally have been Mary Andrews's: several pieces of a hand-painted pearlware tea set, a porcelain tea caddy and teapot, and at least one Jackfield teapot. The continuity in family occupation of the Narbonne house, beginning with Mary Andrews and extending throughout the 19th century, allowed Sarah Narbonne to surround herself with "rare and valuable furniture and . . . a large number of priceless heirlooms," according to a description of her house in the Salem Evening News on November 22, 1922.

THE SITE

The site, like the house, changed little in the Narbonne years. At least one trash pit was dug and densely filled with mid-19th century materials (feature 18 on Fig. 3-12) and the well was filled with ash and household refuse around 1870, the same time that water mains first delivered water along Essex Street. See Appendix D for a discussion of the filling of the well and description of its contents. One vessel form found in both of those deposits--the flowerpot--also appears in Fig. 2-4, and indicates one activity of Sarah and Mary Narbonne.

It appears that the impact of the Narbonne ladies on the site was largely limited to horticulture and the deposition of coal ash in various locations. In one location, at least, the two activities are closely related and perhaps associated. In suboperation 2N a line of small beach cobbles was excavated just below the sod, apparently representing a garden or path boundary. Adjacent to the cobbles was a shallow stratum of ash (feature 20) under the sod in the southeast quarter of that suboperation, perhaps designed as a surface since it contained no trash items. As discussed in Chapter 2, coal ash was associated with practically every datable Narbonne period feature, including all trash deposits. A dense level of coal ash found within the carriage house might date from the Narbonne or 20th century occupancy. It is unknown at what date the steam furnace in the cellar was converted from coal to oil, but it was certainly after the Narbonne period. And finally, coal ash and clinkers were used as surfacing on the driveway, a custom that may have begun in the Narbonne period but almost certainly extended well into this century.

VII. CONCLUSION

In the preceding sections, more space was devoted to a discussion of the physical setting of the house and its furnishings during the Ives period than at other times. This was done because when Ives built the house, he unwittingly provided the formal bounds for activities that took place there years later. The house remained essentially unchanged, with only minor alterations, from his time forward. What Ives built was representative of American folk housing in the New England colonies during the late 17th century and for several generations thereafter. The standardized form of the house communicated to other members of his community that he and his family held beliefs similar to those of the rest of the inhabitants of Salem.

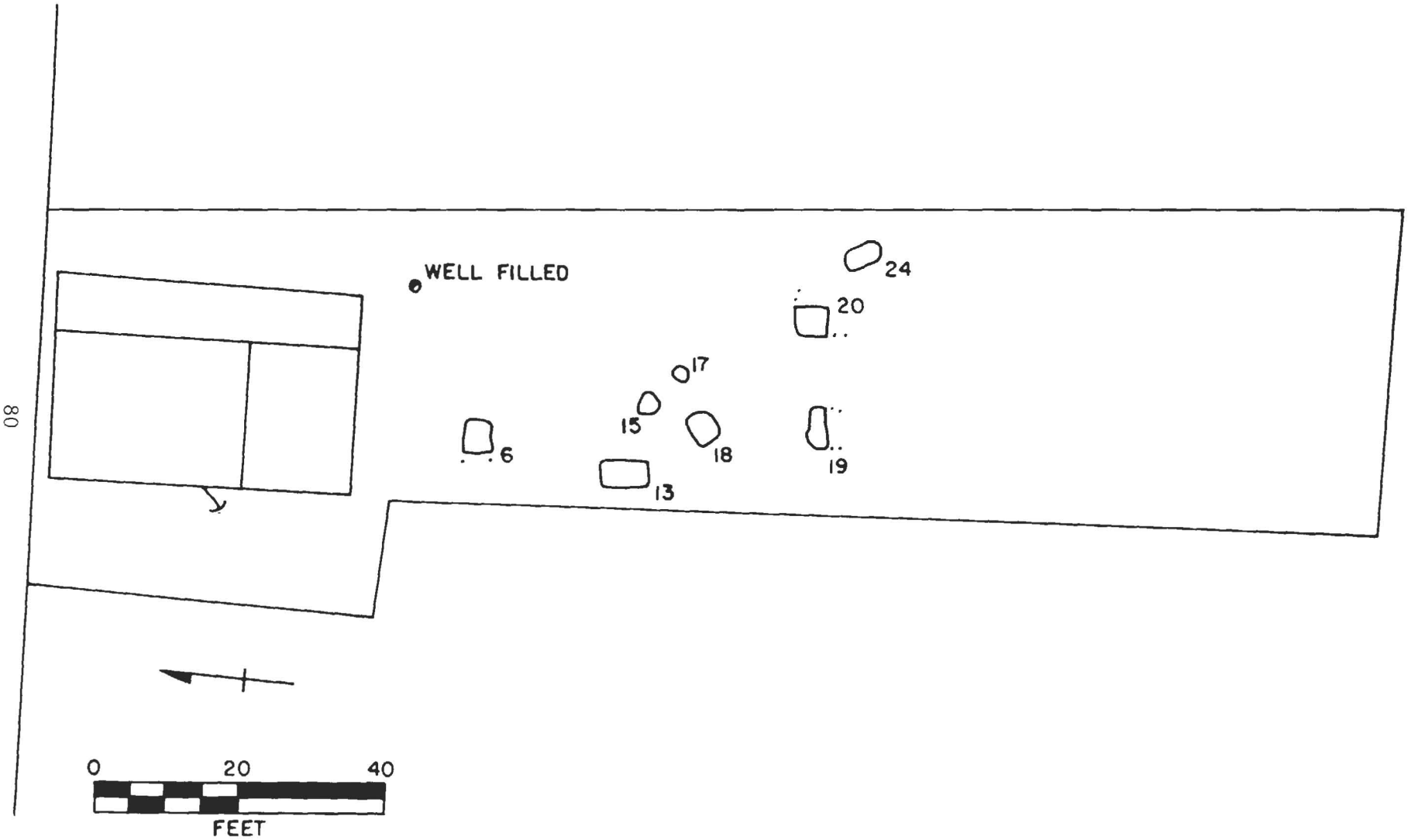


Fig. 3-12. Site development plan, Narbonne Period, 1820-1905.

Throughout its existence, the house has been, in essence, a folk house, inhabited by people of modest means. Perhaps that is why Captain Joseph Hodges, as a member of the "merchant aristocracy" of Salem, either dwelt there only briefly or considered it a capital investment suitable to rent to tenants. It was not the "mansion house" he desired and ultimately built. During the period of Andrews's occupancy, several changes were made to the house in order to make it more stylish. But the basic humble and vernacular nature of the house was not substantially altered, and it offered a vivid contrast to the numerous large, three-story Federal mansions being built nearby on Essex Street and Salem Common.

By the time the house became the home of Sarah Narbonne in the mid-19th century, society in Salem had changed and, if she had possessed the means to alter the house more drastically, she might have done so. Instead, she had to be satisfied with the minor alterations made by her grandmother, Mary Gardner Andrews. Perhaps she was highly satisfied with the house as it stood, or possibly she maintained the house and many of its contents in its original state out of a veneration for the past. One feels strongly that by the late 19th century, the house itself, surviving almost unchanged since 1672, had become an anachronism--a remnant from a different time and place.

The events that occurred to the people who had lived within the house were also of a different time and place. The fragile nature of early life is revealed in the number of deaths that occurred within the home, leaving men without wives, women without husbands, children without either one or both parents, and parents without their young children. The strength of colonial kinship ties appears in the way people at 71 Essex Street shared their home: married children remaining to take care of elderly parents (Willard/Andrews-Vincent-Narbonne), married siblings sharing a house (Willard brothers), step-mothers continuing to care of step-children after their fathers had died (Ives, Willard). Variations in the size and composition of colonial families is also demonstrated in the history of occupation of the house. These considerations must be examined in order to begin to understand the material culture these people left behind.

CHAPTER 4 - THE ARTIFACTS

I. INTRODUCTION

Approximately 140,000 artifacts were unearthed at the Narbonne site between 1973 and 1975. This quantity far exceeded expectations, and seriously strained laboratory and analytic resources. The assemblage has been and will continue to be an exciting and bountiful source of information. This chapter serves to introduce the Narbonne artifacts through descriptive sections on ceramics, glass, and other artifacts. An important group of artifacts not dealt with in this chapter is the vast quantity of faunal material (mostly bones and shells) found on the site. A thorough analysis of the faunal material from two major trash pits appears as Appendix E to this report.

Over 58,000 ceramic artifacts were found on the site, including most of the major ceramic forms and types known to have been used in the colonies and in the young republic in the 17th, 18th, and half of the 19th centuries. There are also some striking examples of wares infrequently seen. The ceramics are divided into three classes--earthenware, stoneware, and porcelain--and within the classes they are divided into types, such as domestic redware, tin-glazed earthenware, and creamware (all earthenwares). The immensity of the ceramic assemblage has precluded thorough form analysis, although this report attempts to describe and illustrate the range of forms represented in any one ware. Form analysis is essential to understanding the function of the ceramics, and function is a key to studying behavior. The job that remains to be done in this area is enormous, as is the potential.

Sherd counts are employed in this analysis even though it is realized that they are a useful, but limited substitute for the vessel counts a thorough form analysis would provide. These sherd frequencies include all of the ceramic artifacts recovered from the sheet refuse over the entire site (41,663 sherds) as well as the contents of the majority of the trash deposits, including all of the major ones (17,103). These counts permit comparison of this site to others in the United States and Canada for which similar quantitative data have been prepared. Sherd counts can also be used to analyze disposal patterns within a site (as in Chapter 5), and to derive mean ceramic dates (South 1972) for trash pits. Appendix B contains an application of the mean ceramic date formula to feature 14, and a discussion of the results. Those who wish to utilize the sherd counts should add 251 to the sheet refuse sherd frequencies reported in the ceramics section that follows, and 789 to the total from the trash deposits. These additions include the ceramics that were inadequately identified on the artifact inventory sheets or that were otherwise not accounted for in the ceramics section.

Certain general aspects of the ceramics assemblage that could be lost among the scores of illustrations and pages of description should be borne in mind. First is the sheer quantity and broad range of forms of coarse, domestic redware from the site. From early colonial times through much of the 19th century, American potters were turning local clay into useful vessels, and the Narbonne site illustrates how extensively these wares were used.

Another aspect of the site reflected in the artifacts, and particularly in the ceramics, is Salem's position as a major maritime trade center. Not only were English, German, and Chinese ceramics readily available to the occupants of the Narbonne house, but other pots and artifacts found on the site could have come to Salem from almost any corner of the world. Salem cast her nets wide, and so must anyone who examines her artifacts.

In addition to the ceramics, over 20,000 glass artifacts were recovered from the sheet refuse (12,048) and major trash deposits (8,729). This report focuses on glass vessels--bottles, table glass, etc.--but large quantities of flat window glass were also found and warrant further analysis. The bottles and table glass discussed and illustrated represent the range of forms and decorative styles found in well-dated contexts. Hopefully, these examples suggest the richness of the glass assemblage from the site, and can be compared to bottles and table glass from other historic sites.

Other notable artifacts from the Narbonne site were largely recovered from the sheet refuse rather than from dated contexts. While the dates of manufacture of some of the objects can be estimated, the periods of their use cannot be, and they must be viewed as objects better located in place than in time. A thorough analysis of these objects, particularly ones made of ferrous metals, will necessitate a considerable expenditure of time and money for conservation. Included among these metal artifacts are fragments of thin-bodied iron cooking and eating vessels (tin ware) that should be studied in relationship to the ceramics and glass used on the site. Feature 18 dating to c. 1850 was particularly rich in these wares.

II. CERAMICS

EARTHENWARE

Domestic Redwares

Earthenwares with a coarse, red-orange body were the largest group among the ceramics, and in fact the most common artifact found on the Narbonne site. Within this group there are both glazed and unglazed sherds, decorated and plain sherds, and sherds of both domestic and foreign origin.

Due to the sheer number of ceramic sherds found on the site--over 58,000--the quantitative analysis of the different types had to be based upon the original artifact inventory sheets prepared through the course of the excavation. In the area of the red-bodied earthenwares, this created certain problems. The bulk of these "redwares" was surely produced by New England or other American potters, but included in the overall redware count are a relatively small number of sherds that, when reconstructed into vessels, were seen to be of foreign origin. In addition, while trailed slip decorated redwares were distinguished from the undecorated sherds throughout the counts, small sherds of certain British types, such as "Metropolitan" slipware and Wrotham slipware were difficult to distinguish from the overwhelmingly predominate trailed slipware of domestic origin. Both the undecorated redware and trailed

slipware sherd counts, therefore, include relatively minor amounts of non-domestic ware, but in both cases, the sherds are basically of domestic production.

An indication of how minor this distortion probably is can be seen in the count of North Devon sgraffito slipware found on the site. This British red-bodied earthenware has quite distinctive decoration, and the minute amount of it which was present is probably roughly equivalent to the amount of "Metropolitan" and Wrothan slipwares. A total of 17 sherds of sgraffito slipware were found in the sheet refuse from the site, and seven more sherds were in the trash deposits that have been analyzed quantitatively. These sherds represent only 0.04 percent of the total number of sherds found on the site, and only about 2 percent of the slip-decorated redwares.

The 19,845 sherds of undecorated redware and 893 of trailed slipware found in the sheet refuse can be assumed, therefore, to be essentially domestically produced wares. The undecorated redware sherds alone constitute 47 percent of the ceramics from the sheet refuse, and together with the trailed slipware represent 49.7 percent of the ceramics from the sheet refuse. A total of 7,305 sherds of undecorated redware and 301 of trailed slipware were found in the analyzed trash deposits and together represent 46 percent of the sherds from those sources.

The domestically produced redware, both decorated and undecorated, is illustrated and discussed as a single group, for it seems clear that individual potters produced both kinds (Watkins 1950). The foreign red-bodied earthenwares are discussed in subsequent sections.

Few archeological reports have illustrated American redware. It has also received little attention from other disciplines. Neither good typologies, nor reliable and datable attributes have been established. The best source work on American redware remains Lura Watkins's Early New England Potters and Their Wares (1950), and those Narbonne sherds or vessels that resemble examples illustrated in Watkins are noted below.

This report will focus on illustrating and discussing a large portion of the already reconstructed redware vessels found in datable trash deposits. This was done because of the paucity of published, dated examples of these wares. But the following analysis is only a beginning step in the study of the redware from this site. In general, it serves to introduce the range of forms and stylistic treatments, and suggests some temporal patterns of development of certain forms. The immense job of cross-mending and then of stylistic and formal analysis remains to be completed.

Most of the reconstructed redware vessels from the site appear to have served food storage or preparation functions, and a cursory survey of the unpieced redware gives the impression that these forms are predominant throughout this ware. Among the most common vessels are storage crocks, roughly cylindrical in shape, unglazed on the exterior, with a dark lead glaze on the interior (Fig. 4-1). The taller crocks were found in quantity in trash deposits dating from the late 18th century (Fig. 4-1, top row) through the mid-19th century (Fig. 4-1, middle row).



Fig. 4-1. Crocks, redware; glazed interior, unglazed exterior. Left to right:
Top row, all dark brown glaze--from feature 22, c. 1790; from feature 21, c. 1790; from feature 21, c. 1790; from feature 22, c. 1790;
Middle row, all dark brown glaze--from feature 18, c. 1850; from feature 18, c. 1850; from well, c. 1870; from well, c. 1870;
Bottom row--from feature 25, c. 1770, red-brown glaze; from feature 18, c. 1850, dark brown glaze; from feature 14, c. 1805, dark green glaze; from feature 14, c. 1805, red-brown glaze.

Throughout this period a range of sizes was found but a difference in shape between the earlier and later examples is apparent. The earlier examples are most bulbous and have a more pronounced lip, while the mid-19th century crocks retain the tapered base but have a more cylindrical upper body. Broader, more bowl-like crocks (Fig. 4-1, bottom row) were also found in trash deposits ranging from c. 1770 to c. 1850. A comparison of the shapes of the earliest (far left) and latest (second from left) of these c. 1770 to 1850 vessels is similar to the tall c. 1790 crocks in feature 22. The outline of the c. 1770 vessel is more curving and its lip is more pronounced than the c. 1850 vessel. In addition, the later vessel has an incised band around the body near the top, similar to the line on the crock (second row, far left) from the same trash deposit (feature 18).

A vessel form perhaps even more frequently found in redware than the crock is the pan, characterized by a flat bottom and shallow, sloping sides. Considerable variety of size is found in this form, with examples ranging in diameter from 9.6" to about 15.2". Most of these vessels are not glazed on the bottom or exterior side, and many display scorch marks on the exterior, indicating their use in cooking. All the pans are glazed on the inside and many also display trailed or brushed decoration in light-colored slip under the lead glaze (Figs. 4-2, 4-3). Only decorated examples were chosen for illustration, as they exhibit the same form and range of sizes seen in the undecorated pans.

The decorated pans were most commonly found in late 18th and early 19th century contexts. Most are ornamented with plain white trailed slip which appears yellow under the lead glaze. Some examples have a brushed decoration (Fig. 4-2, top row, middle, and Fig. 4-3, bottom right) and a few also show green flecks over the white slip. The flecks are from copper introduced into the lead glaze or the slip (Fig. 4-2, top row, middle and right). Two pans, both extracted from a trash deposit (feature 14), have similar designs--a star formed of three crossed lines in the bottom of the pan, and a single wavy line just below the rim (Fig. 4-2, bottom row, middle and Fig. 4-3, bottom left).

Fragments of one slip decorated pan (Fig. 4-3, top) from feature 22, which dates to c. 1795, display a pattern of calligraphic-like squiggles spaced around the rim, a style of ornamentation unlike the other pans. Watkins (1950: Figs. 33, 34) illustrates plates or pans with somewhat similar decoration. Also the pan in Fig. 4-3 is closely related in style of decoration to two chamber pots excavated on the site.

Redware chamber pots are another very common vessel from the Narbonne site, but only a few of them are slip decorated (Fig. 4-4). Two chamber pots are decorated with a trailed slip which combines wavy lines, tight squiggles, and calligraphic-like characters that resemble the letter A. One of these pots is almost complete and is from a c. 1770 context (Fig. 4-4, middle), and the other was found in a probable privy (feature 23) that was gradually filled over a period of time, c. 1770 into the 19th century. Another chamber pot fragment from the same c. 1770 context (Fig. 4-4, left) is decorated with splattered slip under its lead glaze, while a fourth chamber pot fragment from the privy (Fig. 4-4, right) bears brushed loops of slip under a dark green glaze. Watkins

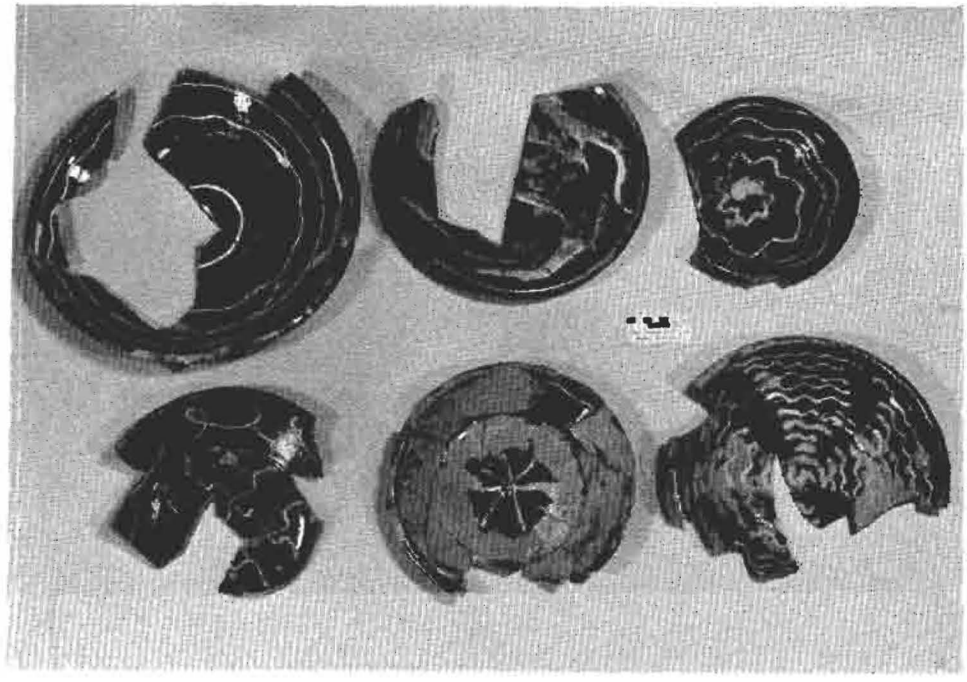


Fig. 4-2. Pans, redware, with slip decoration.
Left to right:
Top row--from feature 22, c. 1790, white trailed slip; from feature 22, c. 1790, white brushed slip with green (copper) speckles; from feature 14, c. 1805, white trailed slip;
Bottom row--all white trailed slip--from feature c. 1790; from feature 14, c. 1805; from feature 22, c. 1790.

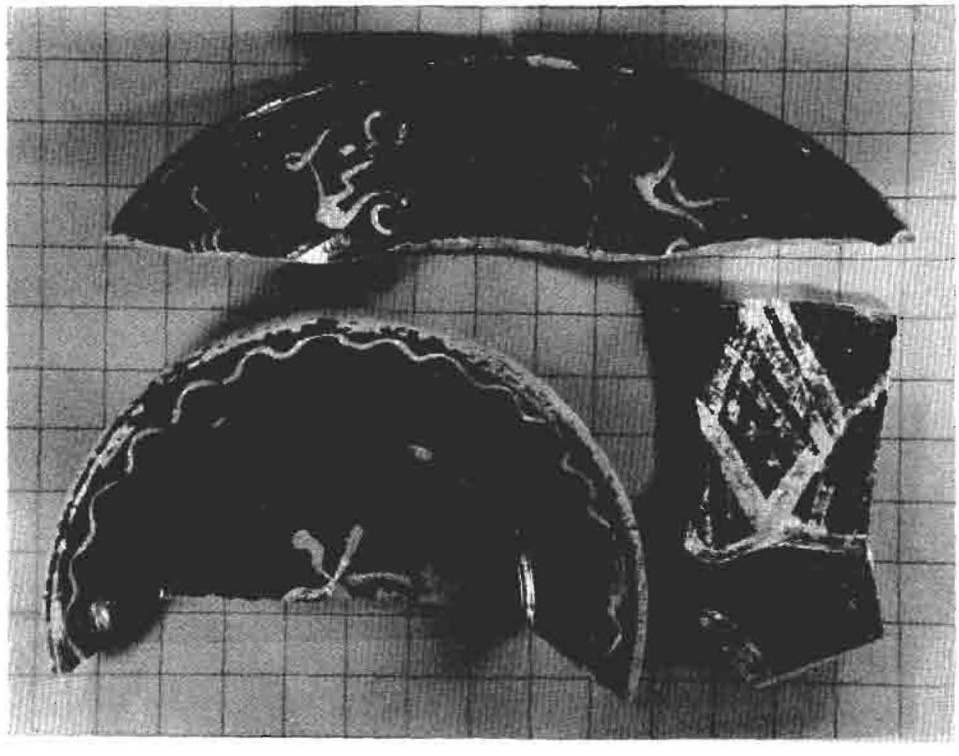


Fig. 4-3. Pans, redware, with white slip decoration.
Clockwise from lower left:
from feature 14, c. 1805, trailed slip; from feature 22, c. 1790, trailed slip; from 1E8C2, (undated context), brushed slip. (Each square of grid equals one square inch.)

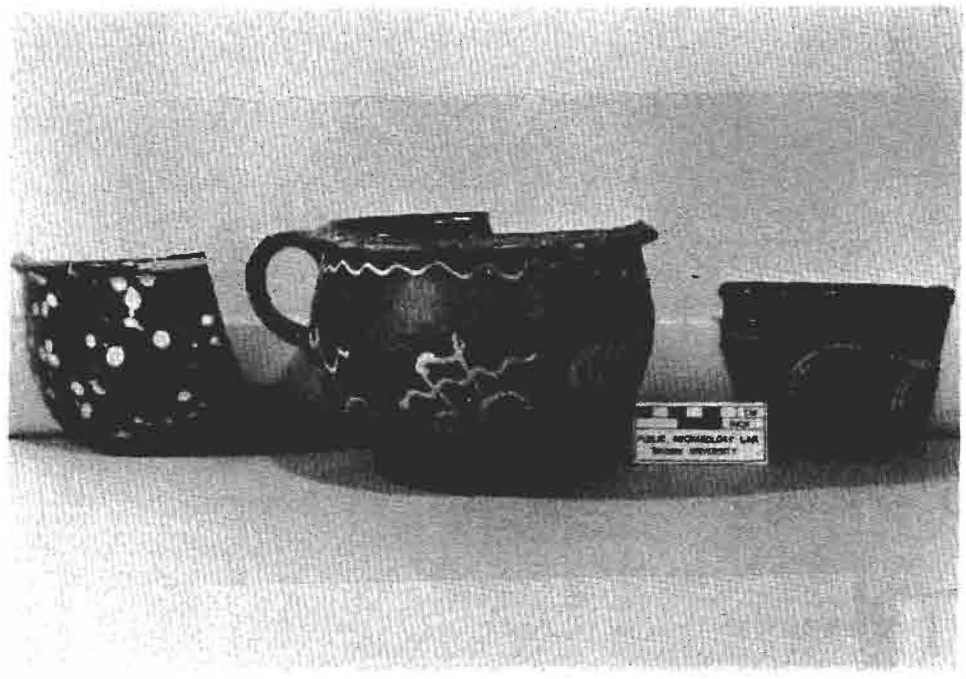


Fig. 4-4. Chamber pots, redware, with white slip decoration.
Left to right:
from feature 25, c. 1770, red-brown glaze interior and exterior, splattered slip decoration; from feature 25, c. 1770, green-brown glaze interior and exterior, trailed slip; from feature 23, c. 1770, dark green-brown glaze interior and exterior, brushed slip.

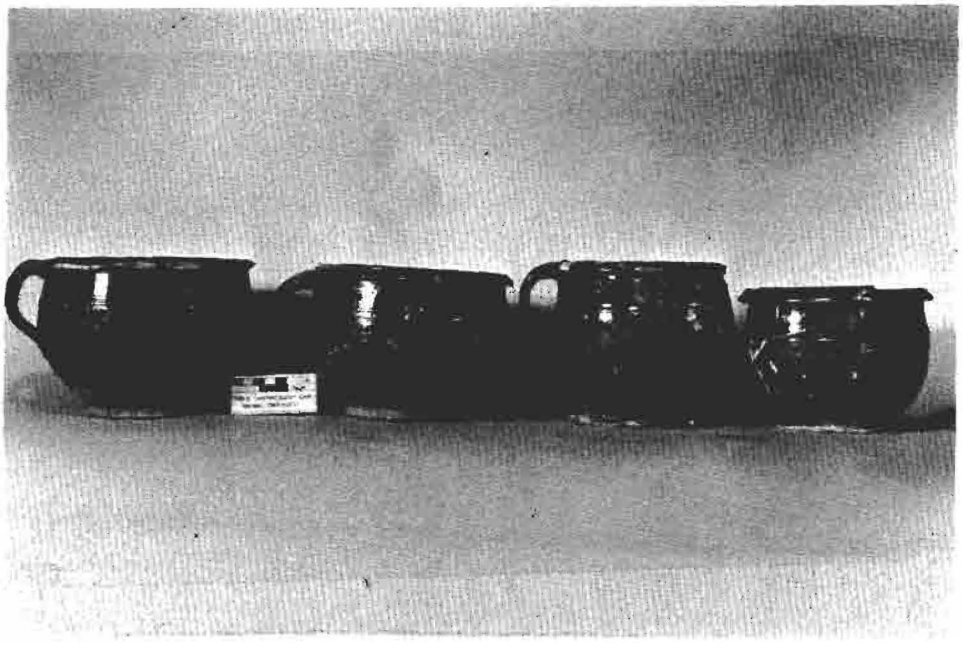


Fig. 4-5. Chamber pots, redware, all glazed interior and exterior.
Left to right:
from feature 14, c. 1805, dark brown glaze exterior, red-brown interior; from feature 14, c. 1805, medium brown glaze; from feature 22, c. 1790, light brown glaze; from feature 22, c. 1790, light brown glaze.

(1950: Figs. 24, 25) illustrates one chamber pot and fragments of several others from the Daniel Bayley pottery site in Newburyport, Massachusetts, 1764-99, that show similar brushwork. Most of the chamber pots show no decoration beyond a few incised lines, cut into the body of the pot while it spun on the maker's wheel. While differences in size and shape are apparent among these vessels (Fig. 4-5), no clear pattern of change over time has yet emerged.

The remaining types of redware vessels were less commonly encountered, but illustrate the range of forms the domestic potters produced. A few bowls were found. These vessels were probably used for food preparation and perhaps also in food serving (Fig. 4-6). The smallest of the bowls shown is decorated with brown mottling under the orangish glaze. This effect is probably achieved by brushing or daubing iron oxide onto the vessel before dipping it into a lead glaze.

One of the mugs illustrated in Fig. 4-7 (far left) shows similar brown mottling under a more yellow-orange glaze. Among the mugs both cylindrical and "barrel" shapes were encountered, and the glazes ranged from the mottled yellow-orange to a deep and glossy black. Mugs or tankards of glass and of English and German stoneware were also represented on the site, so this is an example of a vessel form available in many wares.

Another form of food serving vessel represented in redware is the porringer (Fig. 4-8). Those found vary much more in size than in shape, and the smallest ones may have served as drinking cups, rather than the standard porringer role as a bowl from which to eat. A few redware pitchers were recovered and reconstructed from contexts ranging in date from c. 1790 to c. 1870 (Fig. 4-9). The earlier examples (left and center) are dissimilar in overall shape, but both have handles that are attached a bit below the rim, while the top of the handle on the later pitcher (right) is even with the rim. The c. 1870 example, recovered from the well, has streaked brown mottling under its orange glaze (actually a nearly colorless glaze that allows the red-orange body to show), similar to the mug (Fig. 4-7, far left) and the bowl (Fig. 4-6, top) previously mentioned.

A vessel that could serve both for pouring liquids and for storing and transporting them is illustrated in Fig. 4-10. This jug is glazed dark brown inside and out, and decorated with a few incised lines at the top of the shoulder.

Imported Coarse Redwares

Domestically produced earthenware with a coarse, red body dominates the Narbonne ceramics, but a number of similar wares known to be of foreign origin were also found. A few very interesting individual vessels were probably also made abroad. South's (1972: Fig. 1) list of ceramic types with accompanying dates of manufacture includes four undecorated redwares which were found on the Narbonne site: coarse agate ware, with a date range of c. 1750-1810 (type no. 35); Iberian storage jars, c. 1750-80 (type no. 38); Buckley ware, c. 1720-75 (type no. 47); and North Devon gravel tempered ware, c. 1650-1775 (type no. 61). With the exception of the so-called Iberian storage jars, only a few sherds of each

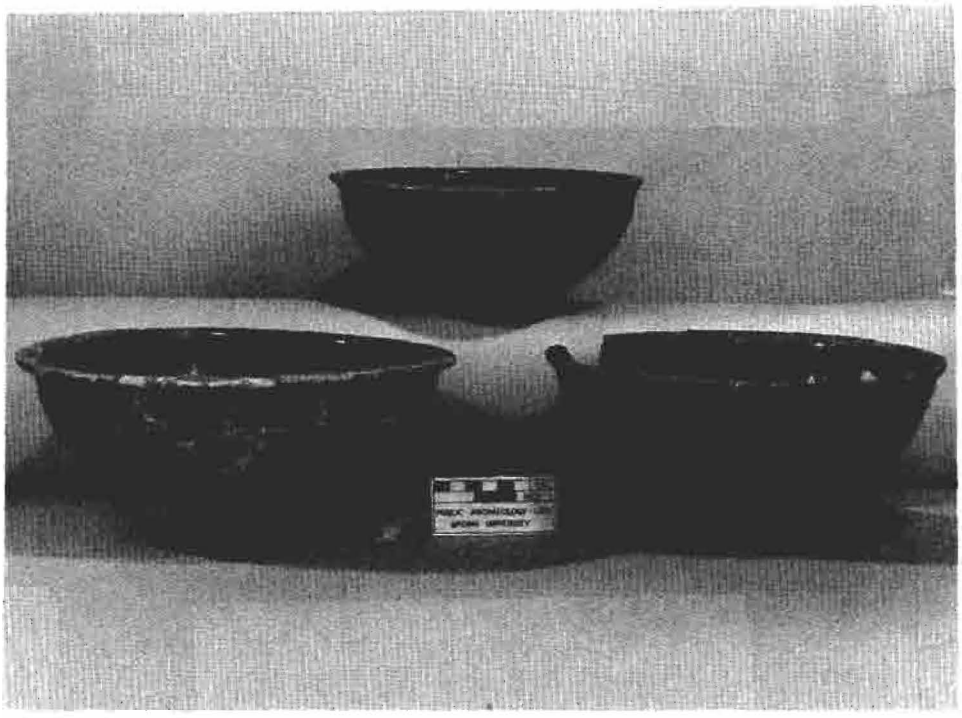


Fig. 4-6. Bowls, redware, all glazed interior and exterior.
Left to right:
from feature 22, c. 1790, light red-brown glaze with tan spots;
from feature 18, c. 1850, light red-brown glaze with brown mottle on exterior; from feature 18, c. 1850, light red-brown glaze.

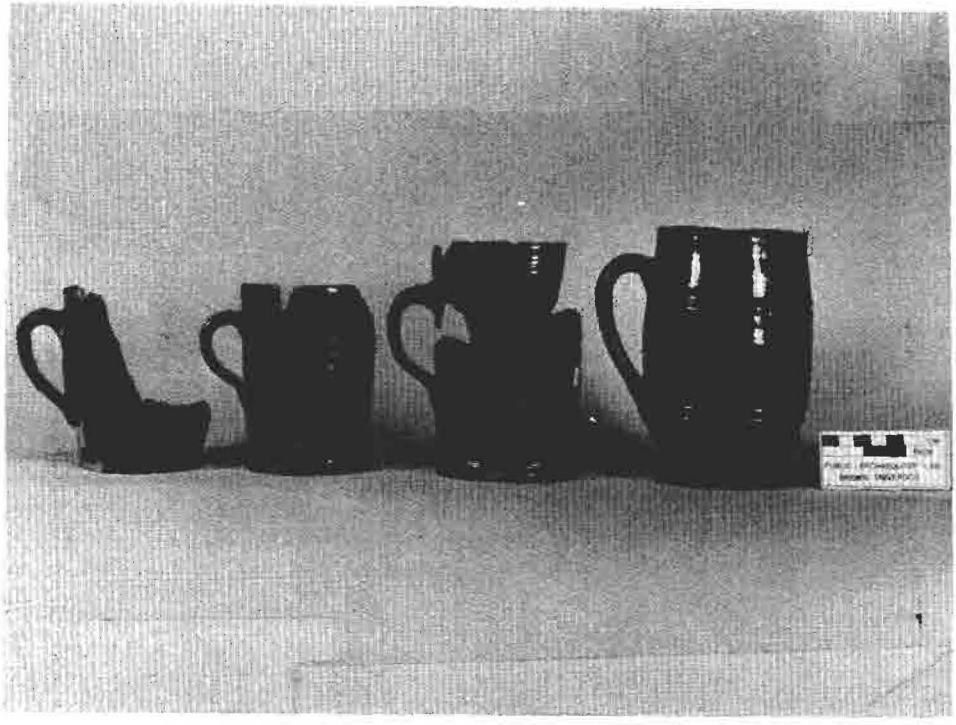


Fig. 4-7. Mugs, redware, all glazed interior and exterior.
Left to right:
from feature 14, c. 1805, red-brown glaze with dark brown mottle on exterior; from feature 14, c. 1805, glossy black glaze; from feature 22, c. 1790, dark brown glaze exterior, green-brown interior; from feature 8, c. 1790, glossy dark brown glaze.

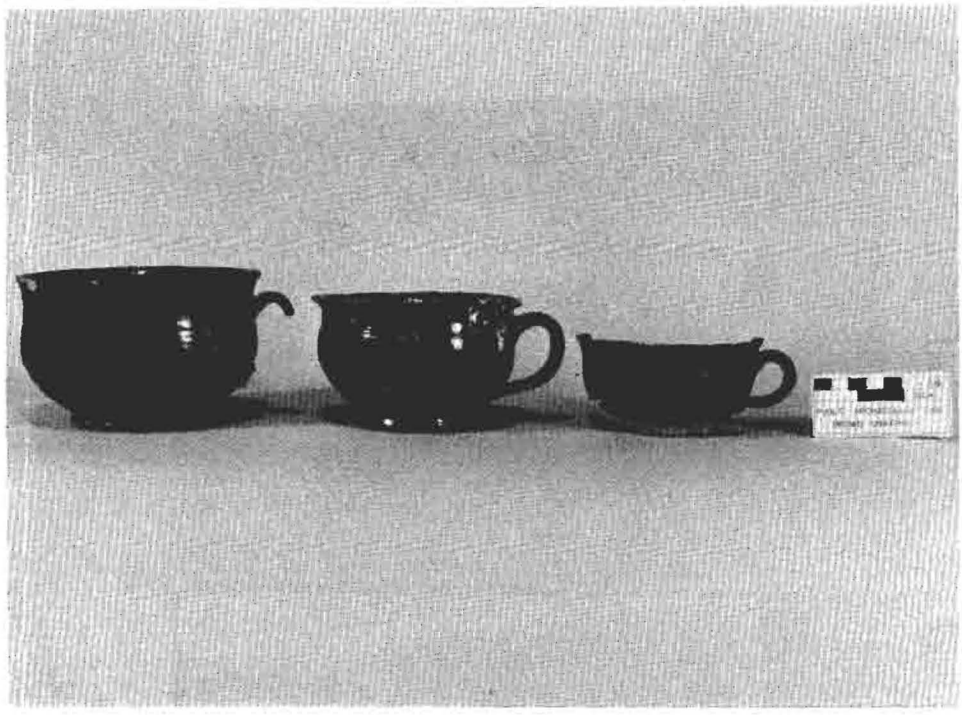


Fig. 4-8. Porringers, redware, all glazed interior and exterior. Left to right:
from feature 23, c. 1770, black glaze exterior, brown interior; from feature 21, c. 1790, black glaze interior and exterior; from feature 8, c. 1790, black glaze exterior, brown interior.



Fig. 4-9. Pitchers, redware, glazed interior and exterior. Left to right:
from feature 21, c. 1790, light brown glaze with brown mottle on exterior, tan glaze interior; from feature 8, c. 1790, black glaze interior and exterior; from well, c. 1870, red-orange glaze with brown exterior mottle.



Fig. 4-10. Jug, redware, from feature 8, c. 1790, dark brown glaze interior and exterior.

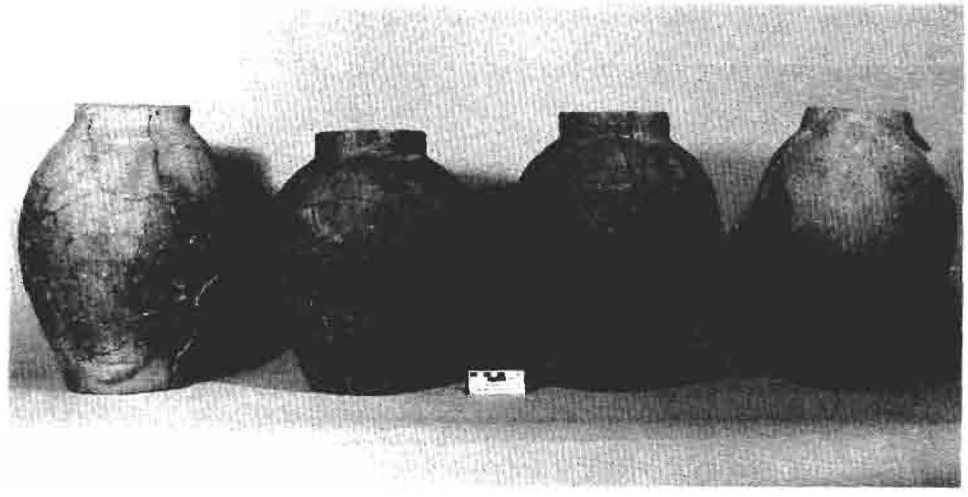


Fig. 4-11. Jars, redware, unglazed, Iberian (?), from feature 21, c. 1790, except rightmost, from feature 22, c. 1790.

of these wares were found. As previously discussed, minute quantities were found of North Devon sgraffito slipware, c. 1650-1710 (type no. 63); Wrotham slipware, c. 1612-1700 (type no. 67); and "Metropolitan" slipware, c. 1630-60 (type no. 68).

The "Iberian" jars were represented in three different trash deposits on the site, all of which date to c. 1790 (features 8, 21, and 22). Four large jars have been reconstructed (Fig. 4-11) and fragments of at least two more were found. Three of the examples bear small, impressed marks--one a small, five-petalled flower stamped on the shoulder just below the rim (Fig. 4-11, far left), the second a letter F pressed into the rim (Fig. 4-11, second from left), and the third a G, also in the rim (Fig. 4-11, second from right). Noel Hume (1969a: 144) states that the exact origin of this type of "olive" jar is not known, but that an Iberian source is probable. Rather similar jars with a pair of crescent shaped handles on the shoulder are found in some number in Jamaica, where they were and are traditionally used for collecting and storing rainwater. The people doing research in Jamaica on this type of jar argue with some persuasiveness that the jars were manufactured at some nearby Spanish colony, perhaps Cuba, and shipped to Jamaica specifically to serve as cisterns (Fremmer 1962) The Parting Ways site near Plymouth, Massachusetts, which was occupied by black families, yielded a jar similar to that found at the Narbonne site in a c. 1790 context. Deetz (1977: 147-48) suggests that the jar may have a West Indies origin, reflecting the sites African influence, and may have been used to ship and store tamarind, a tropical fruit. Obviously, the full story of the origins and functions of "Iberian" jars remains to be investigated.

An even more unusual vessel is a double spouted water jug (Fig. 4-12) found in a c. 1790 context. The jug is unglazed inside and out and burnished on the exterior to a lustrous polish. Liquid contents would have been able to seep slowly through the vessel's unglazed walls and by evaporation keep the jug cool. Somewhat similar vessels with separate filling necks and pouring spouts are identified by Noel Hume (1969a: 77, Fig. 18) as probably Spanish. But this vessel's balanced placement of the spouts with the strap handle between them, and polished exterior, are unusual.

A final vessel of a coarse, but thin red earthenware body is simply so dissimilar to the bulk of the domestically produced redware from the site that a foreign origin may be indicated (Fig. 4-13). The two handled vase is glazed brown on the interior; only a few areas of the exterior are brushed with the same glaze. A small, round hole was drilled through the base of the vessel, apparently to convert it for use as a flowerpot. The same mid-19th century trash deposit (feature 18) that yielded this vase contained several unglazed, standard form flower pots. It also contained a gray and brown stoneware crock of a type produced in Boston and Charlestown (Watkins 1950: Fig. 95) that had also been bored through the bottom to serve as a flowerpot.

Buff-Bodied Earthenwares with Combed and Dotted Slip Decoration

The lead-glazed, slip decorated earthenwares of British origin most commonly found on the site were the buff-bodied wares South (1972: Fig. 1) lists as lead-glazed, combed yellow slipware produced from c. 1670 to



Fig. 4-12. Water jug, redware, unglazed, Iberian (?), from feature 8, c. 1790, burnished exterior.



Fig. 4-13. Two handled pot, redware, unknown origin, from feature 18, c. 1850, dark brown glaze interior, exterior unglazed except for splash of dark brown.

c. 1795 (type no. 56). A total of 516 sherds of these combed and dotted slipwares were found in the sheet refuse, constituting 1 percent of the ceramics from that source. Another 134 sherds were recovered from the analyzed trash deposits, and considered together the 650 sherds represent 1 percent of the site's ceramics.

Although it has not been possible to partially reconstruct many vessels in the combed and dotted wares, certain vessel forms are apparent among the sherds. Plates or pans appear to be the predominate form and many of these sherds show charring on the unglazed, exterior side indicating that they were used for cooking purposes. Hollow form vessels such as mugs and posset cups are also common.

While wares of this type were manufactured for more than a century, recent work by British archaeologists (Kelly 1968, Barton 1970, and others) has begun to pinpoint specific design motifs and forms associated with much tigher date ranges. Figure 4-14 illustrates sherds from a wheel-thrown, thinly potted hollow form vessel, decorated in a manner not previously reported in North American sites. The lead-glazed sherds are covered on the interior by a cream colored slip and on the exterior by a similar slip to which manganese was added to produce an amber tone with darker splotches. The color of the large raised dot surrounded by a circle of similarly colored small dots is the result of a light colored slip. This decorative motif resembles one illustrated by Kelly (1973: 24) on a vessel found at a potter's site at Burselm, Stoke-on-Trent in a 1670-1720 context.

A trash deposit in Burselm, Stoke-on-Trent used from c. 1650 through c. 1720 yielded vessels covered with dark slip and decorated on the exterior with a light colored trailed slip. Buff-bodied fragments of a hollow form vessel with similar decoration were found on the Narbonne site (Fig. 4-15, left) along with two fragments of a mug with light dots and lines of slip applied over a similar dark, overall slip (Fig. 4-15, right). The reverse of this decoration is found in sherds on which dark dots of slip were applied to the light colored slip (Fig. 4-16, left). There was also a composite form represented by a sherd coated inside and out with a cream colored slip, over which dark trailing was applied, and then "jeweled"--highlighted with dots of light slip over the dark (Fig. 4-16, right).

A few rim sherds of lead-glazed, buff-bodied mugs were found that seem to resemble in decoration the "carmel glazed", red-bodied earthenwares found at Fort Michilimackinac (Miller and Stone 1970: 54, 59). Like those Michigan finds, the Narbonne sherds are from thinly potted, wheel thrown vessels covered with a light colored slip and a lead glaze with tan or caramel colored streaks, but the Narbonne examples differ from the Fort's in their buff bodies and interior as well as exterior glazing.

The decoration on these buff-bodied wares was most frequently various "feathering," "combing," and trailing effects in black or brown iron oxide strips over the light body (Fig. 4-17). The only reconstructed vessel among these wares, a small mug found in a c. 1780 trash deposit (feature 21), is decorated with trails and dots of a dark slip over the light colored body (Fig. 4-18).

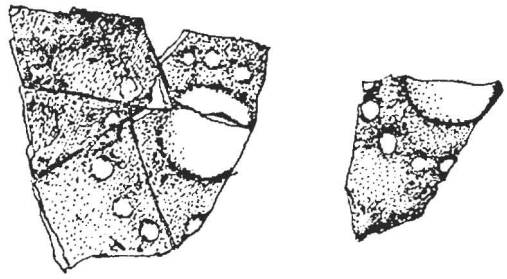


Fig. 4-14. Buff-bodied earthenware with dotted slip decoration, British, c. 1670-1720, from 1E8A2 and 1E8B2, undated contexts. (Drawn at full scale.)

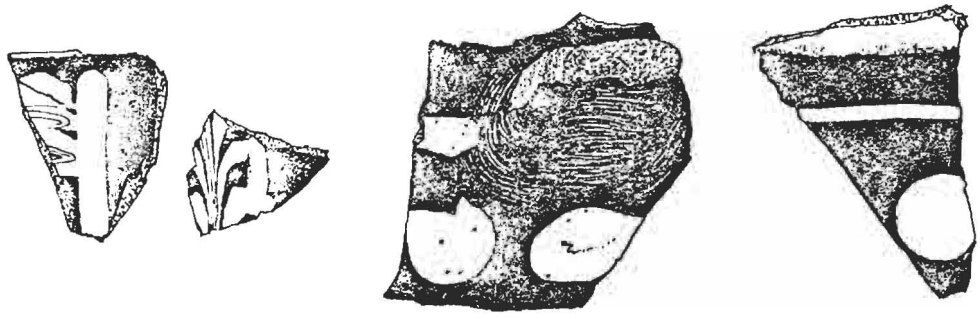


Fig. 4-15. Buff-bodied earthenware with dark brown glaze and light slip decoration on exterior, yellow glaze on interior, British, late 17th or early 18th century. Left to right:
from 1E5B2, undated context; from 1E2A2, undated; from 1E1A3, undated; from 1E2, undated.

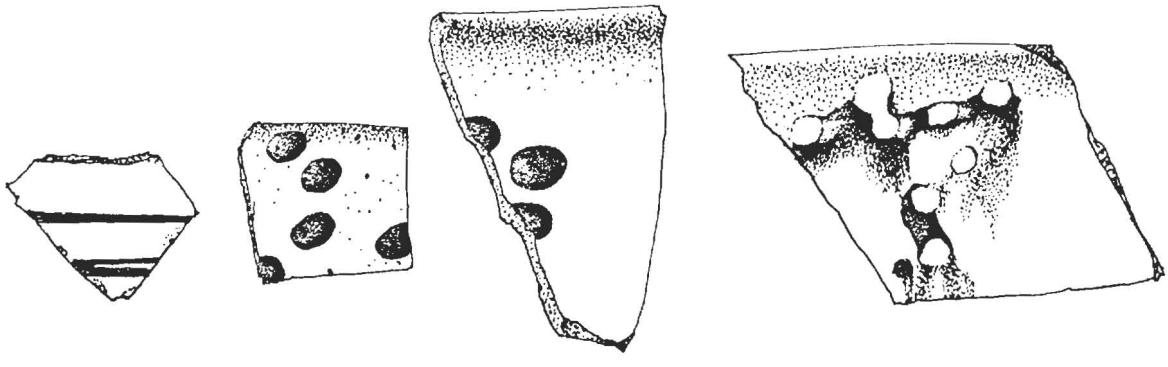


Fig. 4-16. Buff-bodied earthenware with yellow glaze interior and exterior and trailed and dotted slip decoration, probably British, late 17th or early 18th century. Left to right:
from 1E2G, undated; from 1E2G, undated; from 1E8B1, undated; from feature 2, c. 1760.

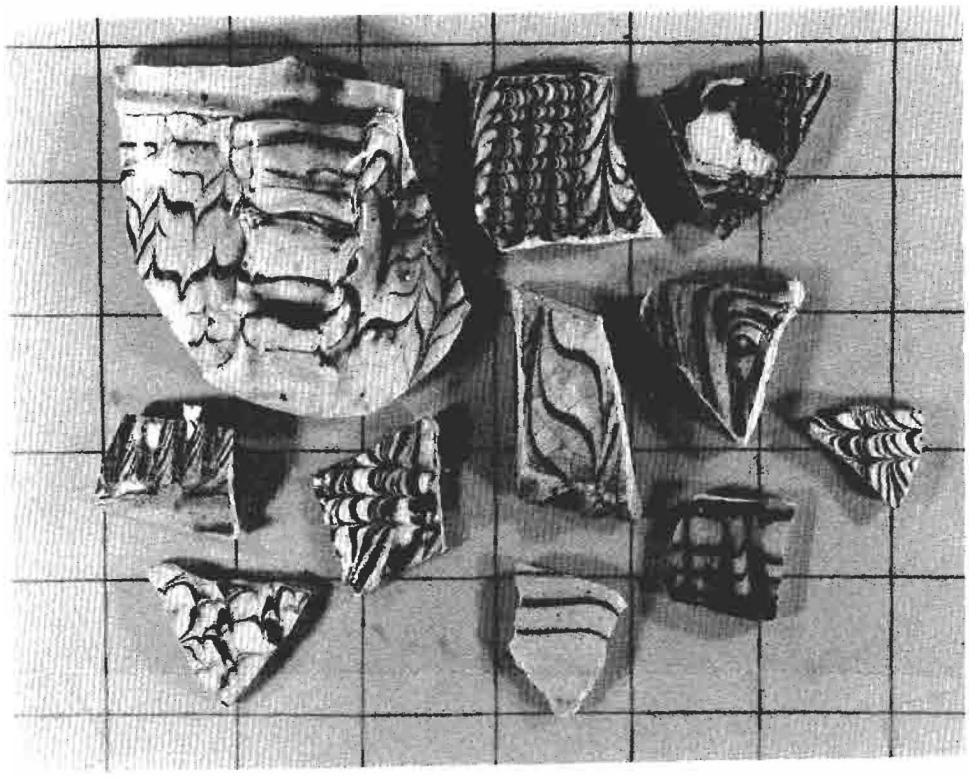


Fig. 4-17. Buff-bodied earthenware, combed slip decoration, British, c. 1675-1775, all from undated sheet refuse or lean-to contexts except large hollow form vessel sherd at upper left (from feature 5, c. 1730-40) and sherd at bottom, center (from feature 3, c. 1760).
(Each square of grid equals one square inch.)



Fig. 4-18. Mug, buff-bodied earthenware with trailed brown slip, probably British, from feature 21, c. 1790.

Tin-Glazed Earthenwares, British

Earthenwares with lead glaze to which tin oxide has been added to produce a thick, opaque white glaze were produced in most countries of western Europe during the 17th and 18th centuries. The blossoming of the manufacture of this ware in England after the mid-17th century is said by Noel Hume (1969a: 105) to have been the major ceramic development of the century in that country. The important position of this ware in both French and English ceramic production of the 18th century can be seen in the artifact assemblage recovered from Fort Michilimackinac, which sustained successive French and British occupations from c. 1715 to 1781. Tin-glazed earthenwares formed the largest category among the ceramics recovered, representing 29 percent of that assemblage (Miller and Stone 1970: 26).

On the Narbonne site, however, tin-glazed wares represented only about 3 percent (1,342 sherds) of the ceramics among the combined ceramics from the sheet refuse and analyzed trash deposits. The comparatively weak representation of this ware at the Narbonne site probably reflects the presence in New England, and in Essex County itself, of an active earthenware industry that produced many of the same forms one expects to find in imported tin-glazed ware.

Further work in formal and stylistic analysis remains to be completed on this ware from the Narbonne site, and without that work the relative proportion of English delftware to French faience and tin-glazed wares from other sources can only be estimated. However, as Noel Hume (1969a: 140-41) points out, British trade restrictions enacted in the late 17th century effectively blocked the importation to the American colonies of most European ceramics until the time of the Revolutionary War. It seems clear that most of the tin-glazed earthenwares on the Narbonne site can be classified as British delftware. However, some fragments were recovered that can be positively identified as French faience, and are discussed below.

Among the varieties of delftware found on the site are sherds representing pedestal-footed ointment pots with a date range of c. 1730-1830 (South 1972: Fig. 1, type no. 32); evert rim, plain ointment pots, c. 1700-1800 (type no. 45); a wide variety of "decorated" delft, c. 1600-1802 (type no. 49); mimosa pattern delft, c. 1710-40 (type no. 60); "blue dash chargers," c. 1620-1720 (type no. 62); cylindrical ointment pots, c. 1630-1700 (type no. 64); and plain white delft, c. 1640-1800 (type no. 65).

In terms of decoration, the overwhelming majority of the delftware found was painted with blue over the white slip before firing. A few polychromed sherds painted in blue, purple, green, yellow, and brick red were also found, usually in floral motifs (see Fig. 4-23, center). Another decorative technique occasionally seen on delftware from the site was produced by sifting blue or purple pigments (ubergene) over the white slip, to achieve a fine speckling of blue or purple on the vessel (Miller and Stone 1970: 40-42). A sherd from a hollow form vessel from the site displays this powdered purple on the exterior and a polychromatic floral motif on the interior.

The most prevalent form among the Narbonne delftware is the plate. Bowls, mugs, teacups, and drugpots are also present, but no fragments of bottles, jugs, or chamber pots are apparent, despite the contention by Garner and Archer (1972: 23) that "the most common of all forms of English delftware are plates, dishes, bowls, bottles, jugs, and mugs, in the order given."

Among the delftware plates (Figs. 4-19, 4-20, 4-21, 4-22), three trends are apparent: wide stylistic variety in decoration, the presence of duplicate pieces with very similar decoration, and the lack of evidence of wear. As Miller and Stone (1970: 30) point out, the diversity of decoration, which was also seen among the Michilimackinac tin-glazed earthenwares, " . . . suggests a continuing pattern of importation of these wares in small amounts." The presence of multiple pieces with the same decoration indicates the possession of matched pairs or larger sets of delftware vessels. The central plate in Fig. 4-19, for example, recovered from a c. 1790 trash deposit (feature 22), matches fragments from one or more similar plates. Figure 4-20 illustrates additional fragments from the plates seen in Fig. 4-19 or from matching plates, and also shows in greater detail the decorative motifs employed on the Fig. 4-19 plates. The conspicuous lack of wear on the tin glaze of the plates, a glaze not noted for its durability, suggests the delftware plates served a decorative function in the home, rather than a utilitarian one within the food system.

The decoration on a few of the delftware plates can be tentatively linked to more specific sources and dates of manufacture than "Britain" and "c. 1600-1802." The decoration on the plate on the far right in Fig. 4-19, recovered from a c. 1770 trash deposit (feature 26), is quite similar to a plate identified with potters in the London area about 1720-30 (Garner and Archer 1972: Plate 67B). The fragment to the right in Fig. 4-21 resembles in the arrangement and execution of its decoration another London area plate dated to 1748 (Garner and Archer 1972: Plate 71A). A buff-bodied sherd found in the sheet refuse illustrated in Fig. 4-22 (bottom row, second from right) is decorated with a single ' 'ue band near the rim, as is a plate excavated at Fort Michilimackin which is identified as French faience of the 18th century (Miller and Stone 1970: Fig. 11c).

Fragments of delftware cups and mugs showed more evidence of wear than the plates--especially chipping of the glaze around the rims. Noel Hume (1969a: 111) notes that for this very reason cups and mugs in this ware lost popularity and are seldom found in use after the mid-18th century. Larger pieces, such as bowls, were said to have worn better and been used longer, and reconstructable delftware bowls were found in c. 1790 and c. 1805 trash deposits (Fig. 4-23, right and left, respectively). Bowl fragments were found in less quantity than plate sherds, but display nearly as varied decoration (Fig. 4-24).

Rouen Brown and White Faience

A particularly distinctive and noteworthy tin-glazed earthenware represented by several sherds found at the Narbonne site is Rouen brown and white faience (South 1972: Fig. 1, type no. 21). The sherds bear a white tin glaze on their interior surfaces and a brown lead glaze on their

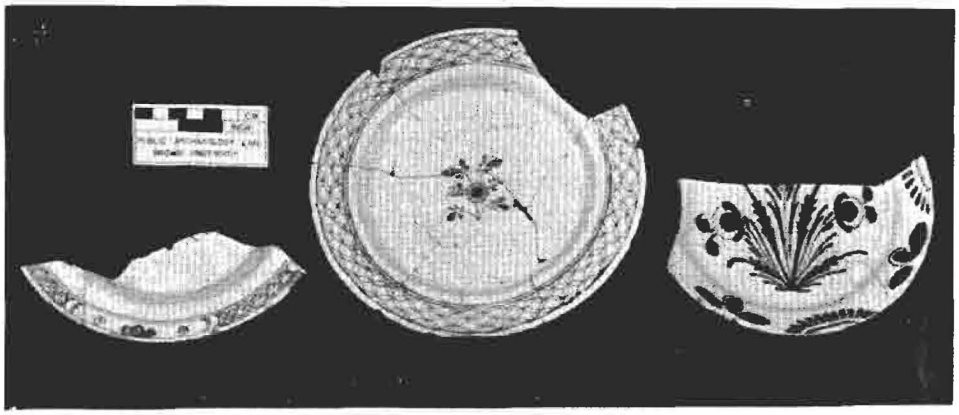


Fig. 4-19. Plates, delftware, British, 18th century, all blue on white. Left to right:
from feature 21, c. 1790; from feature 22, c. 1790; from feature 26, c. 1770.

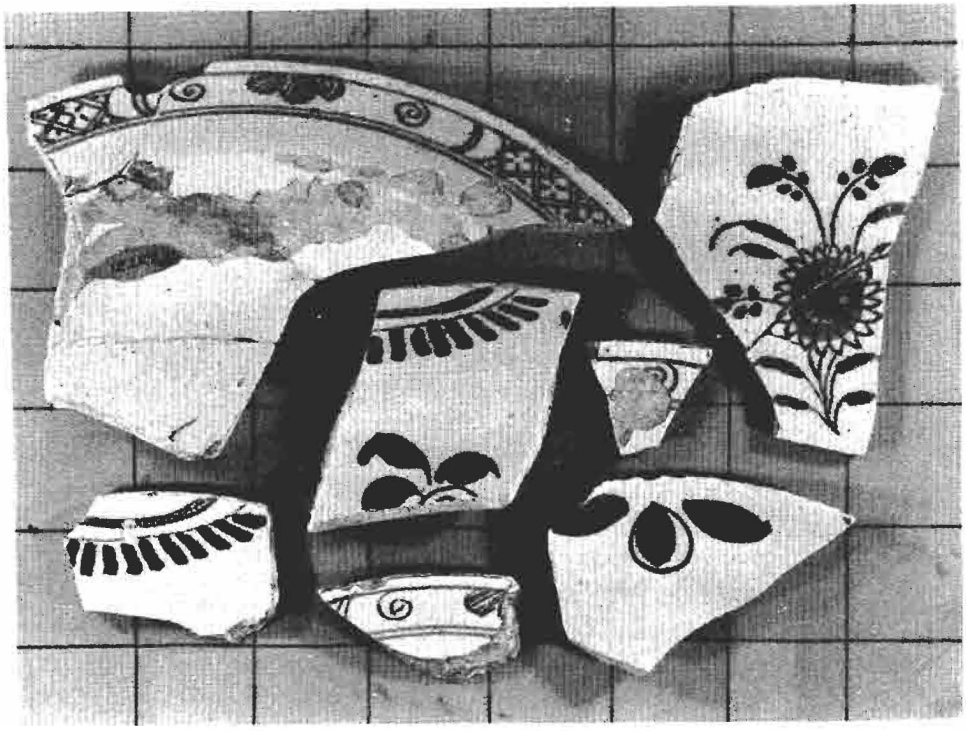


Fig. 4-20. Plate sherds, delftware, British, 18th century, all blue on white. Left to right, three horizontal rows:
Top row--from feature 11, c. 1790; from 1E2K2, undated;
Middle row--from feature 26, c. 1770; from 1E2G2, undated;
Bottom row--from feature 26, c. 1770; from 1EG2, undated; from feature 25, c. 1770.



Fig. 4-21. Plates, delftware, British, 18th century, both blue on white.
Left: from feature 14, c. 1805;
Right: from feature 25, c. 1770.

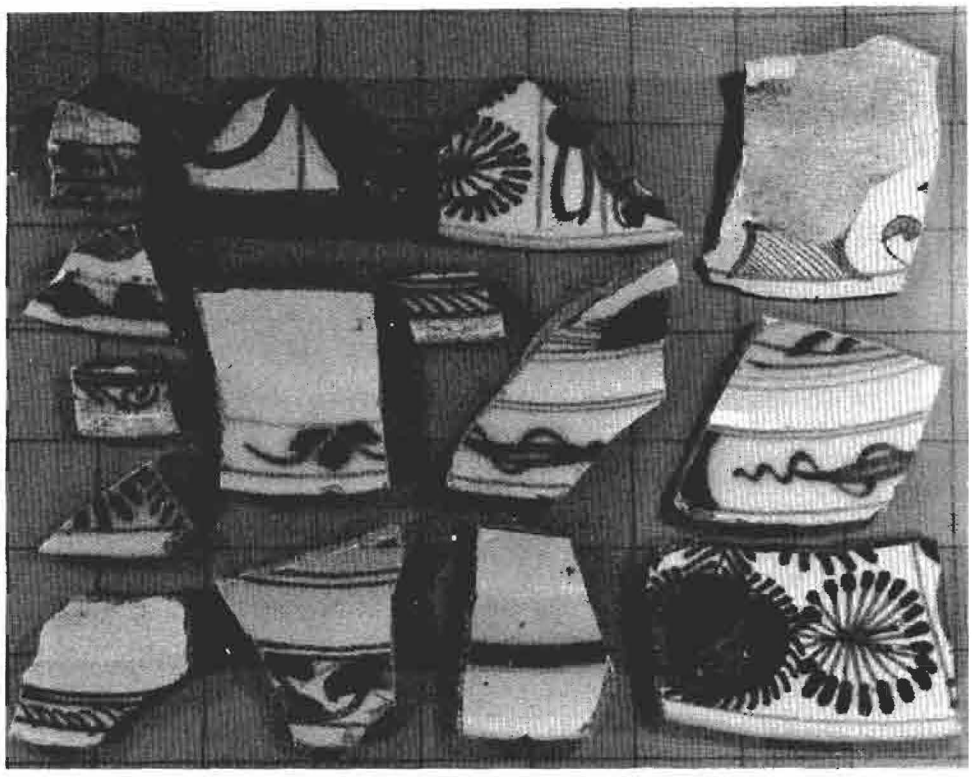


Fig. 4-22. Plate sherds, delftware, mostly British, 18th century, all blue on white.
Top to bottom, four vertical rows:
Left row--from 1E2D2, undated context; from 1E2C2, undated context; from 1E2D2, undated; from 1E8A1, undated; from feature 11, c. 1790.
Second-from-left row--from 1E4A2, undated; from feature 26, c. 1770; from 1E8B2, undated.
Second-from-right row--from 1E4A2, from 1E2D2, from 1E3D31, from 1E9P2 (French?)--all undated.
Right row--from 1E9P2, from 1E3D1, from 1E8B2--all undated contexts.

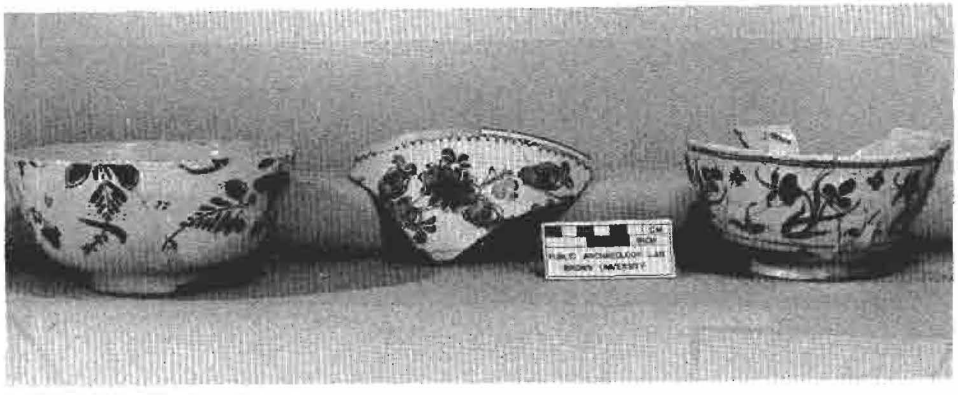


Fig. 4-23. Bowls, delftware, probably British, 18th century.
Left to right:
from feature 14, c. 1805, blue on white; from 1E8B1 and 1E8C2, undated, blue, purple, green, yellow, and red on white; from feature 8, c. 1790, blue on white.

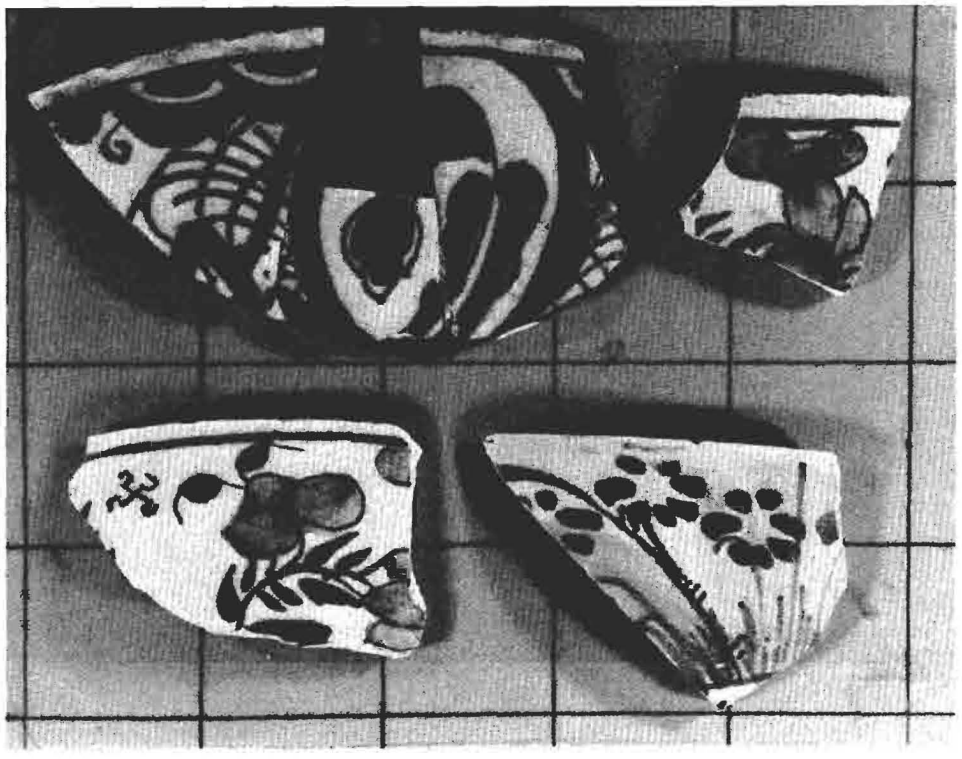


Fig. 4-24. Bowl sherds, delftware, probably British, 18th century, all blue on white. Left to right:
Top row--from 1E8A1 and 1E8B1, undated context; from 1E2E2, undated;
Bottom row--from 1E2C2, undated; from 1E9Q2, undated.

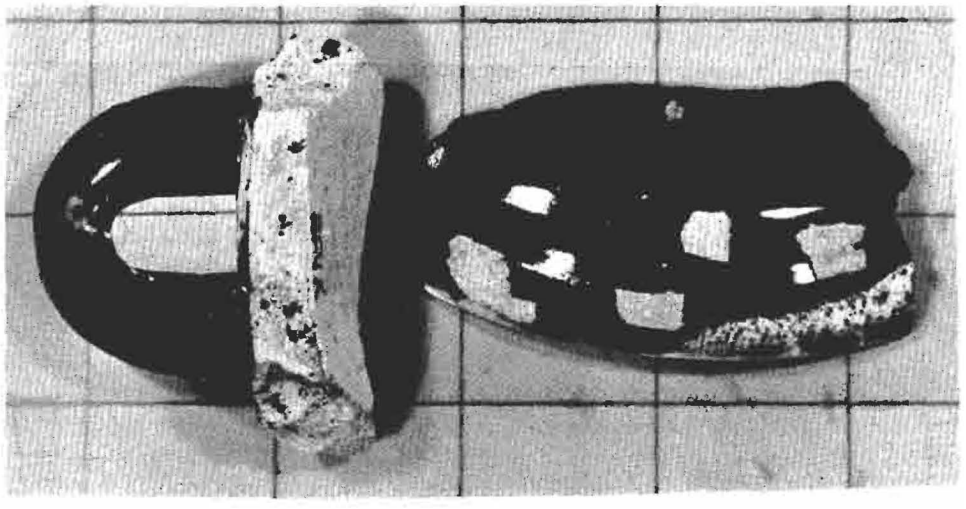


Fig. 4-25. Sherds, Rouen-type brown and white tin-glazed earthenware, French, 18th century.
Left: from feature 14, c. 1805; right: from 1E2C2, undated.

exteriors. Similar sherds found at Fort Michilimackinac in contexts that included the British period of occupation (1761-80) raise questions about the extent of French/Anglo-American trade in the period when British law still banned the importation of such wares (Miller and Stone 1970: 38-40). Noel Hume (1960) suggests that such faience probably did not enter Anglo-American colonial sites until the Revolutionary War period, when freedom from British trade restrictions and the lack of an accustomed supply of British ceramics may have lead to the importation of French wares. But the examples from the Michigan fort suggest some trade in faience in Anglo-American/French-Canadian contact areas before and after the French and Indian War.

The Narbonne sherds include the remains of several vessels, including a hollow form vessel with a loop handle and a tea saucer (Fig. 4-25), a form less strictly utilitarian than the bowls, pipkins, and large plates recovered at Fort Michilimackinac. A Rouen faience bowl found in Stoneham, Massachusetts has similar handles to the Narbonne sherd (Noel Hume 1960). Some of the faience sherds were recovered from late 18th or early 19th century contexts, others from the undatable sheet refuse, so it cannot be established whether any were on the site before 1775. Salem was a busy port and routinely sent vessels north to fish the banks off the French Canadian provinces and perhaps to conduct some illicit trading there. What is not clear is whether the Narbonne faience bears out Noel Hume's theory, or illustrates how a maritime community shares some of the characteristics of a contact site located directly on the boundary between French and British areas.

Jackfield Ware

English ceramics underwent rapid development in the 18th century, and among the many new types of wares produced was a thinly turned ware with a fine grained, purple, grey, or occasionally red body coated with a glossy black glaze. Commonly referred to as "Jackfield ware," this type was produced in quantity from c. 1745 to 1790, and is common on American sites in c. 1760-70 contexts (Noel Hume 1969a: 123).

A total of 195 sherds of Jackfield ware were found among the sheet refuse on the Narbonne site (about .5 percent) and 111 sherds in the analyzed trash deposits (about .7 percent). Forms represented were confined to teapots (Fig. 4-26) and a few bowls. The bowls had a rim diameter of approximately 6". A few of the sherds were found in mid-19th century contexts (including a teapot lid in the c. 1870 well fill) but most were discarded in late 18th or early 19th century trash deposits.

One of the Jackfield ware bowls was particularly notable in that it seemed to bear evidence of repair. A hole in the bottom of the vessel had been plugged with molten lead. Repairs were also found on Fort Michilimackinac ceramics (Miller and Stone 1970: 39, 40), but Salem's position as a major trading center and the quantity of ceramics at the Narbonne site rule against application of the explanation offered for the Fort's examples--that scarcity of ceramics caused by geographic isolation necessitated such repairs.



Fig. 4-26. Teapots, Jackfield ware, British, c. 1745-90. Left to right:
Top row--lid from feature 14, c. 1805, pot from feature 22, c. 1790; from feature 18, c. 1850.
Bottom row--from feature 8, c. 1790; from feature 14, c. 1805.

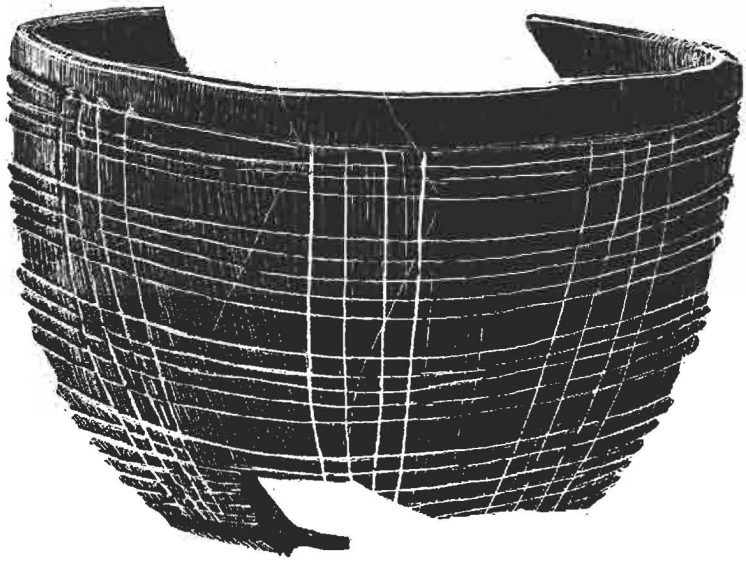


Fig. 4-27. Cup, Astbury ware, British, c. 1725-50, from feature 14, c. 1805. (Drawn at full scale.)

Astbury Ware

Another fine grained, thin bodied earthenware of 18th century Britain was a red-bodied, clear lead-glazed ware called "Astbury ware" after one of its producers. This ware was manufactured in the second quarter of the 18th century (Noel Hume 1969a: 122, 123). The few sherds found on the site were in a c. 1805 context and represent two small, handleless teacups. One of the teacups is illustrated in Fig. 4-27.

Whieldon-Type Wares

As the growth of the delftware industry was the major ceramic development in 17th century Britain, the gradual perfection of a thin, relatively hard, cream-bodied earthenware with a dipped, clear lead glaze was the most important development of the 18th century (Noel Hume 1969a: 123). The first efforts, dated to about 1750, produced cream-bodied earthenwares with various mottled glazes of purple, blue, brown, green, yellow, and assorted combinations of those colors. These types have been grouped under the name "Whieldon ware," referring to one of the ware's major producers. A total of 207 sherds of this ware were recovered from the sheet refuse, and 271 from the combined sheet refuse and trash deposits, representing less than .5 percent of the ceramics from these sources. Most of the sherds are from plates, although at least one saucer or small bowl was also found.

As initially developed, the clay for this ware yielded cream-bodied earthenware when fired to a certain temperature, or stoneware suitable for salt glazing when fired at a higher temperature. As a result, identically molded plates of Whieldon ware and saltglazed stoneware are often found. Figure 4-28 illustrates very similar moldings on rim sherds of Whieldon ware (left) and saltglazed stoneware (middle), along with a sherd of an earlier gray stoneware molded in a related pattern (right).

Creamware

Although the gaudy Whieldon-type ceramics provided the breakthrough for a ceramic industry based on stonewares and tin-glazed wares, the plainer creamware virtually drove all else from the marketplace after mid-century. Around 1760 a clear yellow, dipped glaze was perfected for the cream-bodied earthenwares developed in the previous decade. An advertisement of 1763 in the Boston Gazette for "Crates of yellow Liverpool Ware" probably refers to this new ware (Dow 1967: 92), but as Miller and Stone (1970: 42-44) point out, creamware does not seem to appear in much quantity in Anglo-American contexts before about 1770. After that date, it replaced delftware and white saltglazed stoneware as the staple in the British ceramic trade.

Creamware constitutes the second largest type of ceramic found on the Narbonne site, exceeded only by redware. A total of 8,544 sherds of creamware were found in the sheet refuse--20.5 percent of the total ceramics from that source. Together with 2,935 sherds in the analyzed trash pits, this represents 19.5 percent of the ceramics on the site. A similar proportion of creamware was recovered at Fort Michilimackinac--about 22.5 percent of the ceramic artifacts from the site.

The earliest date for the introduction of creamware on the Narbonne site, and its initial pattern of use is difficult to determine. It is

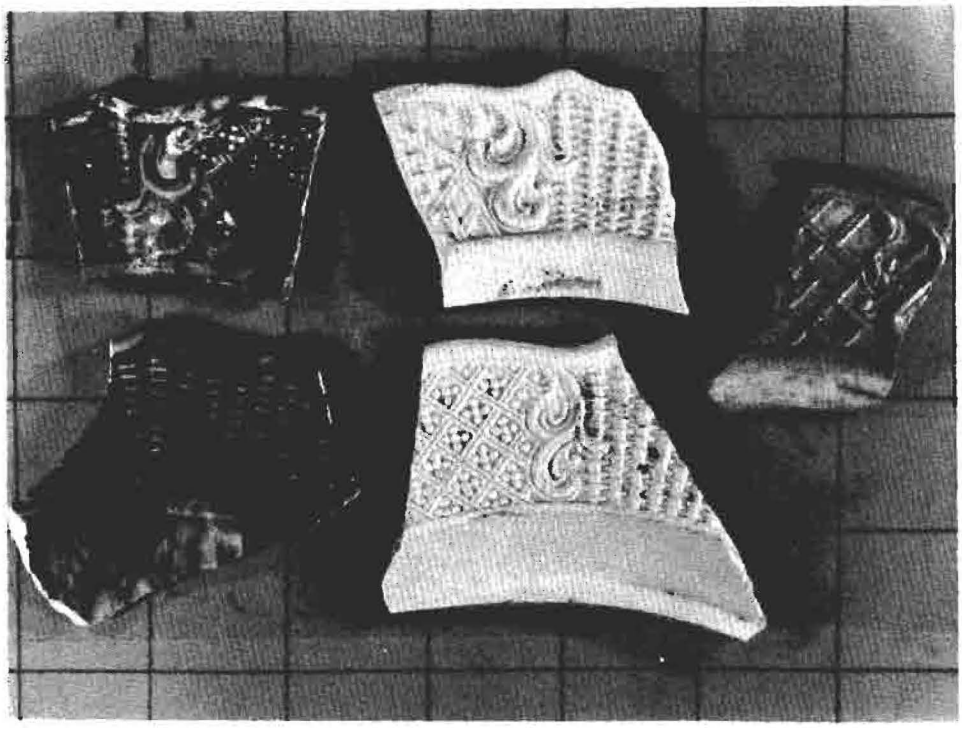


Fig. 4-28. Plate sherds, molded, British, various wares.
Left: Wheildon-type, c. 1750-70; top, from feature 22, c. 1790; bottom, from feature 8, c. 1790.
Center: Saltglazed stoneware, c. 1740-70; top, from feature 22, c. 1790; bottom, from feature 8, c. 1790.
Right: gray-bodied, saltglazed stoneware, c. 1740-50, from 1E3K31, undated context.

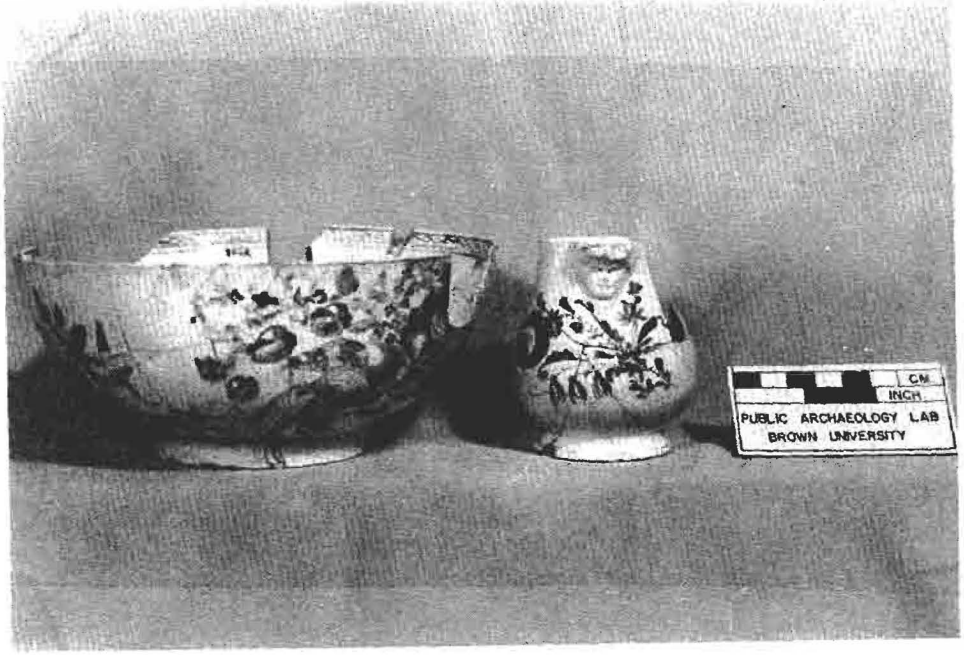


Fig. 4-29. Bowl and creamer, creamware with red overglaze painted decoration, British, c. 1760-1820, both from feature 14, c. 1805.

probable that whoever occupied the house before the Andrews family bought it in 1780 would have used creamware. However, the earliest trash deposits in which the ware appears, features 25 and 26 both dating to c. 1770, contain only a very few fragments amid quantities of redware and delftware. The bulk of the earliest creamware discarded on the site is probably among the thousands of sherds in the sheet refuse.

It is in the large trash deposits of c. 1790-1810 that one encounters the quantity and quality of the Narbonne creamware. The forms represented include the vessels of the tea or coffee service, plates, platters, bowls, pitchers, and other tablewares, and chamber pots. As at Fort Michilimackinac, vessels for food storage or preparation are not apparent in this ware. All of the types of creamware enumerated by South (1972: Fig. 1) were represented, with the exception of "Littler's blue" and perhaps the "annular wares" which are more heavily represented in pearlware. The decorative techniques represented include a few examples of over-glaze painting and of transfer printing, and a wide variety of molded designs, ranging from simple rim decorations on plates and cups to elaborate foliated patterns and plaited handles.

Painted creamwares from the site include a small creamer and a bowl recovered from feature 14, c. 1805 (Fig. 4-29). The mask-headed creamer combines fairly simple floral motifs in red enamel with a molded spout in the form of a face. The bowl employs rose, red, green, and black enamel in a floral design very similar to the decoration on Chinese famille rose porcelains (Phillips 1956: Plate 77).

As Deetz (1977: 146) points out, hand-painted creamware is not usually found on sites occupied by people of average means. The creamware vessels that even more clearly illustrate that the Andrews possessed outstanding ceramics are the plaited handle vessels found in three different and distinct trash deposits of the c. 1790-1805 period (Figs. 4-30, 4-31, 4-32). These vessels, manufactured c. 1765-80, possibly at the ceramics factory at Leeds in Yorkshire, are among the most elaborate creamware forms that were on the market. They indicate not only that the Andrews had the means to own fine, stylish creamics, but also had the desire to possess sets of very similarly decorated pieces.

The smaller of the two plaited handle coffeepots (Fig. 4-30, right) was recovered from a c. 1790 context, while its lid was found in several pieces widely separated in the sheet refuse. The chamber pot, as finely decorated as the ostensibly more public coffeepots, was found in another trash deposit of similar date. The second coffeepot was discarded a few years later, in about 1805, and when found retained an adhesive at the base of the spout from an early repair attempt. The c. 1805 trash deposit also yielded a creamware teacup with molded body and plaited handle, while in a disturbed context fragments of a simpler, but very thinly potted teacup was found (Fig. 4-32). The latter cup is very similar to one found at Fort Michilimackinac (Miller and Stone 1970: Fig. 20e), and the simple beading below the cup's rim resembles that on one of the coffeepots (Figs. 4-30 and 4-31, left).

Among the much more numerous plainer vessels, pitchers, a teapot, (Fig. 4-33), mugs, a gravy boat (Fig. 4-34), and many dishes, plates,



Fig. 4-30. Coffeepots and chamber pot, creamware, British, Leeds type, c. 1770. Left to right:
from feature 14, c. 1805; from feature 21, c. 1790; lid from 1E9M2 and 1E2P2, both undated contexts, pot from feature 8, c. 1790.



Fig. 4-31. Coffeepot and chamber pot, creamware, British, Leeds type, c. 1770. Illustrated left and center, Fig. 4-30.

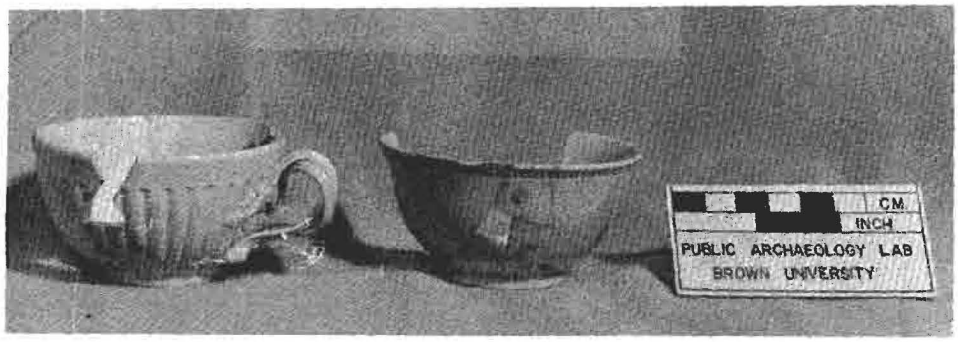


Fig. 4-32. Teacups, creamware, British, Leeds type, c. 1770.
Left to right:
from feature 14, c. 1805; from 1E8B2, undated context.



Fig. 4-33. Pitchers and teapot, creamware, British, c. 1760-1820.
Left to right:
from feature 14, c. 1805; from feature 8, c. 1790; from feature 14, c. 1805.

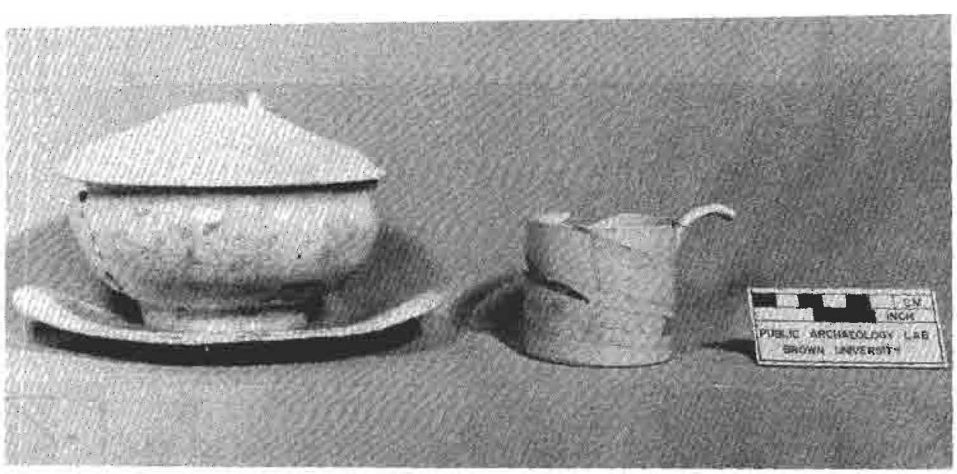


Fig. 4-34. Gravy boat and mug, creamware, British, c. 1760-1820.
Left to right:
from feature 18, c. 1850; from feature 21, c. 1790.

and platters were found. Both the supposedly earlier "deep yellow" and later "light yellow" hues are present, and a full spectrum of molded rim motifs are represented. The gravy boat (Fig. 4-34) is indicative of the persistence of use of this ware on the site, as all of its fragments were recovered from a trash pit deposited c. 1850 (feature 18).

In addition to the finely decorated creamware chamber pot, a few plainer pots in this ware were also found in late 18th century trash deposits that contained far more numerous redware chamber pots. Figure 4-35 illustrates two rim forms found on creamware chamber pots from contexts dated to c. 1790.

Pearlware

A driving force in 18th century British ceramic development seems to have been the desire to replicate qualities of Chinese porcelain as closely as possible. In the 1770s Josiah Wedgewood, one of the developers of creamware and other innovations, perfected an earthenware with a body somewhat whiter than creamware and a glaze that was particularly suitable for hand painting or transfer painting in imitation of Chinese designs. Marketed by about 1780, pearlware competed with, and eventually replaced, creamware as the major British ceramic export after the turn of the century.

On the Narbonne site, pearlware first appears in dated contexts in the same c. 1790 trash deposits that contain the earliest large quantities of creamware. A total of 5,362 sherds of pearlware in the sheet refuse (12.8 percent) and 3,537 more in the analyzed trash deposits (20.7 percent) make pearlware the third most common ceramic type on the site as a whole, and the second ranking type (ahead of creamware) in the trash deposits. In fact the introduction of pearlware coincides with the period of most intensive use of discrete trash deposits on the site.

Pearlware vessel forms from the site include most dinner and tea service forms, chamber pots, and the base of a hand-painted figurine, one of the new non-utilitarian ceramic forms found. All of South's (1972: Fig. 1) pearlware types are represented. Under-glaze, hand-painted, transfer printed, and "annular" decoration are present in considerable quantity and in a wide variety of patterns, but several matching sets, particularly of transfer printed teacups, saucers, and matching pairs of annular ware bowls, are also in evidence.

Among the hand-painted examples, tea service vessels (teapots, cups, saucers, and numerous lids of missing teapots or sugar bowls) and dinner service items (particularly bowls of several sizes, pitchers, and shell-edged plates and platters) were the most common forms. Two general styles of painting were present. One general design utilized stylized flower and fruit motifs, often in several colors, and having a quality of "folk" or "peasant" decoration. The other utilized motifs imitative of Chinese porcelain and were usually in blue.

The pineapple decorated pitcher, recovered from a c. 1850 context, is an example of the first style of under-glaze hand-painted decoration (Fig. 4-36). Fragments of a nearly identical pitcher were found in a c. 1790 context (feature 21). A matching teacup and saucer from the same

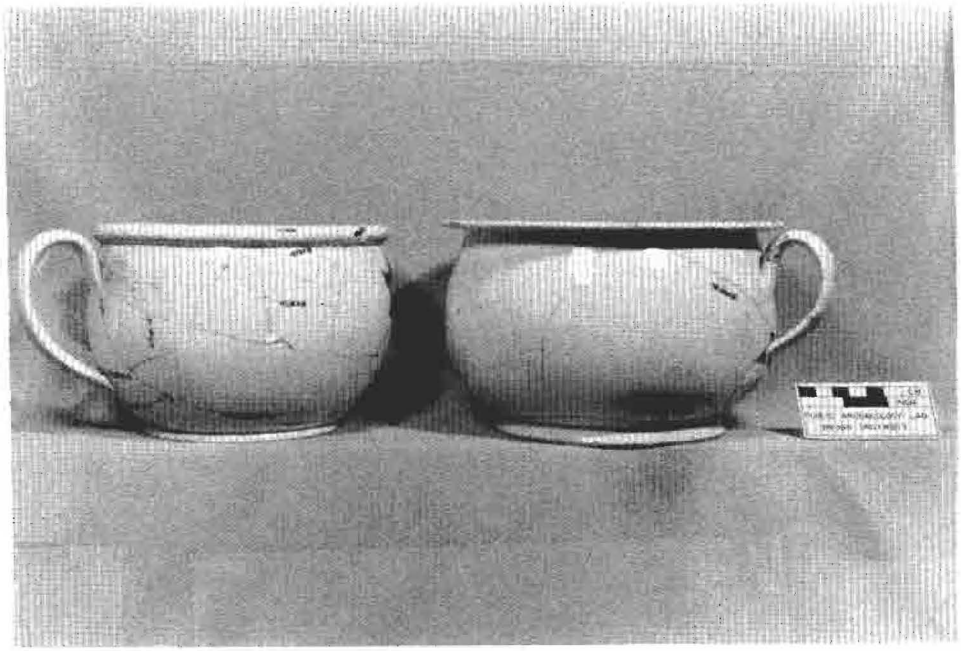


Fig. 4-35. Chamber pots, creamware, British, c. 1760-1820.
Left to right:
from feature 8, c. 1790; from feature 22, c. 1790.



Fig. 4-36. Pitcher, pearlware with hand-painted underglaze decoration, British, c. 1780-1830, from feature 14, c. 1805.

context as the second pitcher are similar to the pitchers in the style and color of their decoration (Fig. 4-37). Two bowls (Fig. 4-38, left and second from right) follow the "folk" style and have decorations of blue, green, and brick red. Other bowls (Fig. 4-37, right and second from left) are imitative of Chinese porcelain in their motif and the blue color of their painting.

Transfer printed designs on pearlware also display Chinese and pseudo-Chinese motifs and scenes, as well as geometric and floral motifs and realistic and fantastic European scenes. A small bowl with a remarkably translucent glaze was found in a c. 1805 trash deposit (Fig. 4-39, center). It is transfer printed and has a chinoiserie motif in dark blue. A small platter (Fig. 4-39, right) discarded in the well c. 1870 is decorated with an exotic scene with minarets printed in brown; while a blue printed plate from a c. 1850 trash pit combines a flowered rim with a fantastic scene which includes a zebra and a pagoda (Fig. 4-39, left). A mug with a black transfer printed design and from a c. 1850 context commemorates the birth of Queen Victoria (Fig. 4-40). Among the many other transfer printed pearlware vessels were at least three sets of matching teacups and saucers.

A form of decorated pearlware known as "annular ware," referring to the rings or bands typically found on these vessels, was also frequently encountered on the site, particularly in late 18th and early 19th century contexts. A total of 111 sherds of annular ware were found in the sheet refuse and 197 in the analyzed trash deposits. These counts are included in the pearlware totals already discussed. Bowls are the form most often seen, although mugs and a fragment of a small creamer were also found on the site.

These wares were often decorated with bands and dashes, usually cut through a dark slip while the vessel was turned by machine. Within the bands various marbling (Fig. 4-41, left), mottling (Fig. 4-41, second from right), and speckling effects (Fig. 4-41, right) were also employed. Also a fronded motif called "mocha" decoration (Figs. 4-41 and 4-42, second from left) was achieved with a mixture of tobacco juice and urine (Noel Hume 1969a: 131). Two annular ware bowls bore unusual sprig-molded motifs in the form of stylized flowers (Fig. 4-41, second from right). Most of the reconstructed annular ware bowls are closely matched in decoration by at least one other bowl, suggesting that these bowls were bought in pairs.

Rockingham Ware

Several teapots found in mid-19th century contexts on the site display the type of buff-bodied earthenware, glossy brown exterior glaze, and clear yellow (probably lead) interior glaze that characterizes Rockingham ware. Rockingham ware was developed in England but produced in quantity by a number of American factories, c. 1840-60. A total of 38 sherds of this ware were found among the sheet refuse and another 270 in the analyzed trash deposits. This represents about 1.6 percent of the ceramics in these deposits.

All of the Rockingham ware sherds on the site appear to have come from teapots, even though other vessel forms are known to have been



Fig. 4-37. Teacup and saucer, pearlware with hand-painted underglaze decoration, British, c. 1780-1830, from feature 21, c. 1790.

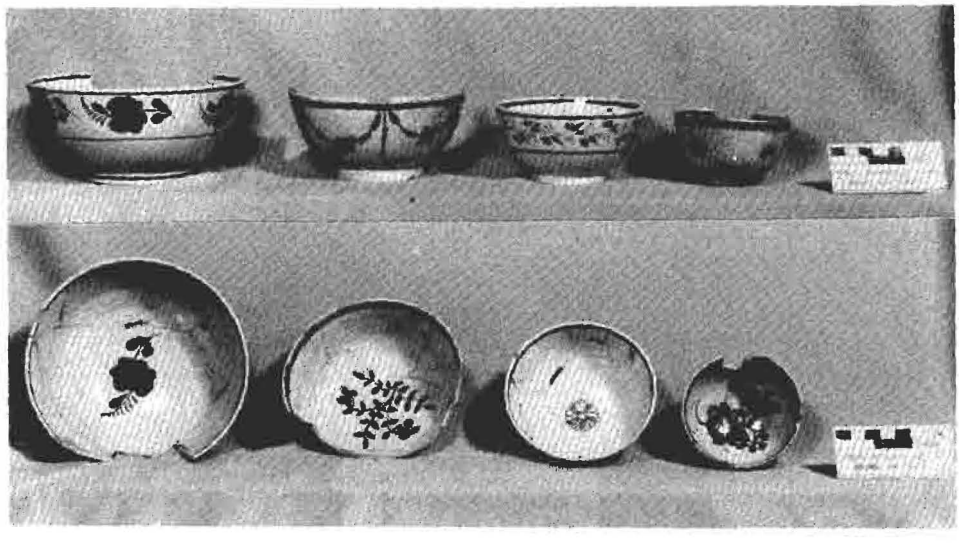


Fig. 4-38. Four bowls or teacups (showing interior and side views of each), pearlware with hand-painted underglaze decoration, British, c. 1780-1830. Left to right: from feature 21, c. 1790, decorated with blue, green, and brick-red; from feature 14, c. 1805, decorated with blue; from feature 14, c. 1805, decorated with blue, brown, brick-red, and green; from feature 14, c. 1805, decorated with blue.



Fig. 4-39. Transfer printed pearlware vessels, British. Plate at left, from feature 18, c. 1850, dark blue decoration, marked ROGERS (John and George Rogers manufactured earthenware at Dale Hall, Burslem, England until 1816); bowl, from feature 14, c. 1805, dark blue decoration; mug, from feature 18, c. 1850, light blue decoration with 1849 registration mark; platter at right, from well, c. 1870, marked R H Co (Ralph Hall and Co. manufactured earthenwares at Swan Bank, Tunstall, Staffordshire, England and used the "R H Co" mark between 1841 and 1849).



Fig. 4-40. Two views of mug, pearlware, British, c. 1819, from feature 18, c. 1850, black transfer print on white.

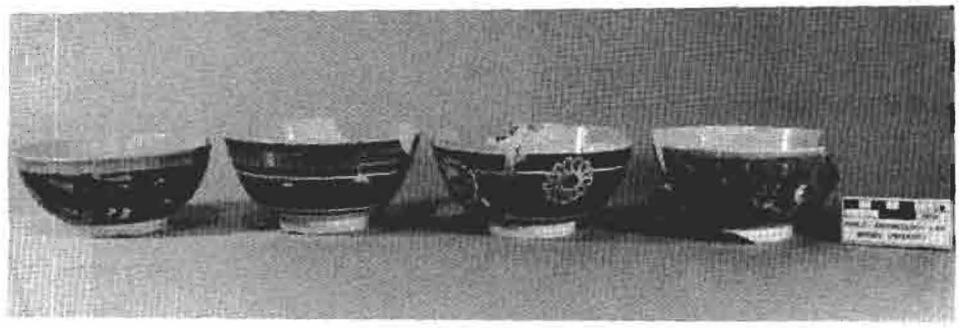


Fig. 4-41. Bowls, pearlware, "annular ware type," British, c. 1795-1815. Left to right:
from feature 14, c. 1805; from feature 14, c. 1805; from feature 14, c. 1805; from feature 14, c. 1805.



Fig. 4-42. Bowls, pearlware, "annular ware type," British, c. 1795-1815. Left to right:
from feature 14, c. 1805; from feature 21, c. 1790; from feature 14, c. 1805; from feature 21, c. 1790.



Fig. 4-43. Teapots, Rockingham ware, probably American, c. 1840-60, both from feature 18, c. 1850.

made of this ware. Two teapots from a c. 1850 context (Fig. 4-43) display the very dark, glossy glaze associated with early examples of this ware (Barret 1958: 18). Three more Rockingham teapots (Fig. 4-44) were reconstructed from the contents of the well (filled c. 1870) and are discussed in Appendix D.

STONEWARE

English White Saltglazed Stoneware

Stoneware stands midway between earthenware and porcelain, with a higher fired, much harder body than the former, but without the translucence or special attributes that characterize porcelain. One of the very qualities that made stoneware generally preferable to earthenware, its impermeability to liquids, provides the easiest field or laboratory test for the ware. The unglazed edge of a stoneware sherd does not stick to the tongue, while earthenware does.

German, English, and eventually American potters produced stoneware within the 17th to 19th century period when most of the artifacts from the Narbonne site were deposited. However, the type of stoneware represented by the greatest number of sherds at the site is the white saltglazed stoneware produced in England between about 1730 and 1770. Produced in a wide variety of forms and in great quantities, this ware was competitive in price to pewter and superior to wood and earthenwares traditionally used in English and Colonial households. The introduction of this ware cut into, but never eliminated the market for delftware, but the spectacular success of creamware largely ended the production of white saltglazed stoneware in about 1770 (Miller and Stone 1970: 68).

At Fort Michilimackinac, English white saltglazed stoneware was a major component of the ceramic artifacts, a total of 17.1 percent of the ceramics found. At the Narbonne site, however, only 352 sherds of this type of ware, including its closely related sub-types such as "scratch blue" were found among the sheet refuse. This represents less than 1 percent of the ceramics. Combined with the 237 sherds found in the analyzed trash deposits, this ware constitutes just about 1 percent of all of the ceramics from these sources. Even if one omits all the wares manufactured after 1780 (pearlware, hard white, etc.) from the ceramic totals to more closely parallel the Fort Michilimackinac occupation period of c. 1715-80, the white saltglazed stonewares do not constitute even 2 percent of the ceramics.

The reasons for the wide divergence in the relative importance of this ware at the two sites are not clear. One possibility is that tenants may have occupied the Narbonne house through most of the period when white saltglazed stoneware was popular, and that such tenants would have lacked the means to purchase much pottery. Despite its relative scarcity on the site, all of the types of white saltglazed stoneware that South (1972: Fig. 1) includes in his typology are represented. The one exception is "Littler's blue" which was produced during the period (c. 1750-75) when it is most likely that renters occupied the Narbonne house.

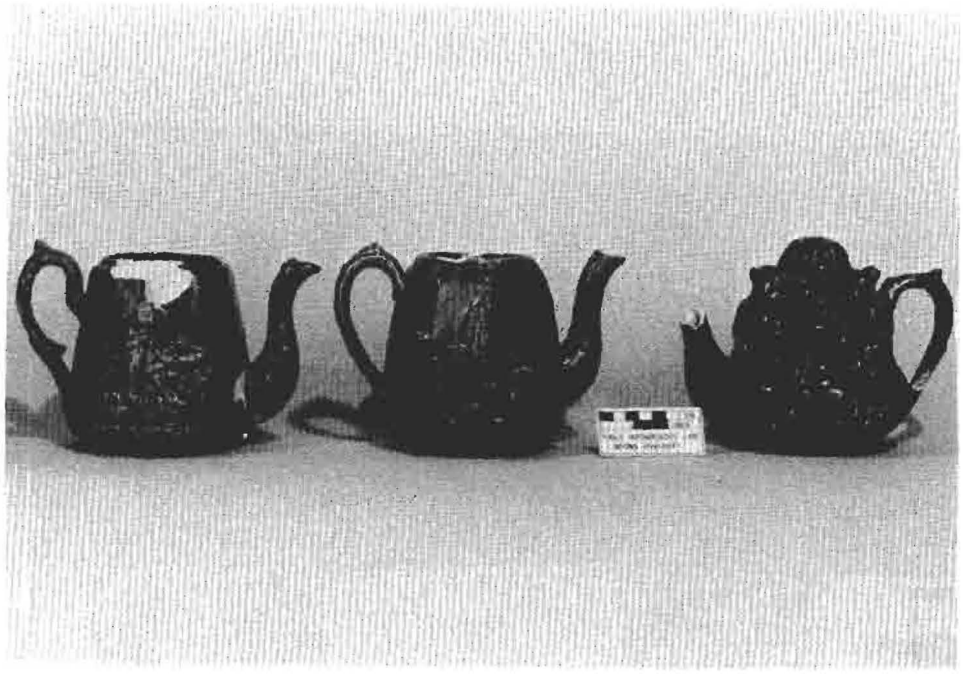


Fig. 4-44. Teapots, Rockingham ware, probably American, c. 1840-60, all from well, c. 1870.



Fig. 4-45. Plate, white saltglazed stoneware, British, c. 1740-70, from feature 14, c. 1805.

Among the forms present are mugs, molded plates in surprisingly small numbers (Fig. 4-45), and cups and saucers in greater quantity. The latter forms were often ornamented with "scratch blue" decoration, which is associated with the c. 1745-75 period of manufacture. Small quantities of the earlier "scratch brown" were also found, along with a very few sherds of transfer printed white saltglazed stoneware of c. 1755-65. The so-called "debased scratch blue" decoration (c. 1765-95) was also represented with fragments from at least two chamber pots.

The most unusual vessel found among the white saltglazed stoneware from the site is a small cup-like sieve or strainer with many holes pierced through its bottom and evidence of a horizontally oriented handle on its side (Fig. 4-46). A somewhat similar vessel in Chinese porcelain is illustrated as part of a "dairy set" in Palmer (1976: Fig. 26), but it seems more likely with the predominance of teacups and saucers among the white saltglazed stoneware on the Narbonne site that this strainer was used with a tea service.

Gray-Bodied Saltglazed Stoneware, English

A very few sherds from various gray-bodied stoneware vessels of types produced in England preceding or concurrent with white saltglazed stoneware were found on the site. Among them were fragments of molded plates (see Fig. 4-28) probably produced between 1735 and 1765. Also there were a few gray-bodied mugs dipped in a white saltglaze slip, with a brown iron oxide slip at the rim. They were produced from c. 1715-75, but were presumably more popular in the first half of the century before true white saltglazed stoneware mugs were widely available. Examples of gray-bodied, clear saltglazed mugs and hollow form vessels with incised decoration (Fig. 4-47) were also found. The latter type is thought to be of British manufacture, and is associated with the second quarter of the 18th century.

English Brown Stoneware

Sherds of brown stoneware mugs and tankards (South 1972: Fig. 1, types no. 52, 53, 54) were found in small number on the site, representing a type made through most of the 18th century (Noel Hume 1969a: 112-4). A few dozen sherds (16 in the sheet refuse, 28 in the analyzed trash deposits) identified as Nottingham-type stoneware were also found. These were fragments of mugs and they could have been produced at almost any time in the 18th century.

Rhenish Stoneware

Rhenish stoneware was imported to England, and thence to America throughout the 17th and 18th centuries. Several distinct types were produced, and Noel Hume (1969a: 276-85) points out some of the complexities involving time and location of manufacture that can be obscured by oversimplification in the discussion of these wares. However, considering the small quantities of Rhenish stoneware found on the Narbonne site and the small size of most of the sherds, the simple categories of "Bellarmine" and "Westerwald" are employed in this report. Bellarmine refers to a mottled brown stoneware which is usually found in the form of jugs or mugs (South 1972: Fig. 1, type no. 66). Westerwald is a gray-bodied stoneware sometimes with molded or incised decoration and cobalt-blue or manganese-purple coloring (South 1972: Fig. 1, types no. 44, 58, 59, 77).



Fig. 4-46. Strainer, (side and bottom views), white saltglazed stoneware, British, c. 1720-70, from 1E2A2 and 1E3K5, undated contexts.

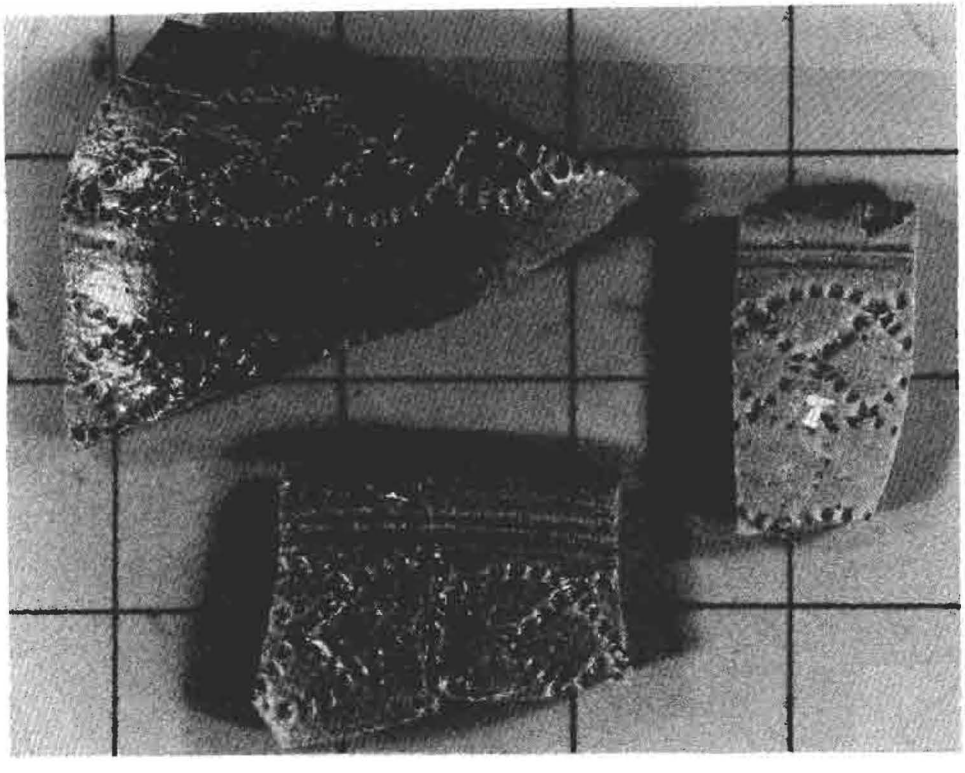


Fig. 4-47. Mug and hollow form vessel sherds, gray saltglazed stoneware with incised decoration, British (?), c. 1700-25 (?).
Left to right:
from 1E2C2, from 1E3K5, from 1E2E2--all undated contexts.

The fragments of these wares found on the site seem to have come from mugs, jugs, and a few chamber pots. Only 18 sherds of Bellarmine vessels were identified in the sheet refuse and another 29 in the analyzed trash deposits. Westerwald was somewhat more heavily represented with 119 sherds in the sheet refuse and 50 more in those trash deposits.

Noel Hume (1969a: 238) suggests that Rhenish stonewares lost favor in the colonies in the 1760s and were not imported after the Revolution. The only reconstructable Rhenish stoneware vessel found on the site was a large Westerwald jug found in a c. 1790 context (Fig. 4-48).

Dry-Bodied Stonewares

Among the rarest and most notable ceramics found on the site were fragments of several unglazed ("dry-bodied"), fine grained stoneware teapots. A total of 100 sherds in red or black were recovered from the sheet refuse and analyzed trash deposits.

All of the red, dry-bodied sherds were reconstructed into a single teapot and its lid (Fig. 4-49). The body fragments were found in a c. 1805 trash deposit, the lid sherds in the sheet refuse. Produced by many English potters through the mid and late 18th century, this ware was referred to by Josiah Wedgwood as rosso antico, and is sometimes called "Elers ware" after another of its makers (Noel Hume 1969a: 120). As is common on teapots in this ware, the cylindrical body and the lid of this piece are decorated with a sprig-molded ornament and the bottom is stamped with a pseudo-Chinese mark (Fig. 4-50). Single teapots of this ware were also found at Fort Michilimackinac and Fortress Louisbourg (Miller and Stone 1970: 79, 81).

The black, dry-bodied sherds represent fragments of at least four teapots (Fig. 4-51). Most of these sherds were found in the same c. 1805 trash deposit as the rosso antico teapot. The largest and most complete of the black teapots (Fig. 4-52) is stamped on the bottom with the name ASTBURY, and probably represents a product of the Staffordshire factory of John Astbury, whose name is more commonly associated with a lead-glazed, fine grained redware (see Fig. 4-27). Josiah Wedgwood was also among the producers of this black ware and he called his version "black Basaltes" (Noel Hume 1969a: 121).

Both of these dry-bodied wares are among the rarer types of wares found on North American sites. "Black Basalt" sherds have recently been found on New England sites associated with maritime networks such as sites at Prudence Island (Yentsch 1976), Martha's Vineyard (Symonds 1977), and Plymouth (Deetz 1975). The presence of these wares has been assumed to mark high social rank, but consideration should also be given to the role of maritime connections in the possession of these wares. The maritime orientation is a common variable for all of the various New England sites on which "black Basalt" sherds have been found.

The greater quantity of these wares on the Narbonne site may relate either to the social position on the occupant of the house at the turn of the 19th century, or to Salem's central position in various maritime trade networks. An advertisement in the Salem Gazette of November 27, 1783 lists "Black and red tea-pots, sugar dishes . . . etc., glazed and



Fig. 4-48. Jug, Westerwald stoneware, Rhenish, c. 1714-70, from feature 22, c. 1790.



Fig. 4-49. Teapot, rosso antico dry-bodied red stoneware, British, c. 1690-1800, pot from feature 14, c. 1805; led from sheet refuse, largely operation 9.

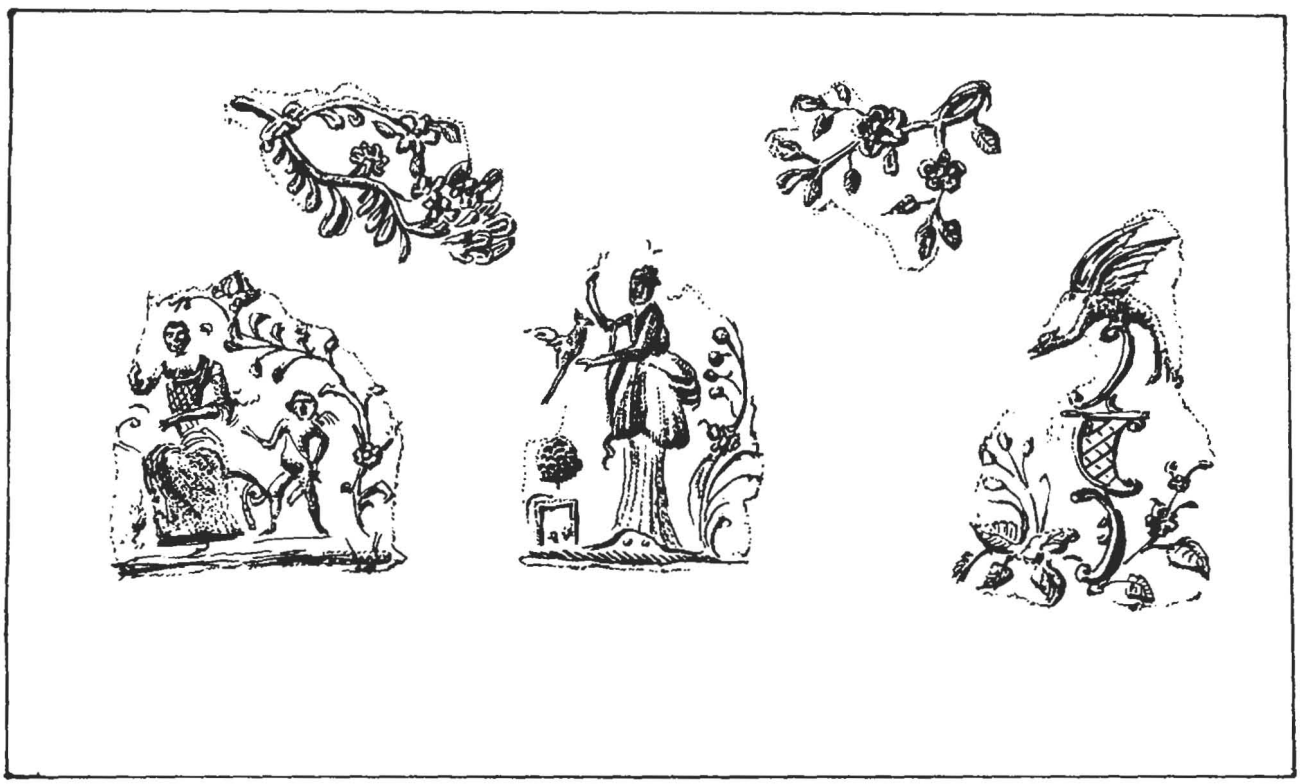


Fig. 4-50. Drawings of sprig-molded designs from rosso antico teapot (Fig. 4-49), drawn at full scale. At right, enlarged drawing of impressed mark from bottom of teapot.

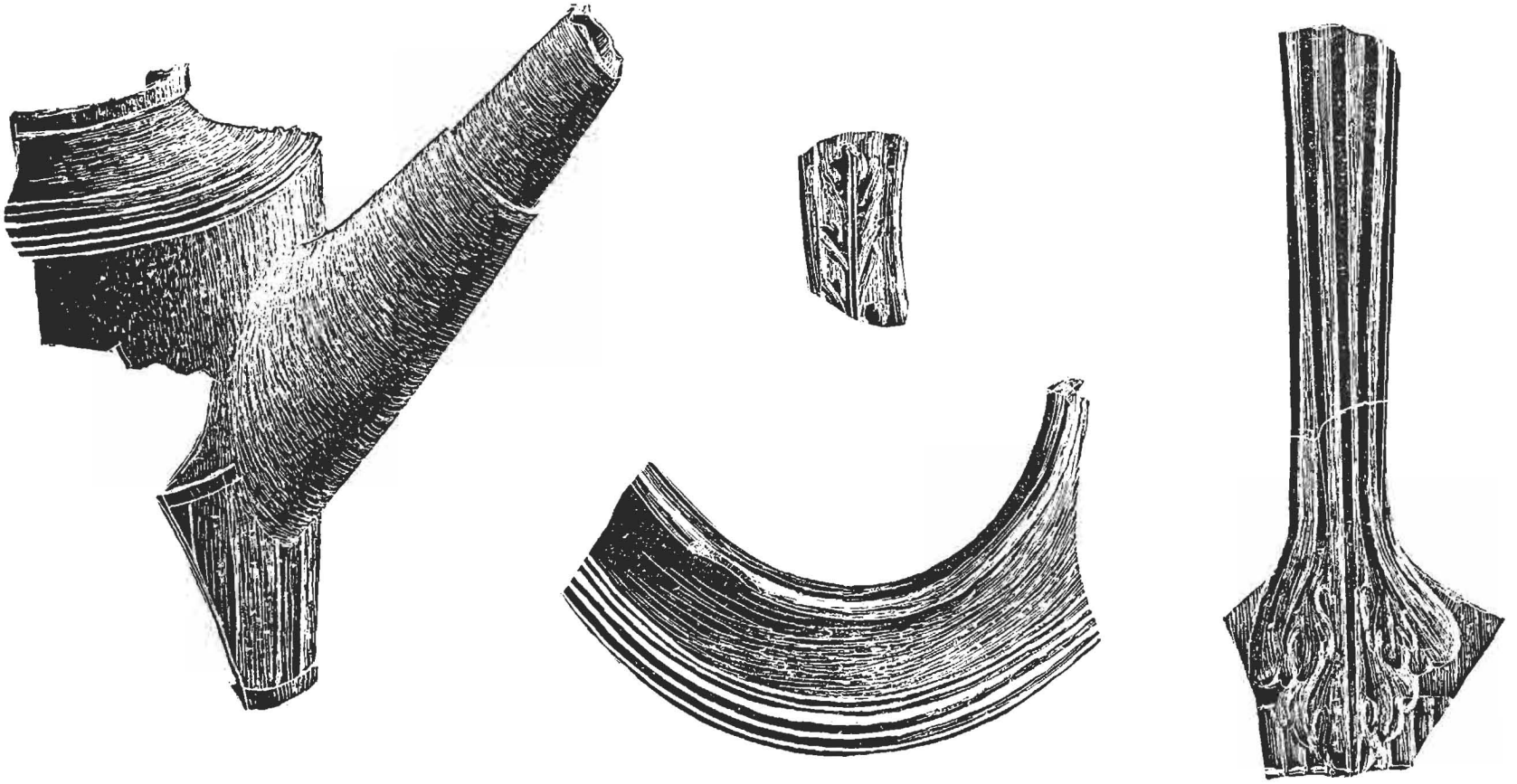


Fig. 4-51. Teapot fragments, "black Basalt" dry-bodied black stoneware, British, c. 1750-1800, drawn in full scale. Left to right: from feature 14, c. 1805 and from 1E9N2, undated context; small handle fragment from 1E9N2, undated; rim sherd from feature 21, c. 1790; large handle fragment from feature 14, c. 1805 and from 1E2G2, undated context.

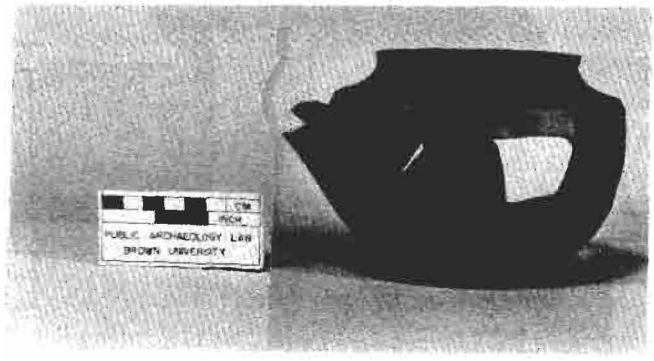


Fig. 4-52. Teapot, "black Basalt" dry-bodied black stoneware, British, c. 1750-1800, from feature 14, c. 1805, with stamped mark on bottom ASTBURY.

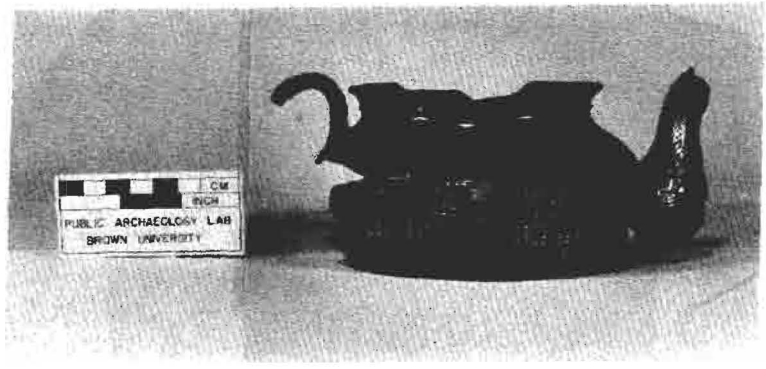


Fig. 4-53. Teapot, "Cyples-ware," British, early 19th century, from feature 12, c. 1800.

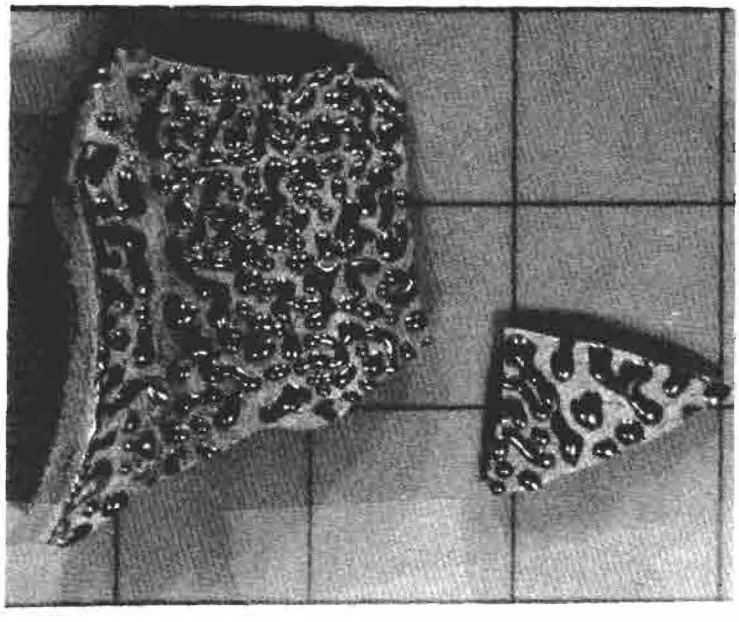


Fig. 4-54. Hollow form vessel sherds, gray-bodied stoneware with gathered brown glaze--"tiger ware"--top, from Central Wharf, Salem; bottom, from 1E3EF1, undetermined date.

unglazed" (Dow 1967). This suggests an availability of these wares. Further excavations and documentary research (particularly in inventories) will be necessary to discern patterns associated with their ownership.

Cyples-Ware

The "glazed black teapots" listed in the 1783 advertisement above may not have been Jackfield ware, but rather a type of later 18th to early 19th century English stoneware represented by a single teapot in feature 12 (Fig. 4-53). This type of molded, glazed black stoneware is known as "Cyples-ware," a reference to one of its producers.

Brown Stoneware with Gathered Glaze

A very uncommon form of thinly potted, light brown bodied stoneware with a gathered, glossy brown glaze is illustrated here in hopes that further information about it will emerge (Fig. 4-54). The small sherd was found in the Narbonne house sheet refuse; the larger rim fragment was found at Central Wharf about two blocks south of the first site.

Solon (1886) refers to a technique used by German potters of firing their stoneware kilns to a high temperature, then allowing it to drop rapidly, producing ". . . the so-called 'tiger' ware upon which the salt glaze appears in brown globules." Whether Solon is referring to more conventional brown German stonewares or to this unusual type is not clear.

Domestic Stoneware

By the late 18th and early 19th centuries, various American potters were successfully producing stoneware. Examples of these wares from the Narbonne site constitute most of the 194 sherds of miscellaneous stoneware inventoried among the sheet refuse in the course of the excavation and the 201 sherds listed in the analyzed trash deposits. Storage crocks and jugs were among the forms represented in the 19th century trash pits.

A thorough analysis of these wares remains to be completed, but two particularly noteworthy vessels should be mentioned. A stoneware jug in the "Turner Hoard" with a stamped inscription BOSTON 1804 provides the terminus post quem for that important trash deposit. Watkins (1950: Figs. 90, 92) illustrates similarly marked jugs.

Another jug in the same trash deposit bears the stamped inscription CHARLESTOWN over a decorative motif of three incised hearts (Fig. 4-55). Watkins (1950: 83, 84) discusses at some length the possibility that such jugs were produced by one Frederick Carpenter in Charlestown as early as 1801. This would have been after that potter had moved to Charlestown and before he joined the newly formed Edmands pottery in 1812. Edmands pottery is the first documented stoneware pottery in 19th century Charlestown. The vessel Watkins (1950: Fig. 95) illustrates as a possible example of Carpenter's undocumented early wares bears the stamped inscription CHARLESTOWN over three crosses, incised in a fashion similar to the hearts on the Narbonne jug. The date of the context in which the Narbonne example was found, c. 1805, probably predates the establishment of the Edmands pottery and supports Watkins'



Fig. 4-55. Jug, saltglazed stoneware, American, early 19th century, from feature 14, c. 1805, stamped on shoulder CHARLESTOWN.

(1950: 84) theory that such jugs "could be the work of Frederick Carpenter in the period from 1801-1812."

Other Stonewares

Various durable types of ceramics that fall within the stoneware category were developed in England in the yearly 19th century and were well on their way to driving pearlware from the market by 1820 (Noel Hume 1969a: 130-31). Described by their producers as "stonechina" and "Ironstone China," they have been grouped together for this report under the descriptive title "hard white." The sheet refuse yielded 1,493 fragments of this type, representing about 3.6 percent of these ceramics and another 259 were found in the analyzed trash deposits. Vessel forms range from plates to gravy boats to chamber pots and many of the examples are decorated with transfer printed designs.

Another ceramic type found mainly in mid-19th century contexts was a heavy, buff-bodied, yellow glazed stoneware imaginatively referred to as "yellow ware." A total of 264 sherds were found in the sheet refuse and another 32 sherds (including some whole vessels) were recovered from the analyzed trash deposits. Most of the vessels are heavy mixing bowls or baking dishes. A mark impressed into the bottom of several of these pieces refers to Thomas Sharpe, a producer of earthen and stonewares from Swodincote, Burton-on-Trent, Derbyshire. He began his business in about 1821, and after 1838 retitled the firm Sharpe Brothers & Co.

PORCELAIN

Porcelain found in 18th and early 19th century contexts on the site, as well as the porcelain in the undated sheet refuse, appears and is assumed to be almost entirely of Chinese origin. A few fragments of the thick-bodied porcelain cups and saucers, some decorated with a single gold band around the rim, were found in the well, where they had been discarded in c. 1870. These are probably English porcelain, and perhaps correspond to the "English porcelain set, gilt edge," valued at $15 in the 1905 inventory of the estate of Mary Andrew Narbonne (Essex County Probate Records, Docket No. 96286).

Porcelain was the fourth largest category of ceramics found on the site, with 1953 sherds in the sheet refuse (4.7 percent) and 960 sherds in the analyzed trash deposits (just under 6 percent). At Fort Michilimackinac, Chinese porcelain represented about 21 percent of the ceramics, but as at the Narbonne site, the overwhelmingly predominate forms among this class were teacups and saucers. A few larger bowls and the thick base of a large tureen or punch bowl were also found at the Narbonne site.

Underglaze blue and overglaze red designs and polychrome enameling and gilding are the main decorative techniques represented. A number of fragments of small tea bowls were found that were colored on the outside with a glossy brown wash and decorated on the inside with underglaze

blue or overglaze red (Fig. 4-56). Noel Hume (1969a: 259, 260) states that this technique is most often seen in c. 1740-80 contexts. However, it seems possible that this is the much discussed "burnt china" (see Stone 1970: 82 and the reply by Miller 1970: 93) advertised along with "blue and white china" as early as 1725 in Boston newspapers (Dow 1967: 83). A cup and saucer of this type in the Winterthur collection are dated 1720-40 (Palmer 1976: Fig. 11). Among the examples decorated with overglaze enamel are a pair of matching bowls painted with very carefully executed floral motifs found in a c. 1790 context and a fragment of a small bowl painted with brilliantly-colored flowers and a rooster from a c. 1805 trash deposit (Fig. 4-57).

At least three sets of matching cups and saucers are present among the porcelain vessels recovered from the late 18th and early 19th century trash deposits (Fig. 4-58). The presence of matching vessels in different trash pits support the conclusion that the trash in the various pits came from a single source. The more extensive sets include as many as eight matching saucers (Fig. 4-58, right and left) and display the minimal overglaze decoration Noel Hume (1969a: 261) associated with porcelains made in the late 18th century for the export trade. At least two cups and two saucers were found of a set decorated with underglaze blue and overglaze red and gilt in the "imari" manner (Fig. 4-58, center).

Underglaze blue decoration ranges from the crisply executed scene and foliage on a saucer and bowl from a c. 1805 context (Fig. 4-59), to the more hastily drawn decoration on "Nanking" teacups and saucers from a c. 1850 trash deposit (Fig. 4-60). The designs on the latter group were a standard part of the porcelain painter's repertoire and these items were probably not produced as a set in the same sense as the examples in Fig. 4-58. However, the presence on the site of at least three teacups and three saucers in this pattern suggests they may have been purchased and used as a set. Mary Andrew Narbonne's inventory of 1905 includes eight "Nankin porcelain plates" that may have once been accompanied by these cups and saucers (Essex County Probate Records, Docket No. 96286).

A large sugar bowl reconstructed from fragments from a c. 1790 trash pit and from adjacent sheet refuse combines unusually careful "Nanking" underglaze blue painting with plaited handles that terminate in foliate relief molding (Fig. 4-61). Remnants of overglaze gilding are visible around the handles. While Noel Hume (1969a: 261) describes this as a form not uncommonly encountered in the early 19th century, its presence on this site may reflect the taste of the same person who collected the plaited handle creamware coffeepots, chamber pot, and teacup. It is worth noting that, in style, the shape and handles of this Chinese vessel, which was intended for the export market, reflect English baroque forms. This is at the very time when English potters were striving to imitate the decorative motifs and glaze quality of Chinese porcelain.

III. GLASS VESSELS

Only a small fraction of the glass artifacts from the Narbonne site can be discussed and illustrated in this section. Even these few examples, however, suggest interesting patterns of usage, particularly

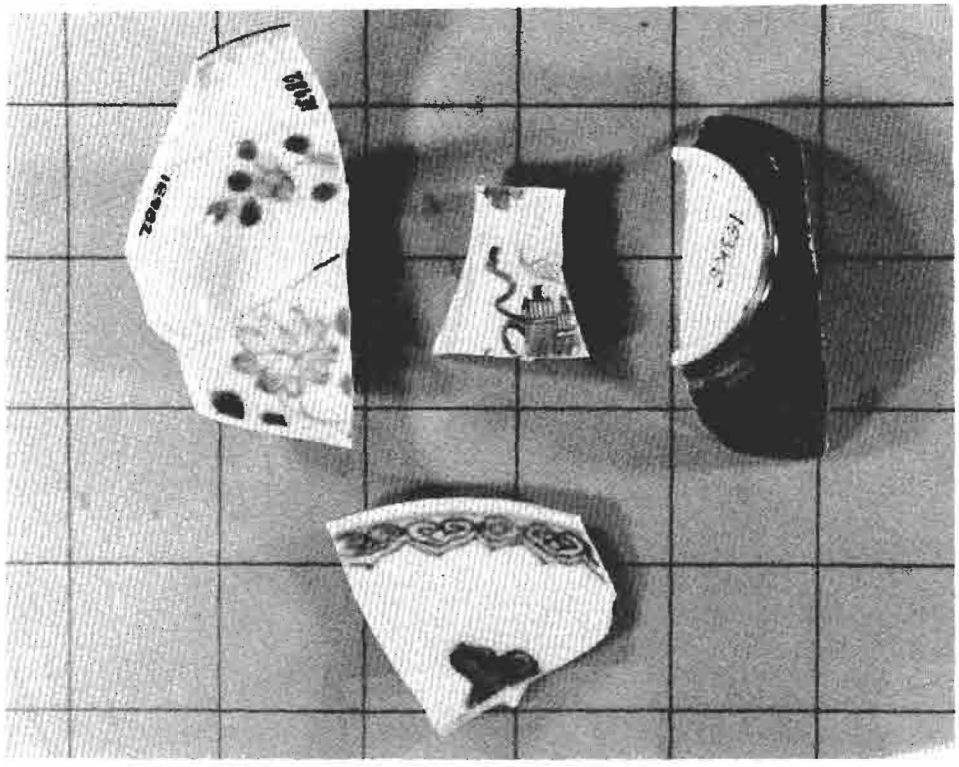


Fig. 4-56. Teacup sherds, porcelain with glossy brown wash on exterior, Chinese, 18th century. Left to right:
Top row--from 1E9B2, undated context, underglaze blue decoration; from 1E8A1, undated, overglaze red decoration; from 1E3K5, undated, underglaze blue decoration;
Bottom--from 1E9GF2, undetermined date, underglaze blue decoration.

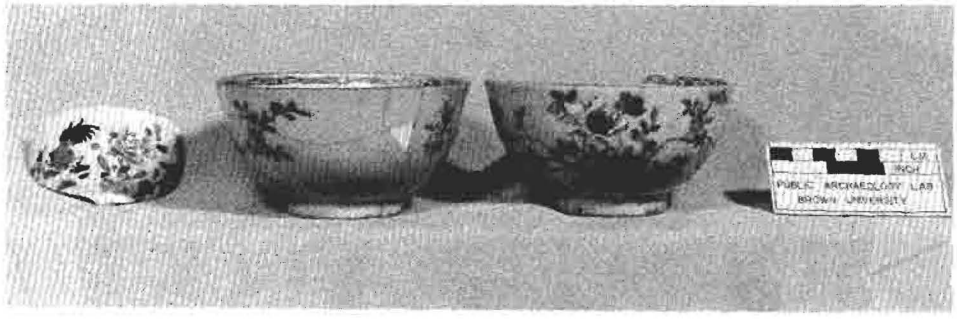


Fig. 4-57. Bowls, porcelain with overglaze enamel decoration, Chinese, 18th century. Left to right:
from feature 14, c. 1805; from feature 21, c. 1790; from feature 21, c. 1790.

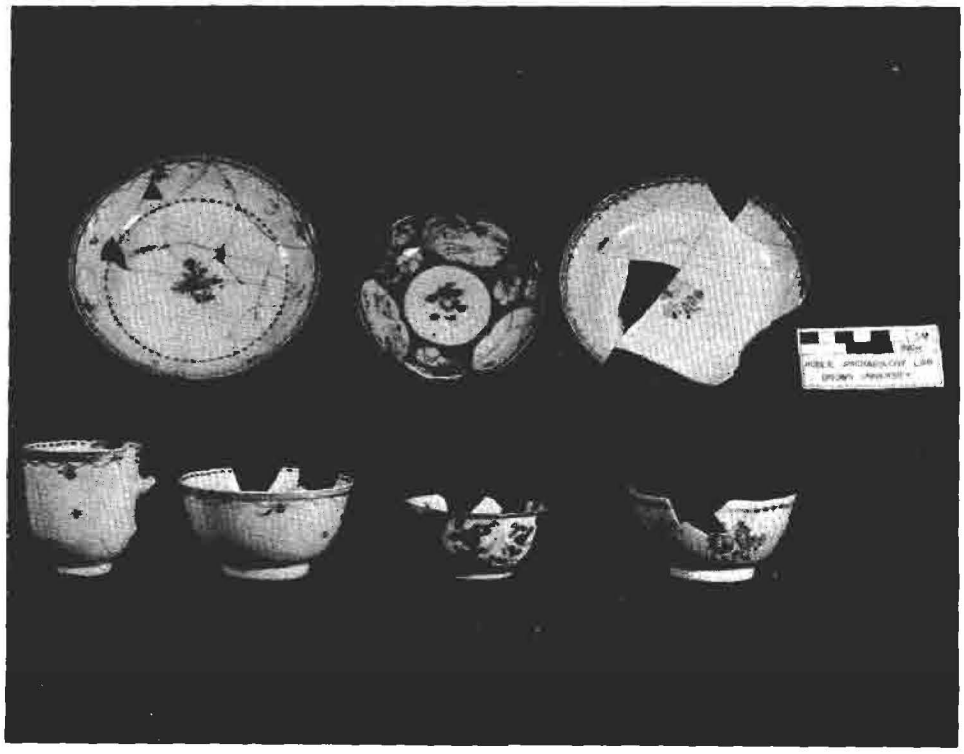


Fig. 4-58. Teacups and saucers, porcelain, Chinese.
Left to right:
Top row--from feature 21, c. 1790, overglaze enamel decoration; from feature 8, c. 1790, underglaze glue and overglaze red and gilt; from feature 8, c. 1790, overglaze enamel;
Bottom row--from feature 21, c. 1790, overglaze enamel decoration; from feature 21, c. 1790, overglaze enamel decoration; from feature 8, c. 1790, underglaze blue and overglaze red and gilt; from feature 21, c. 1790, overglaze enamel.



Fig. 4-59. Teacups and saucer, porcelain with underglaze blue decoration, Chinese. All from feature 18, c. 1850.

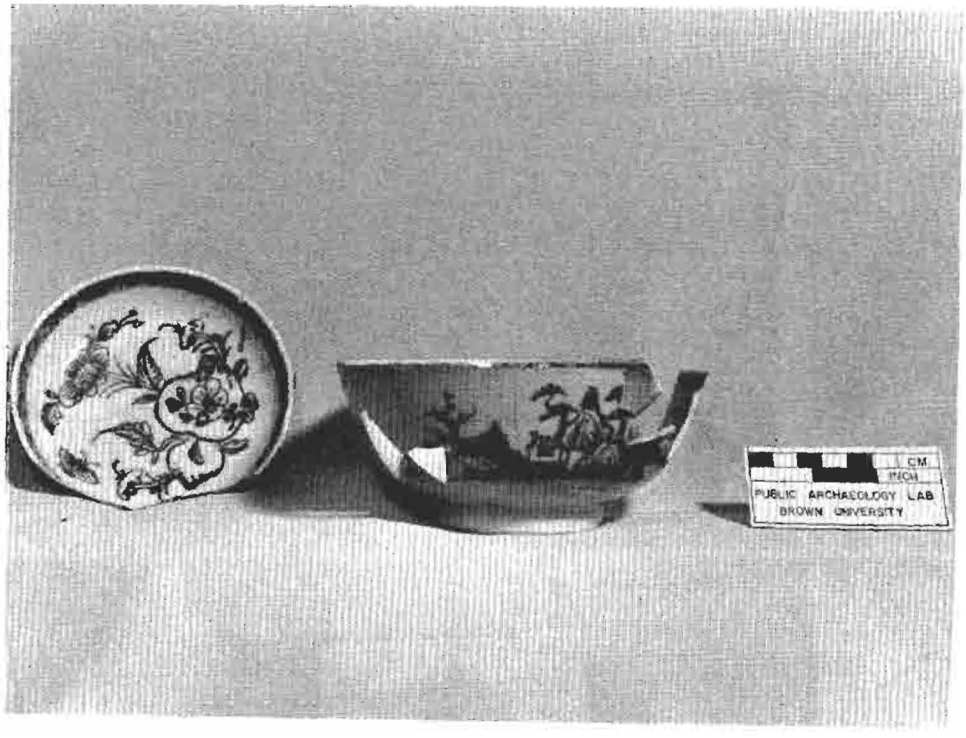


Fig. 4-60. Saucer and bowl, porcelain with underglaze blue decoration, Chinese. Both from feature 14, c. 1805.



Fig. 4-61. Sugar bowl (?), porcelain with underglaze blue and overglaze gilt decoration, Chinese. From feature 8, c. 1790.

for bottles, and a varied source of supply. British bottles are represented in quantity, as well as others that are probably French, American, and Dutch in origin. There is an abundance of decorated table glass, particularly from a late 18th century context. Window glass found on the site awaits full analysis, but some particularly interesting fragments are described below in the OTHER ARTIFACTS section under QUARRELS.

BOTTLES

A large quantity of bottle glass was recovered from the sheet refuse covering the Narbonne site. Even more fragments and numerous intact or nearly intact bottles were extracted from the several trash deposits around the site. Although extensive cross-mending may still be carried out, and much remains to be learned from and about this assemblage, certain interesting patterns can be discussed and illustrated.

No wine or other beverage bottles with seals on their shoulders were recovered from the site, although a fragment of such a seal was found in feature 14, bearing the fragmentary inscription, ". . . T . . . ean . . . 772." In assigning dates of manufacture to the bottles discussed in this section, Noel Hume's (1969a: 63-68) series of seal-dated wine bottles was employed, except in the cases of those 19th century bottles which can be generally dated by their techniques of manufacture. Many smaller bottles, mostly from mid-19th century trash deposits, bear molded inscriptions or marks revealing their former contents, generally ink or medicine, and/or the names of the merchants who sold them. Many of these marked bottles are described at length in Appendix D, items 44-57, and are therefore omitted from this portion of the report.

Most of the bottles recovered from 18th and early 19th century contexts on the Narbonne site are presumably of British manufacture (Noel Hume 1969a: 60), but a few bottles display characteristics associated with French, Dutch, and American manufacture. The bottles chosen for illustration include examples from all four sources and represent samples of the bottles recovered from contexts dated to c. 1770, c. 1805, and c. 1870 (Figs. 4-62, 4-63, and 4-66, respectively).

A quality displayed by all three of these groups is a diversity of shapes within each group. Also based on the analysis of these shapes, a wide range of dates is represented in each group. In Fig. 4-62 are illustrated a sample of the bottles recovered from features 25 and 26. These are two adjacent and related deposits from about 1770. The bottles which they contain range from the early 18th century (far left) through mid-century shapes, to a bottle that must have been quite new when discarded (second from right). The bottle at the far right displays the tall neck, loosely applied string rim, and broader shoulder than base associated with French bottles of the second quarter of the 18th century (Noel Hume 1969a: 69-71). As these trash deposits appear to have entered the ground in relatively brief periods, certainly much shorter than the 50-70 year range in dates of manufacture of bottles within them, it is clear the bottles remained in use for considerable periods of time.

The bottles from feature 14, a wood-lined trash pit dug and filled around 1804, demonstrate that the broad date range among the bottles in



Fig. 4-62. Beverage bottles, all from feature 25, c. 1770 (except rightmost, from feature 26, c. 1770). Left to right:
British, 1710-30, light green, sand pontil;
British, 1730-50, dark green, sand pontil;
British, 1750-70, dark green, sand pontil;
British, 1770-80, medium green, pontil type unclear;
French(?), 1725-50, light green, glass pontil.



Fig. 4-63. Beverage bottles, (except bottle at far right, a snuff or blacking bottle), all from feature 14, c. 1805. Left to right:
British, 1695-1720, dark green, sand pontil;
Dutch(?), 1725-50, medium green, glass pontil(?);
British, 1760-90, dark green, quatrefoil push-up tool, sand pontil;
British, 1790-1810, medium green, sand pontil;
British(?), date unknown, dark green, quatrefoil push-up tool, sand pontil;
French(?), date unknown, dark green, blowpipe pontil;
American(?), 1790-1810, dark green, sand pontil;
British(?), date unknown, dark green, pontil type unclear.

the c. 1770 deposits is not an isolated phenomenon. The eight bottles illustrated in Fig. 4-63 were chosen from at least 30 bottles recovered from the pit. The squat bottle at the lower left is one of about a half dozen bottles of this shape from the pit, a shape that links them to the turn of the 18th century in manufacture. The bottle just above it in Fig. 4-63, with its longer neck, high push-up and everted lip, is a typical Dutch bottle of the second quarter of the 18th century (Noel Hume 1969a: 70-1). The small eight-sided bottle at the far right, one of several of this shape from this deposit, is a form Noel Hume (1969b: 43) identifies as a snuff or blacking bottle. Very similar bottles were recovered from feature 25, the c. 1770 trash deposit.

Three other bottles in Fig. 4-63, those third and fourth from the left and second from the right, represent typical late 18th or early 19th century bottles. The broad, rounded mouth of the later bottle suggest an American, rather than a British origin for this artifact (Noel Hume, 1969a: 71). The third bottle from the right, of smooth, even, dark green glass and rather unusual form, is the only one of these eight bottles on which a blowpipe pontil was employed, and may be of French origin (Jones 1971: 71). The bottle fourth from the right, with broad body and stubby neck, is of special interest as it represents the most common shape among the bottles in the trash pit, yet one rather dissimilar to any in Noel Hume's (1969a: 63-8) series, perhaps indicating New England manufacture. However, this bottle and several of those resembling it display the mark of a quatrefoil push-up tool, a feature usually associated with British manufacture (Jones 1971: 66).

Two additional bottles of interest were recovered from feature 14 (Figs. 4-64 and 4-65). One is the largest bottle found or reconstructed from the site, measuring 15.8" tall (Fig. 4-64). Its tall neck, high push-up, and tapering shape from broad shoulder to narrower base are suggestive of a French origin, and the pale blue glass resembles that of the case bottles Noel Hume (1969a: 62, 69-70) associates with that source. The second bottle (Fig. 4-65) of very thin, clear glass exhibits a spiral twist through the body and neck. Inside the high push-up, the remnant of glass left by the blowpipe pontil displays the same twist. This bottle's origin and use are not known, but the size, fragility, and decorative form suggest it may have contained cosmetics.

The third group of bottles chosen for illustration were extracted from the well, which was filled with trash and ashes c. 1870. All four were found at a depth of about 8' near the present water level (Fig. 4-66). The two bottles on the right were both formed in three piece molds, an innovation introduced about 1810 and widely used in America as well as abroad. They also display the even lips associated with the use of the lipping tool, introduced about 1850 (Lorrain 1968). The second bottle from the left, however, was free-blown and lipped by hand and displays the type of push-up formed by a quatrefoil tool, generally an English characteristic (Jones 1971: 66) and in overall shape resembles those manufactured c. 1790-1800.

The well bottles reinforce the pattern seen in the c. 1770 and c. 1805 trash deposits of the lengthly survival of bottles and their eventual deposition decades after their manufacture, presumably following years of

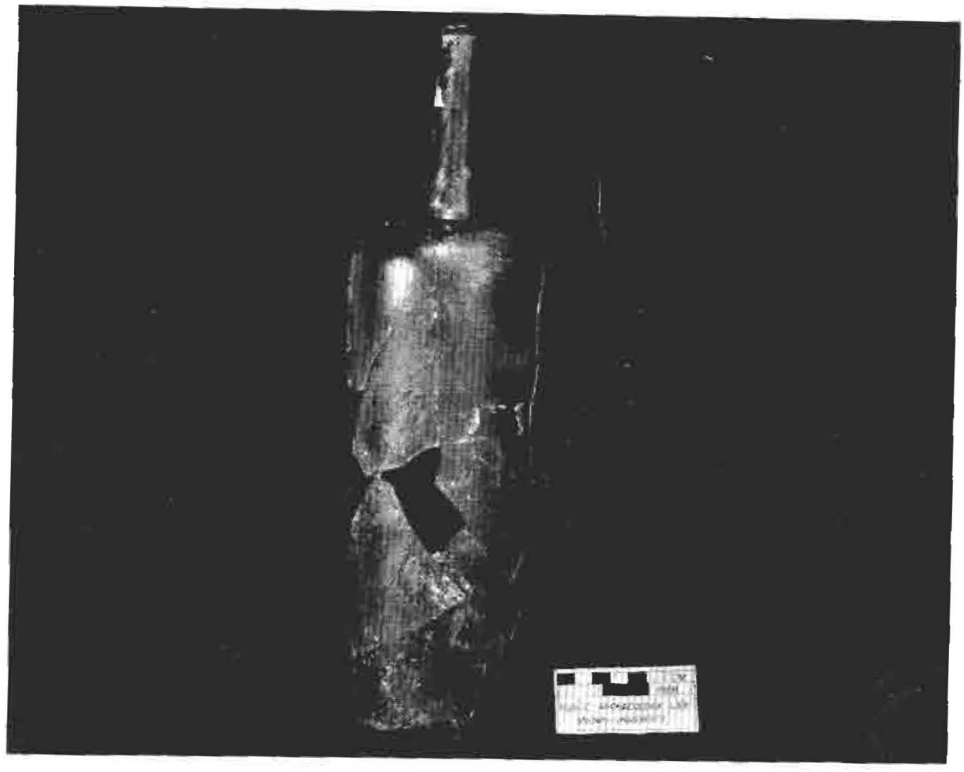


Fig. 4-64. Beverage bottle, French(?), date unknown, pale blue, from feature 14, c. 1805, high, sharp push-up, glass(?) pontil.



Fig. 4-65. Cosmetic(?) bottle, unknown place and date of manufacture, from feature 14, c. 1805, colorless, blowpipe pontil.



Fig. 4-66. Beverage bottles, all from well, c. 1870. Left to right:
unkown place and date of manufacture, dark green, blowpipe pontil;
British, 1790-1810, dark green, quatrefoil push-up tool, sand pontil;
American(?), after 1850, dark green, three-piece mold, lipping tool,
sand pontil(?);
American(?), after 1850, dark green, three-piece mold, lipping tool,
sand pontil(?).

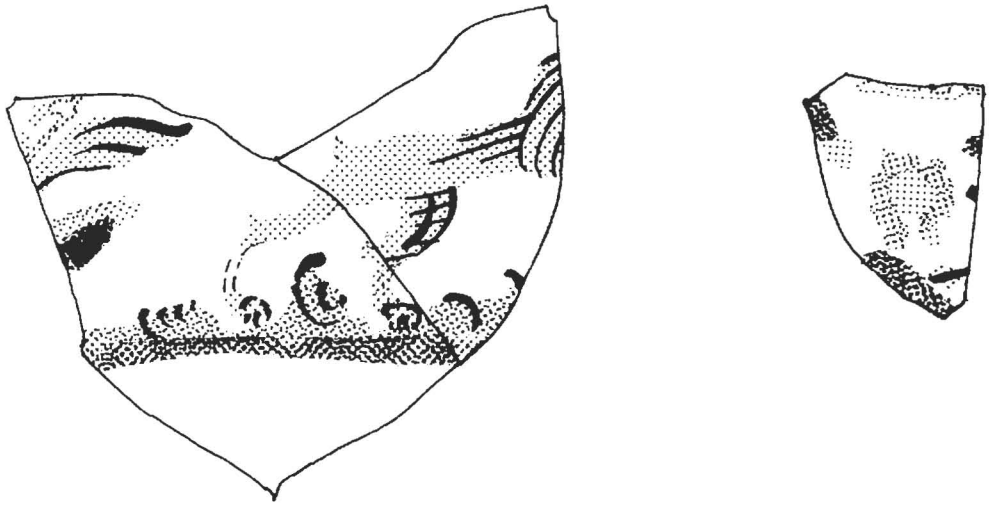


Fig. 4-67. Fragments of soda glass vessel (flip?) with enameled decoration, unknown place and date of manufacture, from 1E3K5 (left) and 1E3K4 (right), undated contexts. Enamel colors include white, blue, green, red, and yellow (drawn at full scale).

use and reuse. While much work remains to be completed on the bottle glass from the Narbonne site, these few examples suggest a pattern of conservative use of bottles that prevailed through the 18th and much of the 19th centuries and demonstrate the caution with which one must approach the employment of bottles as dating tools.

TABLE GLASS

The vessels chosen for illustration in this section represent the major forms and most of the decorative techniques found among the table glass from the Narbonne site. Neither the analysis of this assemblage nor this discussion should be viewed as exhaustive.

Certain scholarly problems hamper determination of the dates of manufacture and origins of even the few vessels illustrated. While Noel Hume (1969a: 189-93) describes and illustrates the evolution of British drinking glass stems, few stemmed vessels were found at the Narbonne site. Wheel-engraved glass was found in greater quantity, both in the sheet refuse and among the contents of several late 18th and early 19th century trash deposits. Noel Hume (1969a: 194) describes wheel engraving as a popular English decorative technique of the mid-18th century, but states it is rarely found on American sites and illustrates no examples. Works on English, Irish, and Scottish glass tend to illustrate only very elaborately engraved glass, although a few Irish decanters (Warren 1971: Figs. 5B, 6A, and 6B) display engraving similar in design and almost as sloppy in execution as that on some of the Narbonne flips. Some studies of American glass claim that most if not all engraved or enameled glass in this country is the product of the Pennsylvania glassworks of William Henry Stiegel (Hunter 1950). It operated from c. 1769 to 1774. Several of Hunter's illustrations resemble Narbonne examples, but a more convincing case is argued by George and Helen McKearin (1941: 48-51) who contend that as Stiegel employed European workers and techniques to closely follow European forms and designs, his products are generally indistinguishable from his models.

Keeping these reservations in mind, several examples of table glass from the Narbonne site warrant description. Among the rarest of the decorative techniques employed on glassware from the site is enameling. It is seen on only about 20 fragments, mostly found in the layer of fill just above the cobblestone drive east of the house and probably deposited in the late 18th century. A single fragment was extracted from feature 8 dated to c. 1790. The fragments appear to be from light flips or tumblers and represent at least two vessels. Bands, wavy lines, and floral motifs decorate several of the fragments (Fig. 4-67), while the largest sherd shows the rear half of a leaping or running animal. An enameled glass tea caddy, illustrated as a Stiegal product but possibly of European origin, shows the complete form of a similar creature (Hunter 1950: no. 150). Noel Hume (1969a: 194) lists Bohemia, the Rhineland, and the northern Netherlands as the possible European sources of such glass. Similar enamel decorated glass was found in 1976 by Yentch (1975) in a trash pile dating from c. 1805-10 on Naushon Island off Cape Cod. Both sites have strong maritime connections, which together with the deposition dates--about 25 years after the closing of Stiegel's glassworks--suggest European sources for these examples of enameled glass.

Among the few fragments of stemmed drinking glasses from the site, one example is notable for its completeness (in three fragments) and its decoration (Fig. 4-68). It was recovered from feature 22 dating to c. 1790-95. The vessel is made of clear soda glass and has a plain foot, "enamel-twist" stem, and trumpet-shaped bowl, with molded, ribbed decoration on the lower portion of the bowl. Noel Hume (1969a: 193) dates the appearance of such "enamel-twists" in English stemware to about 1750, but identified their period of greatest popularity as c. 1760-75. A barrel-shaped mug with applied horizontal threading and a strap handle from feature 25, c. 1770, is unique among the glass from the late 18th century deposits in its decoration, shape, and the fact that it was made of a clear lead glass (Fig. 4-69). A straight sided mug with similar threading and handle is illustrated in a work on American glass as an 18th or early 19th century vessel (McKearin and McKearin 1950: Plate 72, no. 3), but an English, Scottish, or Irish source for the Narbonne mug must also be considered.

The most common drinking vessel form within the late 18th and early 19th century trash deposits is the flip or tumbler, ranging from about 3" to 4" in height and made of colorless soda glass. Some of these flips are undecorated, but many display wheel engraved designs and various molded patterns of diamonds, bands, flutes, and ribs, or even engraving and molding together on a single vessel. Several vessels, including two (Figs. 4-70, 4-71, and 4-72) from a trash deposit of c. 1770 (feature 25), bear engraved designs based on variations of a sunburst pattern. The "leaping heart" design (Fig. 4-71) also occurs on fragments from at least one other flip from the site. Hunter (1950) illustrated similar starburst designs as Stiegel products, while the McKearins' (1941: Plate 25, no. 4) more precise "Stiegel-type" designation is applied to a stylized floral motif very similar to the one opposite the sunburst on the second (Fig. 4-72) Narbonne sunburst flip.

Simpler designs, such as bands of engraved decoration confined to the rim areas, were more frequently encountered on soda glass flips from the Narbonne site than the sunburst motifs. An example recovered from the fill just over the cobblestone drive east of the house (Fig. 4-73) was probably discarded in the late 18th century. It combines simple molding and wheel engraving. The engraving resembles another "Stiegel-type" flip illustrated by the McKearins (1941: Plate 29, no. 7). A flip with similar rim engraving and slightly more elaborate fluted molding was discarded in the more closely dated feature 14 of c. 1805 (Fig. 4-74). An Irish decanter or jug bearing a rather poorly executed wheel engraving similar in design to the above flips was manufactured by the Cork Glass Company between 1783 and 1818 (Warren 1971: Fig. 6b).

That same trash deposit, feature 14, yielded the most elaborate glass vessel from the site. It is a two-handled bowl with wheel-engraved decoration on the top half of the vessel and applied knobbing on the bottom half (Fig. 4-75). The rather crudely executed engraving features stylized sailing ships. A search in publications on both European and American glass for vessels of any form combining engraved and applied decoration has yielded nothing similar to this vessel.



Fig. 4-68. Drinking glass, British, c. 1750-75, from feature 22, c. 1790, colorless soda glass with white "enamel-twist" in stem.



Fig. 4-69. Mug, British(?), date of manufacture unknown, from feature 25, c. 1770, lead glass with applied horizontal threading and strap handle.



Fig. 4-70. Flips, probably British, c. 1750-70, from feature 25, c. 1770, colorless soda glass with wheel-engraved decoration.

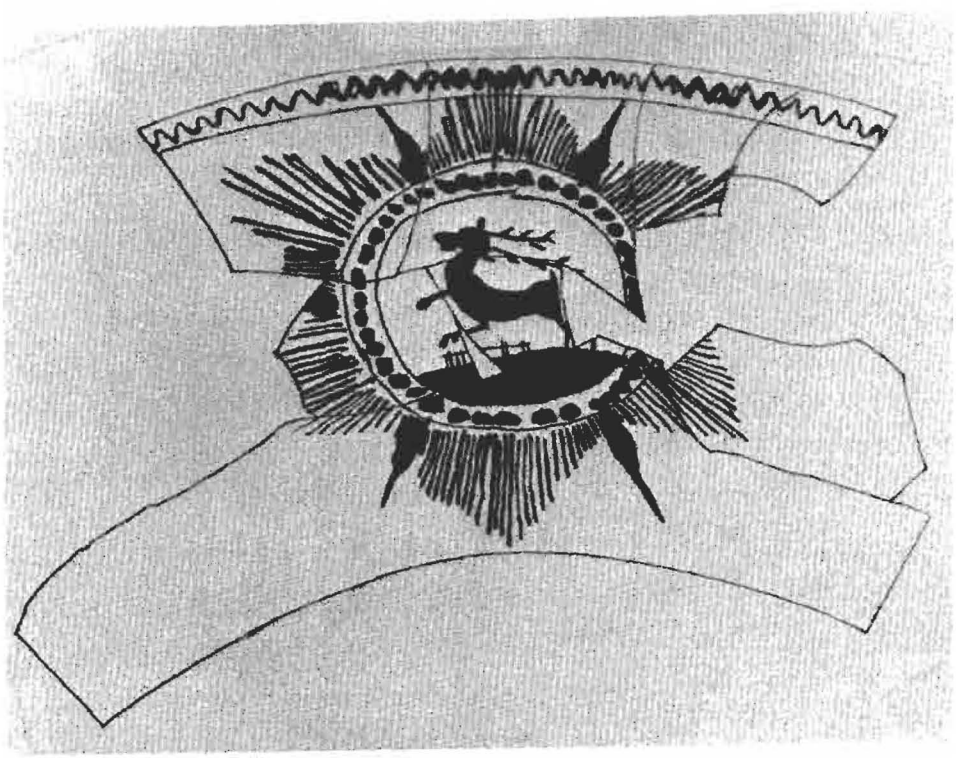


Fig. 4-71. Drawing of wheel-engraved decoration on flip in Fig. 4-70, right (not full scale).

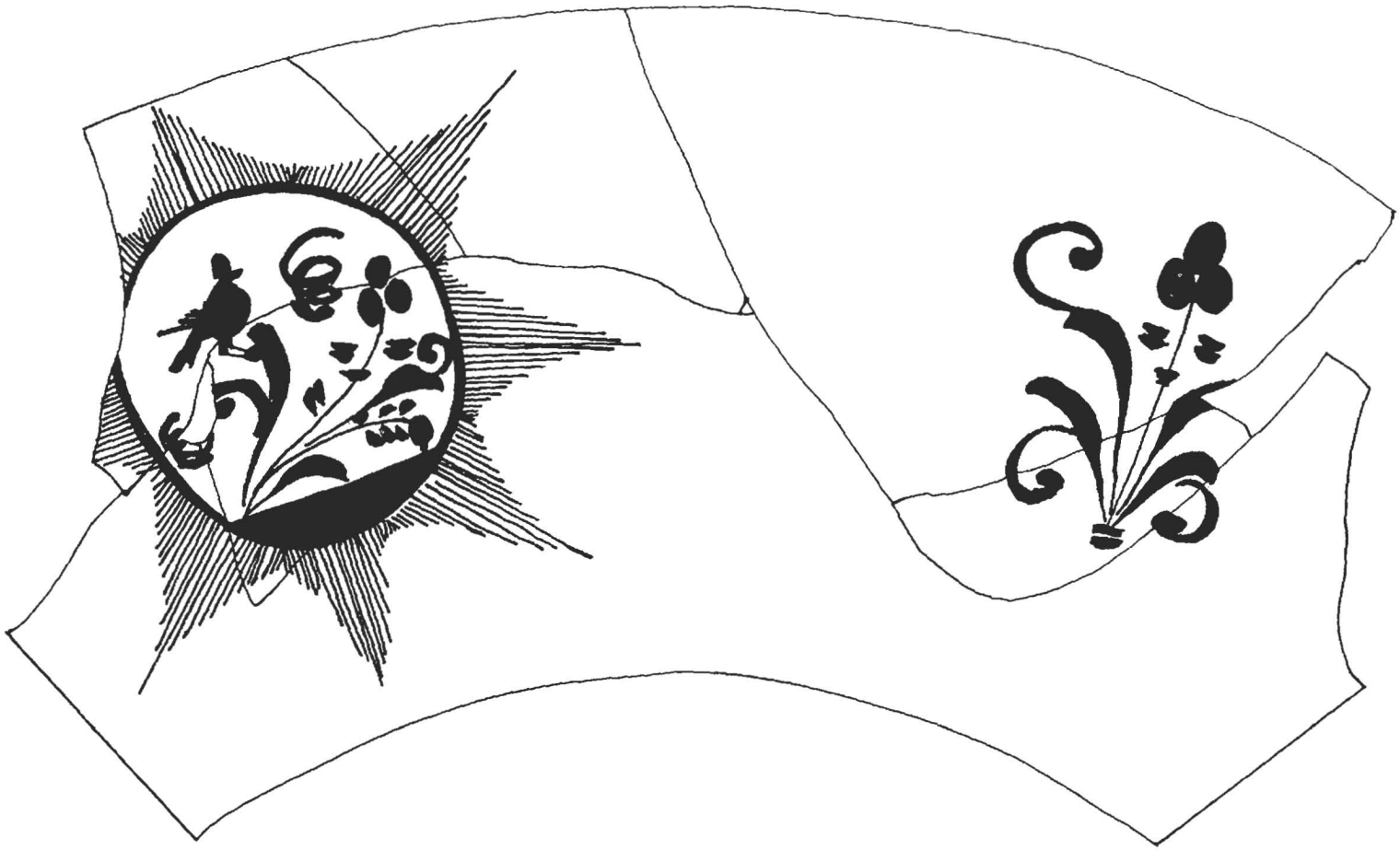


Fig. 4-72. Drawing of wheel-engraved decoration on flip in Fig. 4-70, left (drawn at full scale).



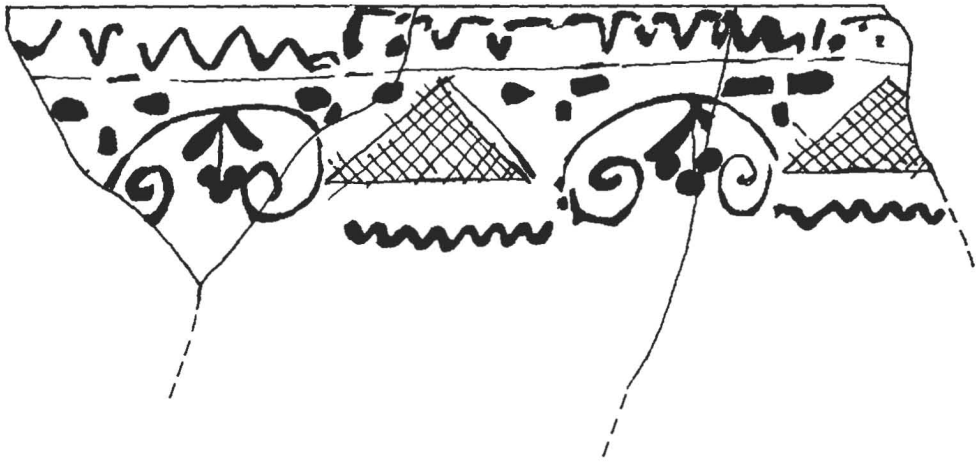
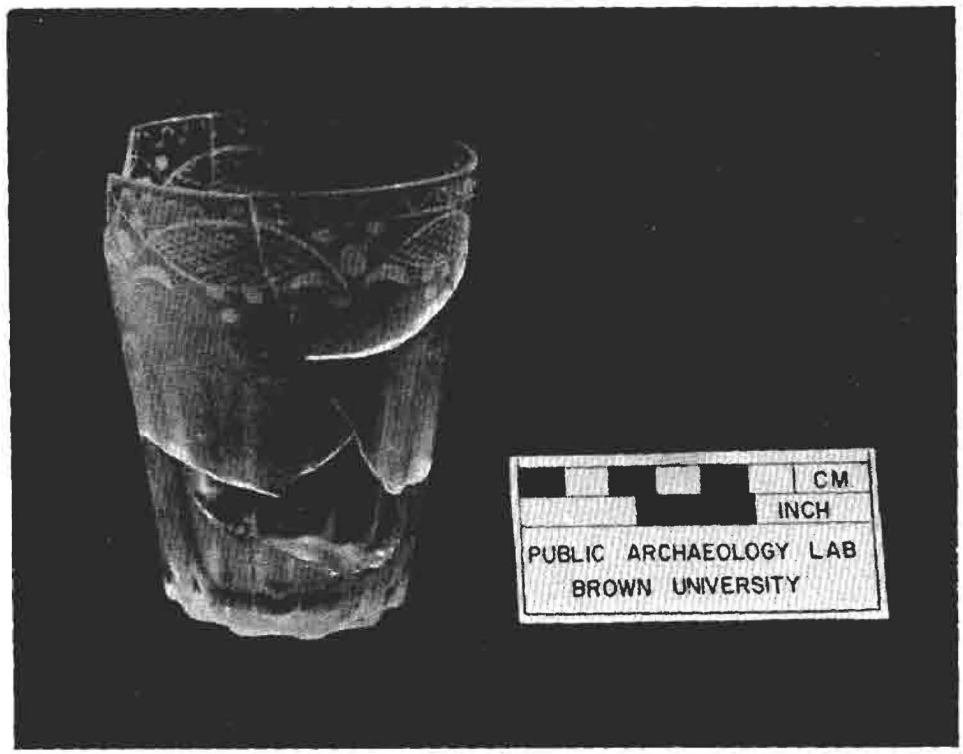


Fig. 4-73. Flip, probably British, c. 1750-1800, from 1E3K5 and 1E3H4, undated contexts, colorless soda glass with molded, eight-sided base and wheel-engraved decoration (drawn at full scale).



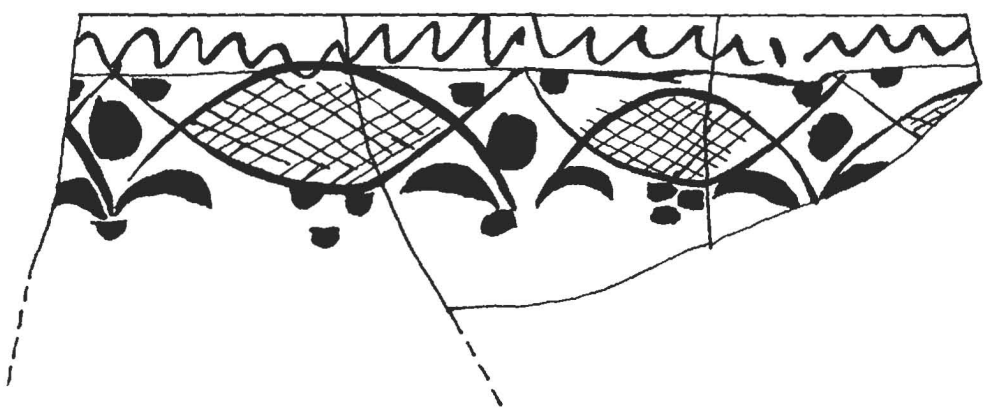


Fig. 4-74. Flip, probably British, c. 1750-1800, from feature 14, c. 1805, colorless soda glass with molded fluting on lower portion and wheel-engraved decoration (drawn at full scale).

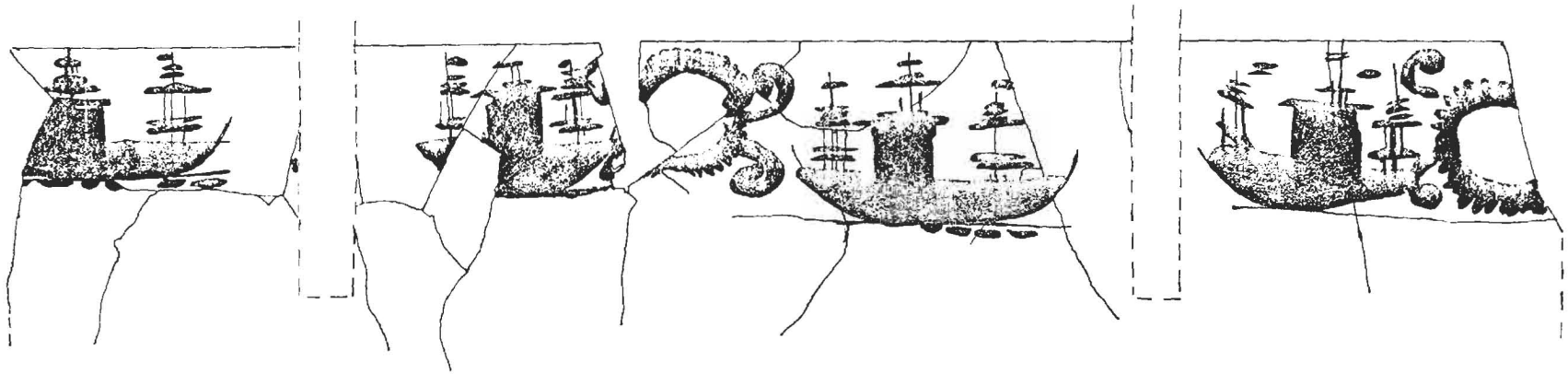
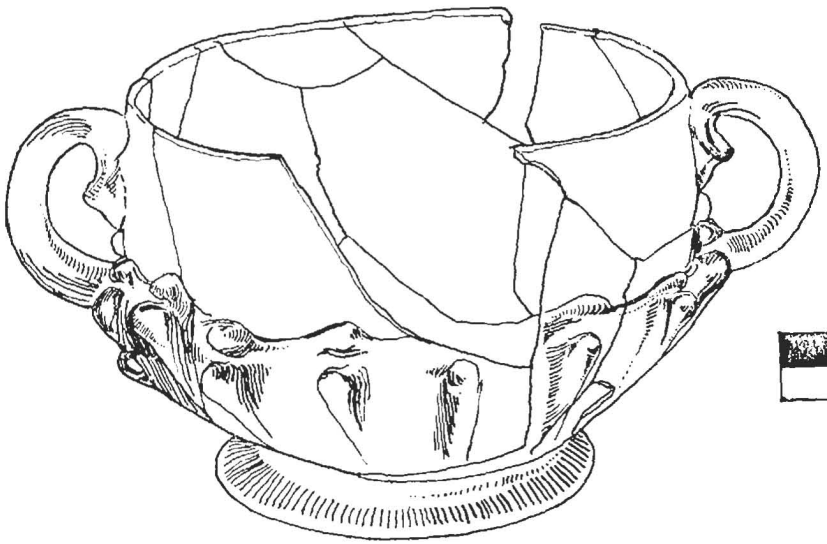


Fig. 4-75. Sugar(?) bowl, probably British, unknown date of manufacture, from feature 14, c. 1805, colorless soda glass with wheel-engraved decoration around rim (shown above drawn at full scale, with the locations of the handles indicated by the dashed lines) and applied knobs on the lower portion of the vessel (emphasized in drawing at left).





Pressed glass was recovered from 19th century contexts around the site, and a cup, plate, vase, and other forms from the well are described in Appendix D, items 72-77. A heavy goblet of pressed soda glass (Fig. 4-76) found in a disturbed context in the backyard probably was manufactured in the 1830s or 1840s.

Further piecing and cross-mending of the table glass from the Narbonne site and comparison of this assemblage to the finds from other sites may yield more information about the sources and uses of glassware, particularly in the 18th and early 19th centuries. Nevertheless, several observations can be advanced on the basis of the above examples. Wheel-engraved glass was found on the site in surprising quantity and in earlier contexts than expected. It may be revealing to compare the table glass collection from the Narbonne site to that of other New England sites both with and without as strong a connection to maritime trade. Among drinking glass forms flips are predominant with few stemmed vessels and perhaps only a single glass mug represented. This raises the question of the uses of the various forms and of the factors that link particular wares and forms. As stated earlier redware mugs were found in comparative abundance at the Narbonne site. Study of the full range of glassware available in England and on the Continent in the 18th century might help to identify more closely the origins of much of the glass excavated from 18th and early 19th century contexts at the Narbonne site.

IV. OTHER ARTIFACTS

In addition to the ceramics and glass vessels, a considerable quantity and wide variety of other artifacts were recovered from the Narbonne site. Many of these objects were found in the disturbed context of the sheet refuse and their use cannot be dated firmly to specific periods of occupation of the house. As the main goal of this section is to provide examples to be compared to similar finds from other sites, the objects are listed alphabetically by name.

BEADS

A total of 14 beads were found on the site, with glass the predominate material. Half of a round glass bead, about 0.6" in diameter, was recovered from the fill over the cobblestone driveway east of the house (1E3E3). This tricolor bead of red, white, and blue was made by the tube method and is composed of several layers and stripes. By the Kidds' (1970) glass bead classification system, this bead represents type IVn, and is similar in colors to IVb3, except that the central color of this bead is red. From the well deposit, c. 1870, came a bead about 0.68" in length made of colorless, very bubbly glass in the form of a teardrop. The pointed end is looped over to form a hole for stringing.

BELLS

A single small iron bell of the "rumbler" type (Noel Hume 1969a: 58) was recovered from feature 28.

BUCKLES

Twenty buckles or fragments of buckles were excavated. Most are of brass, although at least one iron buckle and two or three with iron chapes and tongues were found. The buckles range from the large shoe



Fig. 4-76. Goblet, American(?), c. 1827-40, from 1E9M2, undated context, colorless soda glass pressed in mold.

buckle size through smaller examples that may have been worn at the knee, to small stock or hat-sized buckles (Fig. 4-77). Several have plain surfaces, but most of the buckles were cast in decorated molds and six fragments (Fig. 4-78) display piercework designs.

BUTTONS

Also see SLEEVE LINKS. Over 150 buttons were recovered from the site, mostly from the mixed context of the sheet refuse. Among the many types found were composite bone-back, copper alloy face examples, flat copper alloy disks with attached loop eyes, bone disks drilled with one to five holes, and molded glass and ceramic buttons.

A particularly interesting example (Fig. 4-79, right) found in the sheet refuse (1E2D1) bears on its face the number 59. The button is made from a flat, copper alloy disk and has a loop eye attached to the back. Numbered buttons of this type were used on the uniforms of British soldiers. The 59th Regiment of Foot, organized in 1755 as the 61st Regiment and renumbered in 1757, arrived in Boston in 1774 and companies from it fought at Lexington and Concord in April of 1775. This button may represent a souvenir of those engagements or of the Siege of Boston. In 1776 the men of the 59th Regiment were transferred to other regiments while its officers returned to England to recruit enough men to bring the regiment back up to strength. By 1781 the regiment was reformed and sent to the relief of Gibraltar (Katcher 1973: 62). Exactly how this button entered the ground behind the Narbonne house is undeterminable but it is virtually the only artifactual evidence on the site of the military and political events of the 1770s.

One of the few buttons found in a datable trash deposit (feature 14, c. 1805) is a copper alloy disk 1.4" in diameter (one of the largest buttons found) with an attached loop eye on the back and engraved decoration on the face (Fig. 4-79, left). The decoration is probably of the type Noel Hume (1969a: 90) describes as "engine-turned engraving" which he reports was occasionally used on the large, flat disk buttons of the late 18th century.

CLASP KNIVES

Four clasp knives (or recognizable fragments thereof) were discovered on the site. Only the heavily rusted example from the well (deposited c. 1870), measuring 3.28" in length, was in a datable context. Two other severely decayed iron examples were found in the sheet refuse and measured 5.4" (1E2B2) and 3.28" (1E2D1) in length. A portion (1.9" long) of a copper alloy case of a small pocket knife was also found (1E2K2) engraved with the date 1934 and the initials

E
P A H.
S

COINS

A total of 27 coins were found around the site. None served as useful dating tools. All but three were found in the sheet refuse and two of the remaining three bare no legible inscriptions. Only one datable coin, a British copper penny dated 1746, was extracted from a discrete feature, feature 25, and that trash deposit was dated by the ceramics found in it to c. 1770.

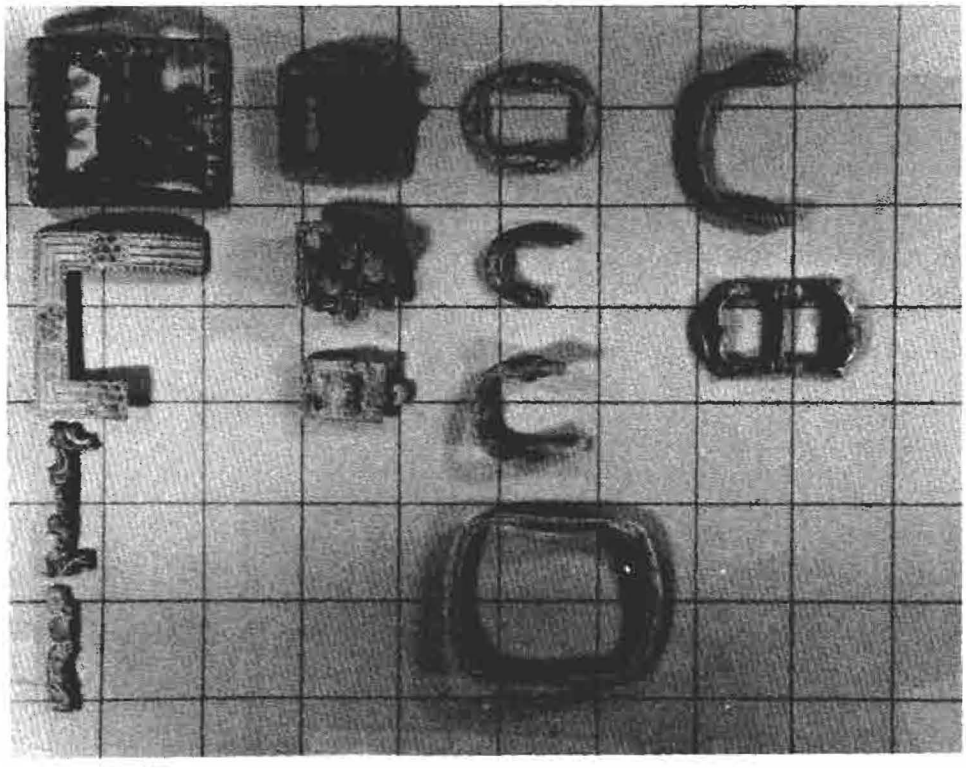


Fig. 4-77. Buckles, all copper alloy (brass?) except as noted, all probably British, 18th century, all from undated contexts. In four vertical rows, left to right, beginning at top of each:
First row--from 1E8B1; from 1E6A3; from 1E3E1; from 1E2A2;
Second row--from 1E8A1, iron chape and tongue; from 1E2A2, iron chape and tongue; from 1E2K2, probably a stock buckle;
Third row--from 1E3A3; from 1E2D2; from 1E8A1; from 1E5;
Fourth row--from 1E2C2; from 1E8A1.

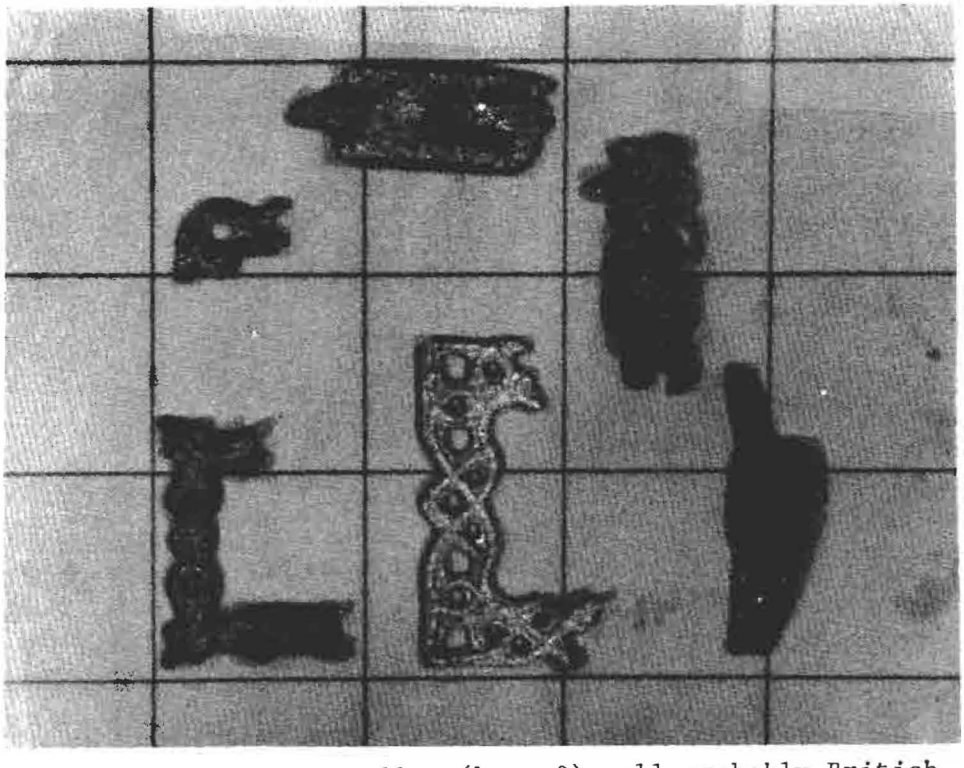


Fig. 4-78. Buckles, all copper alloy (brass?), all probably British, 18th century, all from undated contexts except as noted. Clockwise, from top:
from feature 22, c. 1790; from 1E3G3; from 1E2D2; from 1E3D2; from 1E2K2; from 1E2D2.



Fig. 4-79. Buttons, brass, British, c. 1770-1800. Left: from feature 14, c. 1805, decorated with engine-turned engraved decoration;
Right: from 1E2D1, undated context, uniform button from 59th Regiment of Foot, a British regiment stationed in Boston in 1774 and 1775 (drawn at full scale).

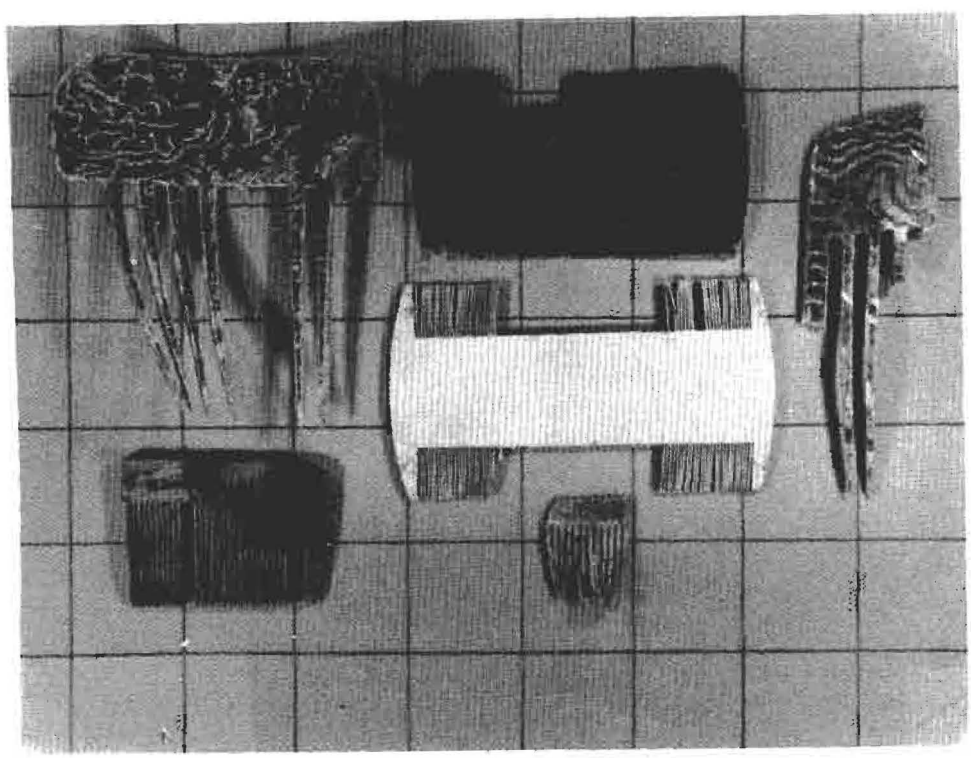


Fig. 4-80. Combs. In three vertical rows, left to right, beginning at the top of each:
First row--from well, c. 1870, tortoiseshell; from well, c. 1870, dense black material;
Second row--from 1E8B1, undated context, plastic(?), stamped PYRALIN SUPERB on one side and inscribed Papa on the other; from 1E5J2, undated context, bone; from feature 14, c. 1805, tortoiseshell;
Third row--from feature 14, c. 1805, tortoiseshell.

Two coins dating from the 17th century were found. One is a small (approximately 0.6" diameter), very thin coin of silver. One side of the coin bears a partially illegible date, 166_, a denomination mark, II, and an inscription, NEW ENGLAND. Noel Hume (1969a: 167) describes similar coins that were minted in Boston around 1652. As he states, on the other side of the coin there is a tree (oak?) and a partially legible inscription that appears to correspond to his IN:MASATHVSETS. The other early coin is a 1688 French coin of copper or copper alloy and measures 0.8" in diameter.

The coins most commly encountered on the site are 18th century British coins of copper. Most are probably halfpennies. Dated examples from 1722, 1746, 1749, and 1756 were found, along with an Irish copper coin with a date in the 1750s. A Portugese copper coin 1.2" in diameter and dated 1757 was found. That coin bears the name JOSEPHUS and the denomination mark V(reis).

Two Spanish coins of silver complete the foreign coin collection. The smaller of these two measures 0.68" in diameter and is dated 1738. The larger coin is 0.88" in diameter, bears the face and name of Carolus III, and the date 1781.

United States coins from the site include an 1801 penny, and 1887 penny, a 1903 silver quarter, a 1906 nickel, a 1937 quarter, and pennies dated 1950, 1953, 1961, 1962, 1968, and 1972.

COMBS

Of six combs or fragments of combs found on the site, four came from datable deposits (Fig. 4-80). A fragment of a large tortoiseshell comb and a more complete, much smaller comb of the same material were found in feature 14, which dates to c. 1805. Another large tortoiseshell comb and a fragment of another comb of some black material were found in the c. 1870 fill of the well. A double sided comb of plastic with the scratched inscription "Papa" was discovered inside the lean-to and another double sided comb of bone was found in the sheet refuse in the backyard (1E5J2).

CORAL

The few small fragments of coral (of an undetermined species) found on the site are indicative of Salem's position in a far-flung maritime trade network. A large piece of coral was found in excavations at Central Wharf nearby. This piece was reportedly ballast material based on its location and its early 19th century context.

CUTLERY AND SPOONS

Most of the knives, forks, and spoons found on the site were manufactured of iron or ferrous alloys and are now severely oxidized. Approximately five forks, 20 knives, and seven spoons, or recognizable fragments of those utensils were found. Their handles, or handles found separately, include bone and wooden examples (with the former predominant), and both single piece and two-piece riveted types.

Both forks and knives with the "pistol grip" shape of handle were excavated (Fig. 4-81). This includes a fork with a riveted, bone handle

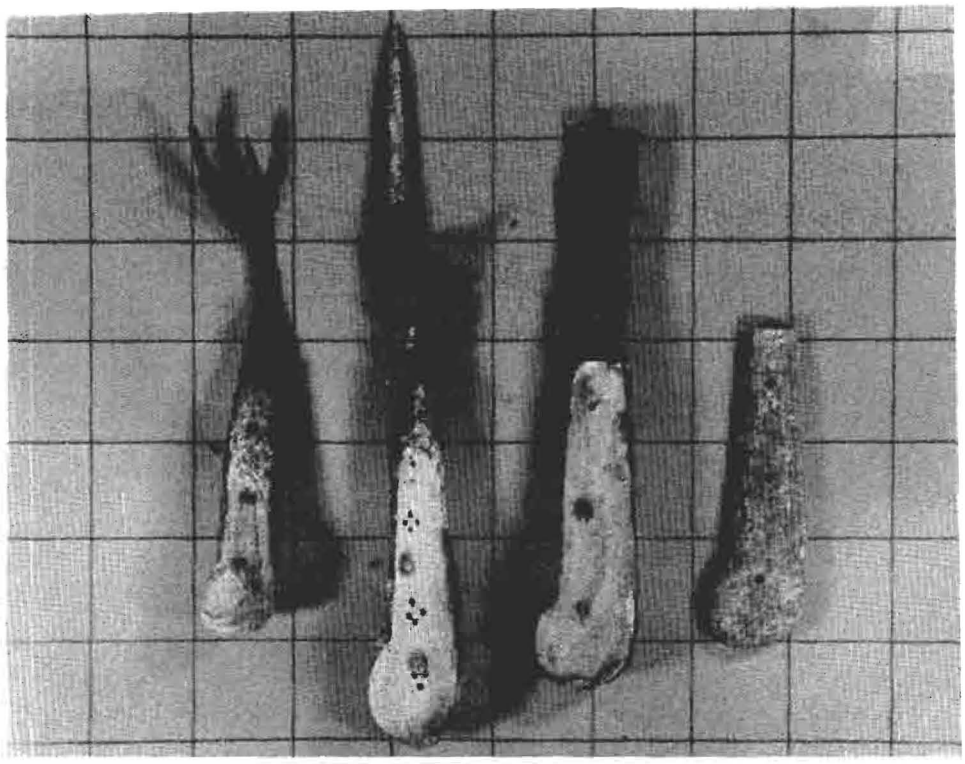


Fig. 4-81. Cutlery with bone "pistol-grip" handles, 18th century.
Left to right:
two-tined fork from 1E3D2, undated context; two-tined fork from feature 23, c. 1770; knife from 1E3D21, undated context; handle half from 1E2S3, undated context.

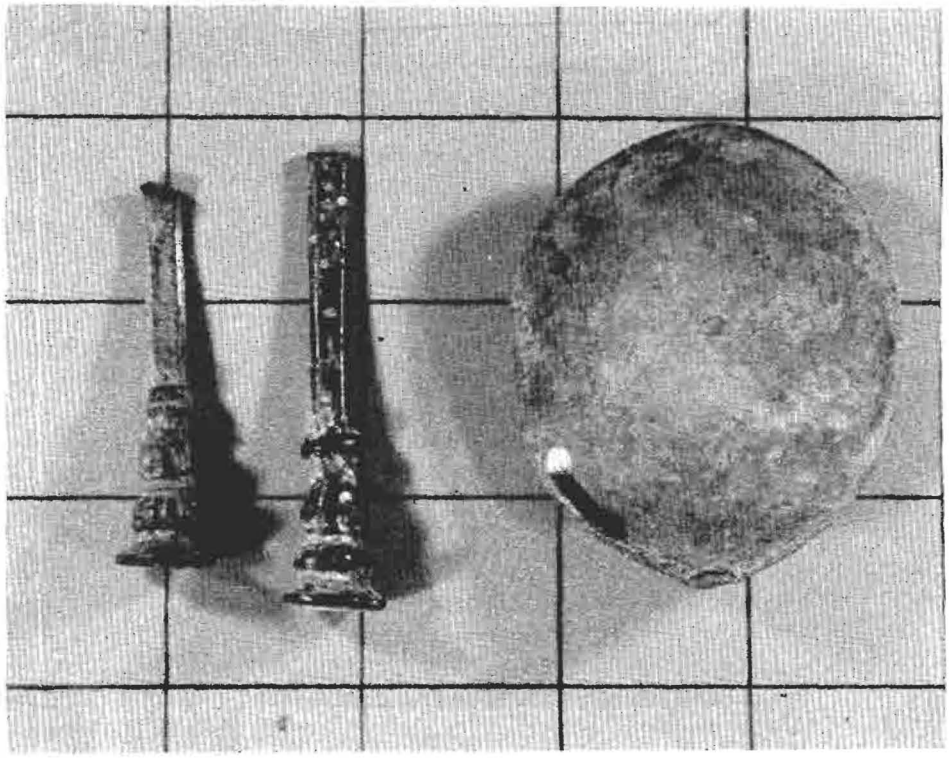


Fig. 4-82. Spoon bowl and handles, copper alloy (latten?), probably British, bowl c. 1660-1700, seal-top handles 16th or 17th century.
Left to right:
from feature 5, c. 1730-40, stamped with mark near handle (see Fig. 4-83); from 1E9H2, undated context; 1E, undated, retains remnants of tin plating.

with incised decoration that was found in feature 23. This deposit was apparently filled in several stages over a relatively long period of time, probably beginning in the mid-18th century.

Although very few spoons or spoon fragments were found, they range from types made in the 17th century to ones manufactured in the late 19th century. Two fragments of the handles of "seal-top" spoons were found in the sheet trash. This form was made throughout the 16th and 17th centuries (Fig. 4-82). These are among the earliest datable artifacts found on the site. Noel Hume (1969a: 181) states that these spoons generally date from before 1670. Both of these fragments are of a copper alloy, perhaps latten. Latten is a 17th century alloy often used for spoons. It is composed of 75 percent copper, 23 percent zinc, and 2 percent iron. The smaller fragments of one of these handles retains traces of tin plating. The wide spoon bowl, also found in the sheet refuse and also of a copper alloy, resembles the forms seen in dated silver spoons made after about 1660 (Noel Hume 1969a: 181). The concave side of the spoon is marked near the shaft, as illustrated (enlarged) in Fig. 4-83. The mark appears to have been imperfectly struck and probably represents only a portion of the complete mark.

DAGGER HANDLE (?)

This strange object (Fig. 4-84) was recovered from a context dated to 1730 (feature 4). It is cast of a copper alloy, probably bronze, and has an open channel with a rectangular cross section through its length. This channel was perhaps intended to receive the shaft of a knife or dagger. The cast design on either side of the object includes a figure with a staff. The postures of the figures are reminiscent of paintings and drawings by such artists as Raphael and Guercino depicting the infant St. John the Baptists.

FAN(?)

Three similar objects fashioned of thin, translucent bone were found on the site (Fig. 4-85). Two were found beneath the lean-to floor (1E8C2 and 1E8B3) and one beneath the south ell floor (1E1A2). Their original purpose has not been determined other than that it must have been decorative. They may have been components of a fan or perhaps hair ornaments.

FURNITURE HARDWARE

A few items of furniture hardware, all of brass, were found around the site. The top object in Fig. 4-86 is a backplate from a drawer handle, of the type used during the Queen Ann style period, 1730-60. Below that backplate is a fragment of another type used in both the Queen Anne and Chippendale style periods, 1730-95. This fragmentary backplate was recovered from feature 25 which dates to c. 1770. The third object illustrated in Fig. 4-86 has a cast scallop shell motif. This shell-shpaed object is attached by a loop to a samll plate with two holes. It appears to be a drawer pull, although the purpose of the pierced tab at the top of the shell is not clear. A dozen brass tacks found around the site may have been used on furniture, especially in upholstering chairs in the early Classical style period, 1790-1815.

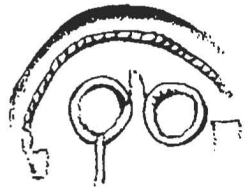


Fig. 4-83. Stamped mark on concave side of spoon bowl, near handle (Fig. 4-82, left). Appears to have been struck imperfectly (drawn at 2-1/2 times actual size).

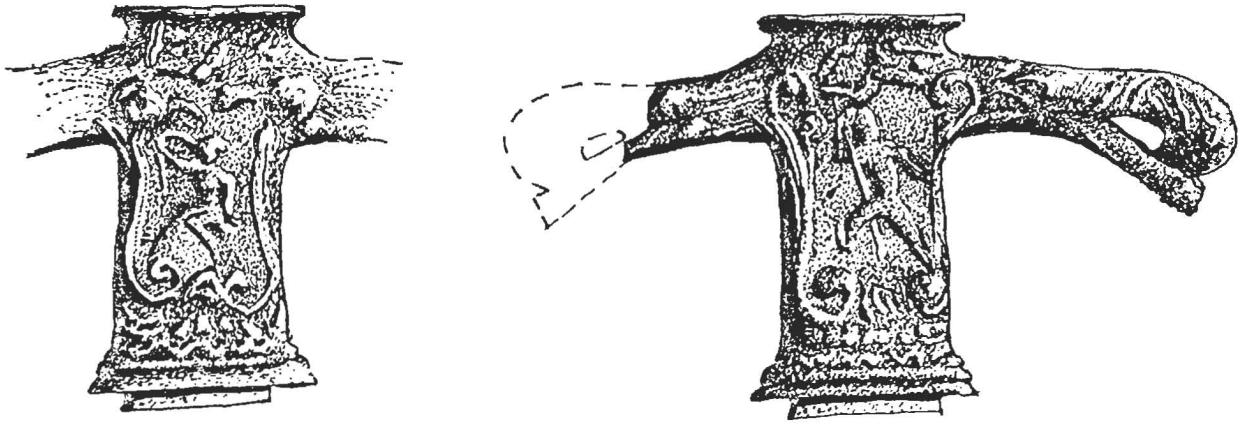


Fig. 4-84. Dagger handle(?), cast of copper alloy (bronze?), from feature 4, c. 1730. Both sides drawn to show differing decoration (drawn at full scale).

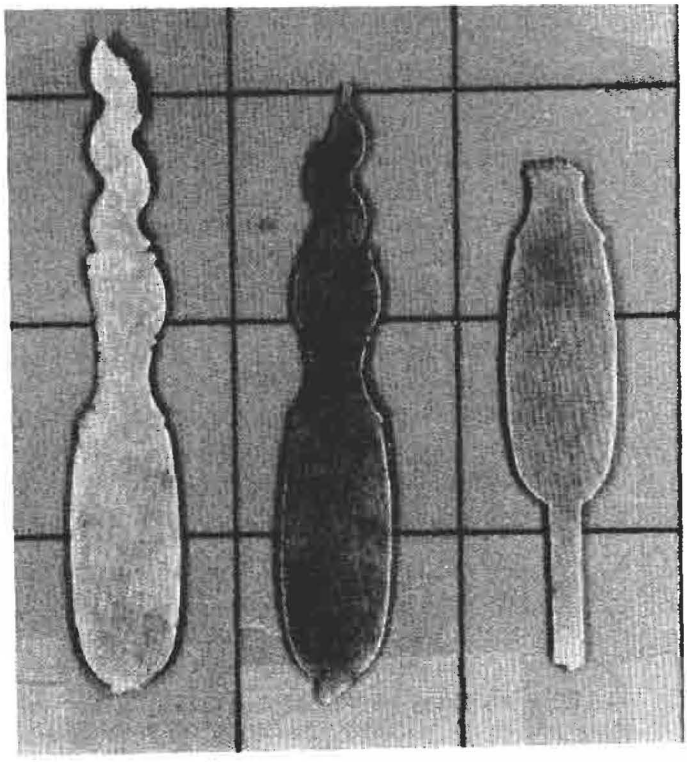


Fig. 4-85. Fan parts(?), bone, all from disturbed contexts under the flooring of the house. Left to right:
from 1E1A2; from 1E8B3; from 1E8C2.

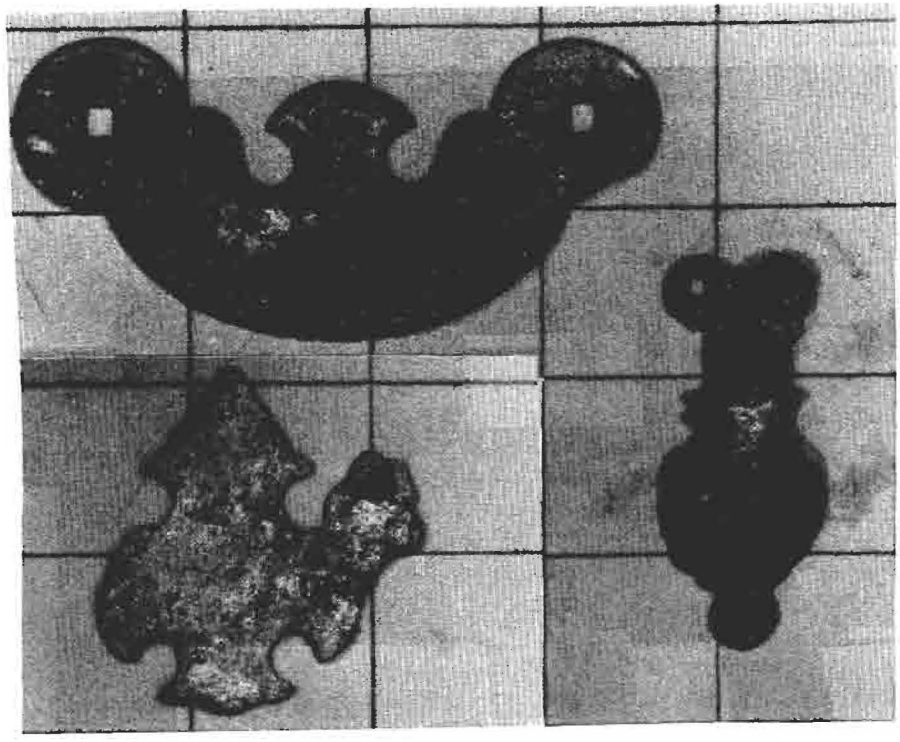


Fig. 4-86. Furniture hardware, brass, probably British. Clockwise from upper left:
from 1E8A1, undated context, Queen Anne style (1730-60);
from 1E3B2, undated context;
from feature 25, c. 1770, Queen Anne/Chippendale style (1730-95).

GUNFLINTS

Over 50 fragments of flint-like stone were recovered from the site. Less than a dozen of these appear to be gunflints (Fig. 4-87). Most of the gunflints are of the light brown color associated with French gunflints. In addition some of them display at one end the careful flaking and rounded shape also associated with the French (especially the example at top center). Noel Hume (1969a: 220, 221) states that the British and the American colonists both used the French product almost exclusively in the 18th century, and that the squarer, gray or black English flints became predominate in America in the first half of the 19th century. Two apparent examples of the latter type are seen in Fig. 4-87 and were found in the well which was filled in c. 1870 and feature 6 which dates to c. 1770.

NAILS

One of the most common finds on the site was the iron or steel nail. A total of 12,923 nails were found in the sheet refuse, including all types from hand-wrought, rose-headed nails to modern wire nails. Nails were also found in the trash deposits and in association with other features, bringing the total number on the site to more than 17,000. A concentration of nails found in the general area of the "dairy" suggests the former presence of a large outbuilding in that part of the backyard.

PASTES

Seven small pieces of faceted glass found in the sheet refuse on the site are probably pastes or imitation gems. Three are of blue glass, four of cloudy white, and all measure about 0.4" at the widest points. Pastes were used to decorate buckles in the 18th century (Abbitt 1973: 26, 28, 29) and presumably were used in sleeve links and for other purposes as well. See Fig. 4-90 for sleeve links decorated with plain glass pieces.

PINS

Over 300 common straight pins were found on the site, with the largest concentration, 127, recovered from the lean-to. Most were of brass with wrapped wire type heads.

PUMP

The largest and perhaps most interesting artifact recovered from the well is the remains of a wooden pump 4.5' tall (Fig. 4-88). The bottom 2' of the timber are square in section and about 10" on a side. The upper portion is chamfered to an octagonal section. A hole about 3" in diameter is bored through the core of the timber from the top to a point about 2" from the bottom. About 1' above the bottom, the wood is intersected by 1" diameter holes bored horizontally from each of the four sides. These remains of the pump were preserved below the water line. Whatever other parts it had, aong with its full original size, are not known.

QUARRELS

Nuerous pieces of diamond-shaped window glass were found in feature 14 dating to c. 1805. This structural debris probably came from the first period lean-to that was replaced at about that time. The quarrels vary in size from 3.6" to 4" on a side and in thickness from 0.6" to 0.8". They are light green in colr and bear a clear shadow of lead calmes along their edges.

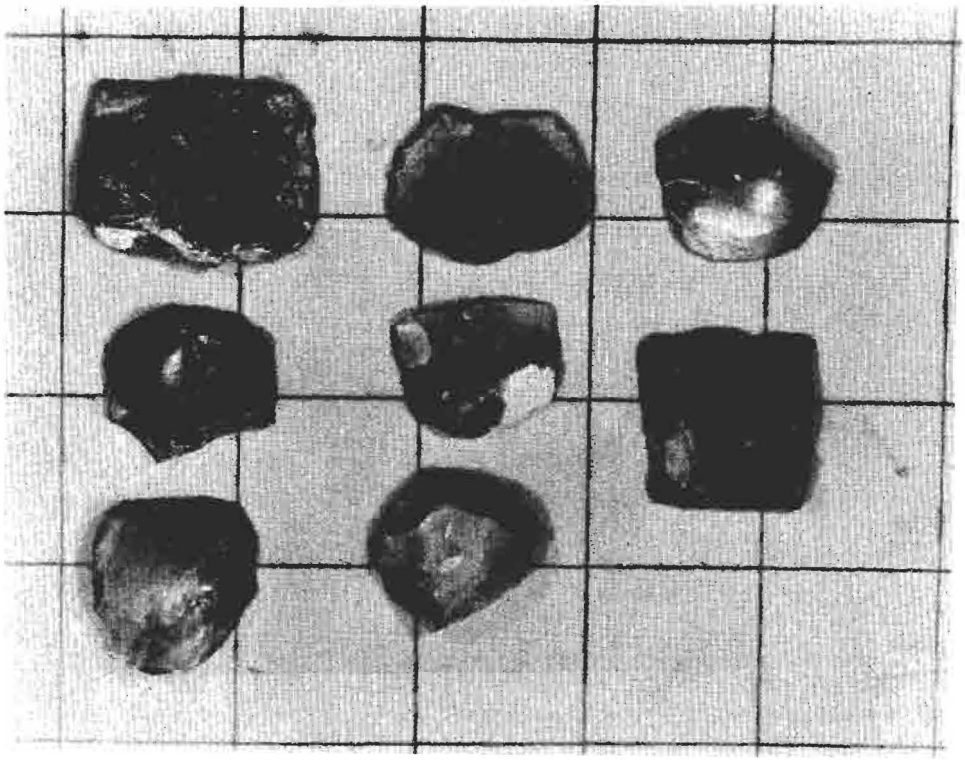


Fig. 4-87. Gunflints, all from undated contexts, except as noted. In three vertical rows, left to right, beginning at the top of each:
Left row--from feature 6, c. 1770, dark gray, English(?); from 1E3E3, brown; from 1E2A2, light brown;
Middle row--from 1E3H2, light brown, French(?); from 1E8C2, light brown; from 1E8C2, light brown;
Right row--from 1E8B2, light brown; from well, c. 1870, dark gray, English(?).



Fig. 4-88. Pump, wooden, from well, c. 1870.

RINGS, FINGER

Many metal loops were found throughout the Narbonne site, but only a small number appear to be finger rings (Fig. 4-89). A gold ring was recovered from the well, decorated simply with three incised dots on the narrow band. The other four finger rings are all of brass and all were recovered from the sheet refuse within a single subopration (IE2D2). Two are encircled with incised, parallel lines; the other two have plain bands but are ornamented with applied decorations may have been settings for pastes.

RINGS, OTHER THAN FINGER

In addition to the finger rings, about a dozen larger metal loops were found. These were mostly of brass, with diameters generally of about 1.4". It has been suggested that these may have served as curtain rings.

SHOT, LEAD

Four lead spheres, measuring from 0.4" to 0.6" in diameter, were found in the sheet refuse in the backyard or within the lean-to (IE2A1, IE2D2, IE9U2, IE8A1). These are presumably lead shot (bullets) although they may also have been used as marbles.

SLEEVE LINKS

Four pairs of matched sleeve links and one solitary button with its linking shaft still attached were discovered in the backyard or in the driveway area (Fig. 4-90). Four of the sets are made of brass in the octagonal form Noel Hume (1969a: 89) associates with the period before 1760. The incised designs on three of these pairs are illustrated in Fig. 4-91. The fifth features dark blue of black glass disks mounted in brass and is similar to a pair found at Williamsburg in a pre-1781 context (Noel Hume 1961: Fig. 5).

THIMBLES

Sarah Narbonne occupied the house at 71 Essex Street most, if not all, of her long life (1795-1895) and at least part of that time worked as a seamstress (Salem Directory 1842 as cited in Cummings 1962). She may be the source of many of the 32 thimbles found around the site. Simon Willard, an early 18th century occupant of the house, may have been another source if his occupation of "clothier" went beyond the mere production of cloth. The thimbles vary in height from 0.6" to 0.8" and many are clearly worn beyond the point of usefulness with many holes punctured through their tops.

TOBACCO PIPES

Fragments of kaolin pipes were found in quantity around the site. The bowls ranged from small, 17th century examples to sprig-molded early 19th century types. A number of examples may warrant further study. A total of 3,981 fragments of pipe stems were found in the sheet refuse and over a thousand more among the contents of discrete trash deposits and other features.

TOOLS

The only tools found on the site that can easily be related to the known occupations of occupants of the Narbonne house are the pins and

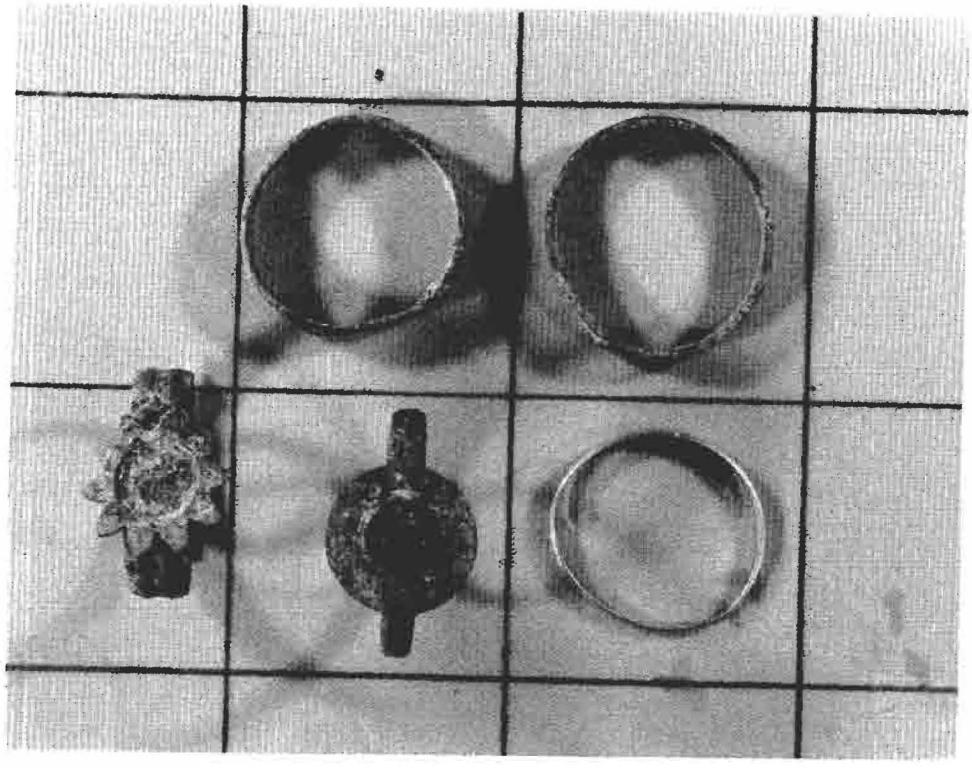


Fig. 4-89. Finger rings, all brass and all from 1E2D2, undated context, except gold ring at lower right, from well, c. 1870.

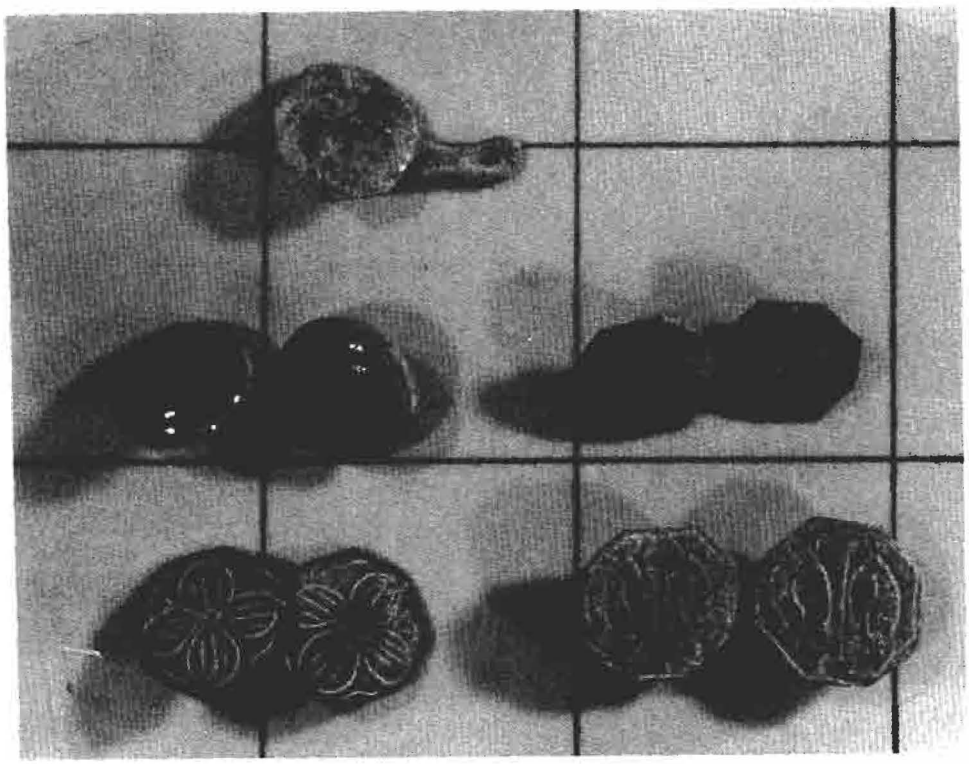


Fig. 4-90. Sleeve links, all brass except as noted, probably 18th century, all from undated contexts. Clockwise from bottom right: from 1E3D41, engraved decoration; from 1E2C1, engraved decoration; from 1E2D2, dark glass mounted in brass; from 1E3K21; from 1E3H2, engraved decoration. (See Fig. 4-91 for drawings of designs on the engraved sleeve links.)



Fig. 4-91. Drawings of engraved decorations on sleeve links illustrated in Fig. 4-90.

thimbles tentatively associated with Sarah Narbonne, the 19th century seamstress. Most of the other tools (Fig. 4-92) were recovered from datable deposits, however, and at least can be related to specific times of deposition. The fragment os a heavy saw blade was found in feature 22 (IE9NF3) which is dated to c. 1790. The head of the claw-type hammer came from feature 14 dated to c. 1805, and the broad ax head came from the same source. The fourth iron object illustrated in Fig. 4-92 has a head resembling a tack hammer or small pick. However, its heavy shank suggests it may have been mounted in a stationary position to a wooden block rather than fitted with a handle. Perhaps it served as an anvil-like fixture for a cordwainer.

TOYS

The most common toy from the site is the marble, about 50 of which were found. Most of the marbles are of unglazed, baked clay but a few are glazed. A few marbles of glass were also found. An unglazed clay marble with painted decoration is illustrated in Fig. 4-93.

Among the other toys found were whistles cast of pewter and turned from bone, two dice of baked clay, and a toy flat iron of lead (Fig. 4-93). Noel Hume (1969a: Fig. 99a.5) illustrates a similar pewter whistle which he dates to the late 18th or 19th century. Ceramic doll components, miniature ceramic vessels, and steel axles with plastic wheels were also recovered from the site.

WIG CURLER

A fragment of a kaolin wig curler with a flattened end stamped W B was discovered in feature 14, a trash pit dated to c. 1805. It closely resembles in form and mark a curler illustrated by Noel Hume (1969a: Fig. 100.3), who dates these objects to the 18th century.

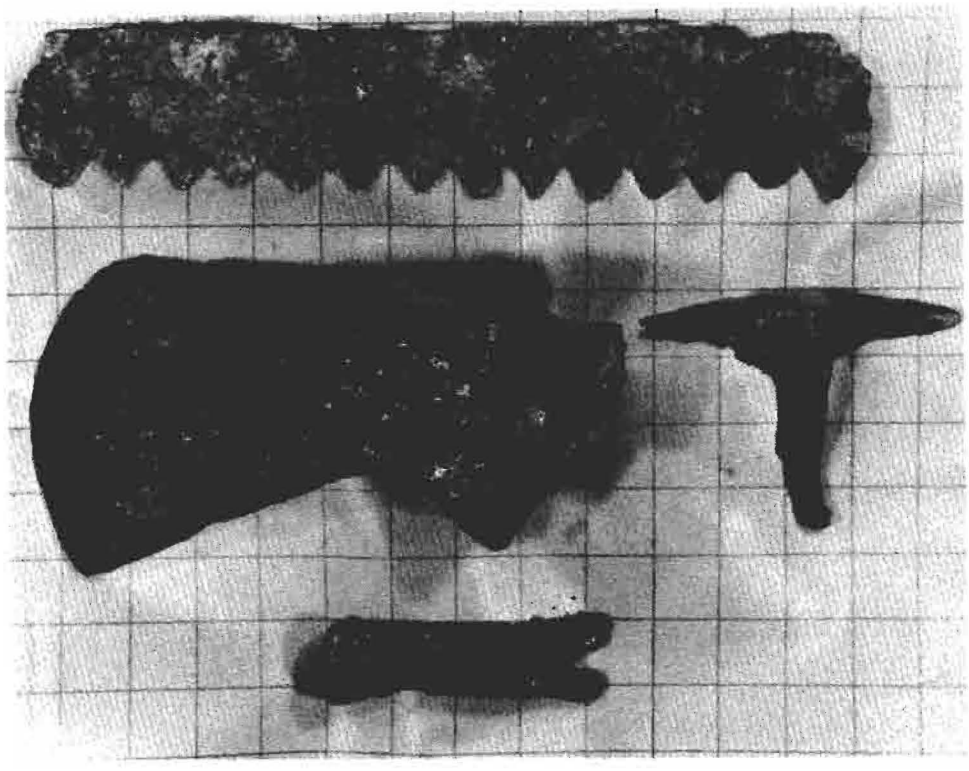


Fig. 4-92. Tools, iron: saw blades (fragment), from feature 22, c. 1790; axe head, from feature 14, c. 1805; pick-like object to right of axe head, from 1E2B2, undated context; claw hammer head, from feature 14, c. 1805.

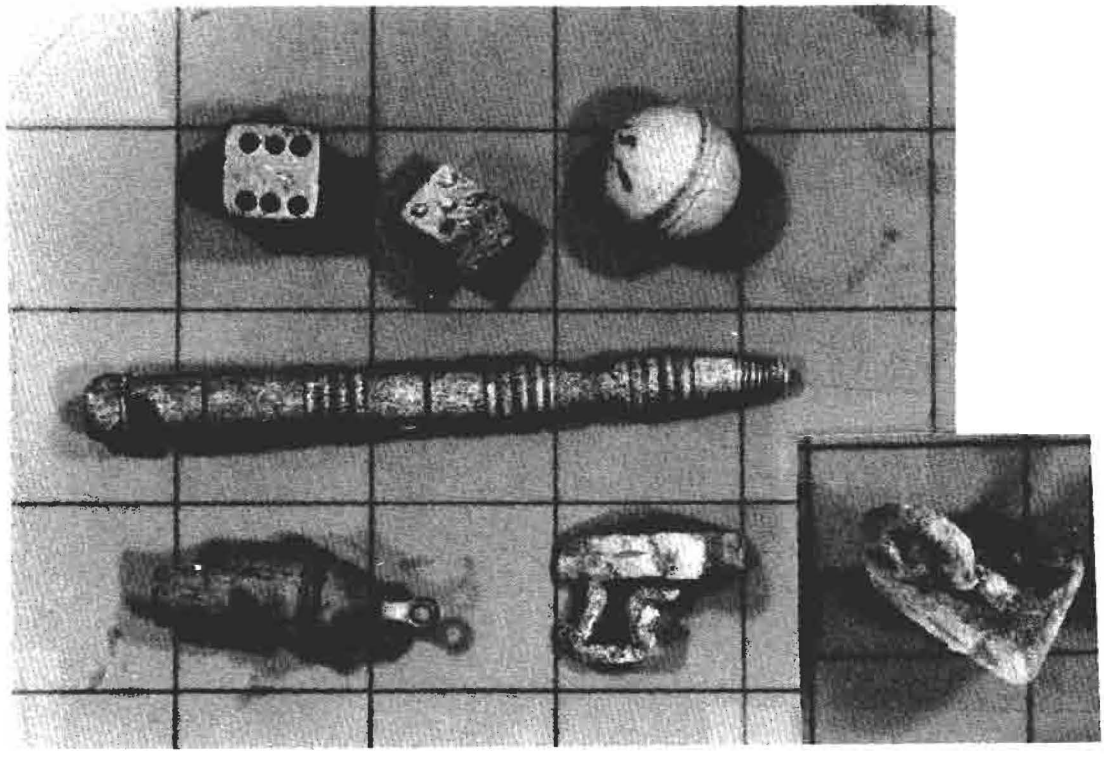


Fig. 4-93. Toys or gaming items, all from undated contexts. Left to right:
Top row--die, baked clay, from 1E3A1, die; baked clay, from 1E3E21; marble, painted (baked?) clay, from 1E9;
Middle row--whistle, turned bone, from 1E2K3;
Bottom row--whistle, pewter, from 1E3D41; toy flat iron, lead, from 1E8D1. (Inserted at bottom right is another view of the flat iron.)

CHAPTER 5 - TRASH DISPOSAL PATTERNS

I. INTRODUCTION

With the possible exception of architectural evidence, artifacts associated with trash disposal constitute the most important category of material culture which leads historical archaeologists to an understanding of past human behavior. Whereas architecture represents the formal space within which many important types of behavior took place, those conditions were often imposed on one family by an earlier generation which built the house or determined the exploitation of space on a given property. In addition, because an architectural form represents a mental template that is widely shared in a culture and persists in time, it fails to reflect specific domestic behavior patterns as readily as other aspects of material culture which are more responsive to individual control. In the Narbonne house, for example, different families were content to occupy the same architectural spaces for generation after generation with scarcely any significant changes being made to the house that Mr. Ives built. Today the house represents the ideals and economic means of its builder scarcely diminshed by the cumulative effect of its subsequent owners. In contrast to the house, however, each generation is more fully revealed in the products of domestic occupancy which survived as trash. No less important that the specific and changing refuse items is their patterning in the form of sheet refuse or deliberate disposal. To begin to understand the behavior of each generation of occupants both the objects and the patterns of disposal are important.

Archaeologists have long recognized that the examination of trash disposal offers one of the most promising opportunities for studying patterns of human behavior. The artifacts and their deposition are assumed to be products of cultural behavior and therefore conform to patterns or laws as surely as language, kinship, or architectural forms. However, the scale of this data base, especially on historic sites, makes the task of inferring behavior from trash material especially challenging. Three short excavation seasons at the Narbonne site yielded 60,000 ceramic sherds alone, whereas six seasons at Fort Michilimackinac yielded only one-quarter that number. Table 5-I shows that a total artifact count for the Salem site numbers approximately 138,000 artifacts, the combined total of sheet refuse and examined trash pits. Although only 23 trash deposits were examined, this number does represent the major trash deposits. The artifact count of 50,714 from the trash deposits would probably be inflated by less than 10 percent with the total examination of all contexts. The 87,282 count for sheet refuse artifacts is complete and deceptively larger than the count from the trash deposits. Sherd counts fail to account for a significant variation between sheet refuse and trash deposits. Individual artifact items are invariably small in sheet refuse contexts, where they have been continuously ground underfoot and subject to other forms of disturbances. Items deposited in the trash pits are more likely to be larger. A pearlware plate from a trash pit may be represented by a dozen pieces, whereas a companion plate may be ground into at least 200 pieces in sheet refuse.

In other words the 51,000 artifacts from trash deposits account for more mass than the 87,000 artifacts from sheet refuse. More importantly,

TABLE 5-1

ARTIFACT TOTALS

	Sheet Refuse		Trash Deposits	
Ceramics*	No.	%	No.	%
1	19,845	47.6	7,203	42.5
2	1,409	3.3	435	2.5
3	1,342	3.2	392	2.3
4	352	.8	235	1.3
5	8,544	20.5	2,913	17.2
6	5,251	12.6	3,249	19.1
7	1,493	3.5	259	1.5
8	1,953	4.6	945	5.5
9	1,474	3.5	1,296	7.6
Total Ceramics	41,663	47.7	16,927	33.3
Tobacco Pipes	3,981	4.5	1,133	2.2
Glass	12,048	13.8	8,700	17.1
Building Materials (nails, brick, mortar, etc.)	13,575	15.5	4,523	8.9
Misc. iron	2,934	3.3	2,805	5.5
Faunal	12,241	14.0	16,346	32.2
Other	840	.9	280	.5
SUBTOTAL	87,282	99.7	50,714	99.7
TOTAL:	Sheet Refuse and Trash Deposits Combined			137,996

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* Ceramic classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

it is trash deposits that give us a clear idea of vessel type, form and count, since most reconstructed vessels come from discrete trash deposits. The Narbonne site has been especially rich in trash deposits with hundreds of vessels reconstructed. Although Wetherburn's Tavern in Williamsburg boasted more than 200,000 artifacts, discrete trash deposits were few and the vast majority of artifacts were small pieces from the surface of the yard. The assemblage of excavated materials from that important site, while differing in important aspects from the domestic Narbonne site, falls short in the number and range of reconstructed vessels in spite of its larger sherd count (Noel Hume 1969b). In spite of these considerations, the following analysis was done in terms of individual counts. An alternative type of quantitative analysis is proposed in Appendix B.

The analysis of such huge amounts of data for the Narbonne site presents a formidable problem in synthesis. A fairly comprehensive survey of artifact types was presented in Chapter 4. The first steps in quantitative analysis and the examination of distribution patterns are discussed here.

Several site specific considerations should be kept in mind. The Narbonne site has been continuously occupied for three centuries in Salem, Massachusetts. Even at the time of its construction, c. 1670, space was at a premimum in this part of Salem and the setting was an urban one. It has retained the basic original boundaries of its long, narrow city lot down to the present day. Within the basic urban setting, however, conditions have changed dramatically over the years. Even an urban house during the colonial period was required to supply many domestic necessities which have been supplied by service industries or the municipality since the mid-19th century. The solitary Narbonne house of today is very deceptive, for the property was once crowded with specialized outbuildings: well, privy, dairy, woodshed, hog pen, barn, carriage house, and trash pits to mention only the documented or excavated examples.

To a greater extent than imagined, the rural and urban home lot of the colonial period shared many of the same activities. They differed primarily in the scale of these activities and in terms of the space within which these activities were confined. The intensive and continuous occupation of the Narbonne site for 300 years has tended to blur much evidence of site development, as we have seen in Chapters 2 and 3.

II. SHEET REFUSE DISPOSAL PATTERNS

Students of American history have long been aware of one aspect of sheet refuse disposal from 17th and 18th century municipal codes. These codes attempted to prevent persons from emptying "private tubs" and disposing of garbage in public ways or building privies against the street (Bridenbaugh 1955: 239). Although these ordinances may have prevented refuse disposal in the streets, they did not attempt to control sheet refuse disposal within the property. At the Narbonne house, sheet refuse accounted for almost 100,000 artifacts or more than two-thirds of the total artifact count.

The pattern of throwing rubbish and even disposing of bodily wastes in the yard is an ancient tradition going back to medieval times and beyond. Among some isolated American folk cultures, sheet refuse disposal has persisted to the present day. Parts of rural Ireland in the 20th century not only lacked indoor plumbing, but also lacked the tradition of building outdoor privies. During most of the American colonial period, individuals were accustomed to walking to the door, or taking a few steps into the yard, and simply throwing refuse onto the ground. No doubt this had a practical as well as convenience factor, for most table scraps were consumed by chickens or pigs, and the few hard items could be ground underfoot to accumulate over the years as a surface firmer than the bare dirt or mud.

Although Thomas Ives and his family certainly disposed of their trash in this manner, none of the sheet refuse can be assigned with assurance to the 17th century inhabitants of the Narbonne house. Part of this low visibility of the 17th century arises from the fact that late 17th and early 18th century pottery types are almost identical: trailed, combed and dotted slipwares, scraffito, gravel-tempered wares, delftwares, German and English stonewares. By the time Ives built his house, distinctive late medieval Cistercian wares and white sandy wares with green glazes had declined in popularity. Thus, little differentiation probably exists between Ives and Willard period sheet refuse. It is unrealistic, furthermore, to expect to find some huge charnel heaps representing Ives's occupation as a slaughterer, since the location of slaughterhouses often came under minicipal control. Indeed several cities had banned them from within the city limits by the turn of the 17th century (Bridenbaugh 1955: 238-39).

Nevertheless, a few general observations can be made about the patterning of sheet refuse at the Narbonne site and, in turn, the quantitative data has a value in providing a base for comparison with other sites. For ease in quantitative analysis, sheet refuse has been streamlined into a limited number of classes, with special emphasis on ceramics because of their importance as temporal and social indicators. Ceramic classes are limited to the following with general date ranges for their period of manufacture given:

1. Redwares (all time periods),
2. Trailed, combed and dotted slipwares (late 17th through mid-18th century),
3. Delftwares (17th and 18th centuries, but more strongly represented in pre-1760 contexts),
4. Fine, white saltglazed wares (1720-70),
5. Creamwares (1760-1820),
6. Pearlwares (post-revolutionary to 1830),
7. Hard white wares (after 1825),
8. Porcelain (all time periods, but earliest types apparent on site manufactured c. 1720).

One should not expect creamwares to be distributed in the same disposal pattern as slipwares or delftwares. Changes in the placement of the rear door, or in the location of outbuildings and activity areas should control or direct disposal in one area or another. The heaviest

concentration of early ceramic classes and early (large diameter) pipe stems are to be found in the fills below the lean-to flooring (see operation 8 artifact summary sheets in Appendix A). The largest number of sherds was located beneath the southern lean-to room, an area immediately outside the rear doors of the kitchen or gambrel ell until the second period lean-to was constructed c. 1800. Slipwares and delftwares (classes 2 and 3, Table 5-2) were also strongly represented along the east property line and in suboperations 2A, 2B, 2C of the backyard. The cobblestone drive appears to have been kept swept clean before it received massive fill levels after c. 1750, and very little refuse of any kind was found outside the front door in operation 4. Table 5-2 shows the distribution data in the backyard for the selected ceramic classes and Table 5-3 sums the artifact categories by operations.

Although the analysis of this data is not complete, these figures show some variation. For example, the proportion of faunal material and ceramics are significantly lower in the assemblage from the front (west) yard (operation 4), revealing that domestic refuse was not pitched out the front door. The sheet refuse in the fill over the driveway and the backyard is similar both in terms of total numbers and artifact categories. However, the distribution patterns were different. As explained in Chapter 2, the several distinctive fill periods of the driveway might more readily qualify the contents as trash deposits rather than sheet refuse. The intent seems to have been to increase the grade of the lower end of the driveway so the deposit is probably not primary sheet refuse. It is undoubtedly no accident that percentage of artifact classes correspond closely in the back and east yards, since the driveway was probably filled with soils removed from the backyard, including associated sheet refuse. Fragments of the lid for the roso antico teapot in the Turner Hoard (feature 14) were excavated in non-adjacent deposits in operation 3.

Along the east property line, the distribution of creamware and pearlware was almost identical, but the distribution of these wares differed inversely from that of combed and dotted slipwares, two early ceramic types. This distribution pattern likely reflects the location of the federal period carriage house. Early 18th century ceramic types could have accumulated in sheet refuse prior to construction of the carriage house. Its construction would then have effectively sealed out later ceramic types such as creamwares and pearlwares. A degree of mixing of artifacts occurred throughout the backyard when the contents of the builder's trench for the modern brick walk were spread uniformly across the site. During this activity unstratified loams contaminated with intrusive materials were deposited over the site of the then former carriage house.

More thorough analysis, including contour mapping of sheet refuse distribution patterns, could be made if suboperations of uniform and smaller sizes had been utilized. Ten foot excavation units, although standard on many historic sites, did not allow for the degree of horizontal control which would have been desirable for this site. In addition, the highly specific research design of the first seasons did not anticipate near total site excavation which was the product, if not the intent, of the cumulative field program.

TABLE 5-2

CERAMICS DISTRIBUTION IN BACK YARD,
OPERATIONS 2 and 9

9D Class	%
1	47.1
2	7.3
3	3.5
4	2.5
5	25.4
6	2.5
7	.9
8	4.1

N = 314

9C Class	%
1	22.7
2	2.5
3	1.0
4	2.0
5	7.6
6	13.1
7	25.6
8	6.2

N = 273

9H Class	%
1	33.2
2	2.7
3	1.8
4	.2
5	12.3
6	13.3
7	18.7
8	2.8

N = 763

9J Class	%
1	38.4
2	2.3
3	.9
4	.5
5	11.3
6	10.7
7	23.7
8	4.4

N = 513

9P Class	%
1	72.1
2	15.1
3	3.9
4	.7
5	3.4
6	.7
7	1.4
8	5.9

N = 402

9O Class	%
1	36.3
2	3.3
3	3.9
4	.6
5	28.0
6	21.1
7	.9
8	1.0

N = 666

9R Class	%
1	32.0
2	.9
3	1.8
4	3.7
5	.9
6	18.8
7	28.3
8	5.6

N = 106

9S Class	%
1	43.4
2	5.4
3	2.8
4	2.8
5	14.4
6	21.0
7	3.0
8	3.5

N = 456

9U Class	%
1	40.4
2	5.1
3	2.5
4	2.5
5	11.9
6	22.1
7	5.1
8	3.4

N = 235

9K Class	%
1	20.8
2	7.5
3	1.1
4	.0
5	4.6
6	10.4
7	40.4
8	3.4

N = 173

9L Class	%
1	5.9
2	10.7
3	4.7
4	3.5
5	4.7
6	.0
7	23.8
8	3.5

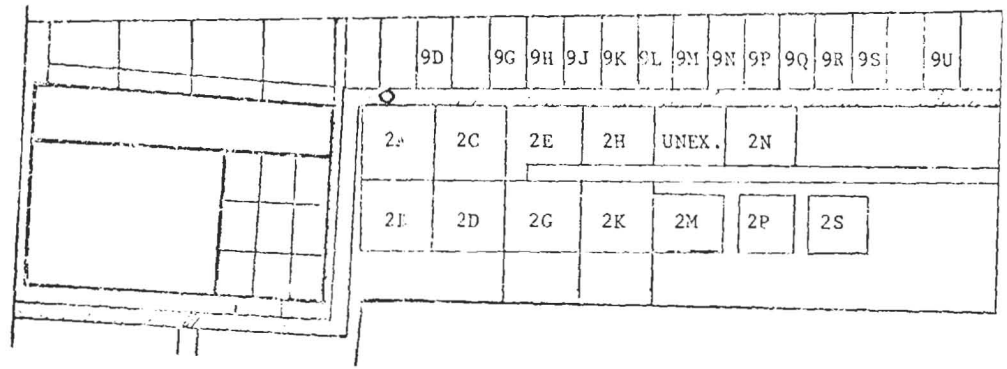
N = 84

9M Class	%
1	42.1
2	1.0
3	2.3
4	.3
5	15.3
6	15.3
7	13.2
8	4.7

N = 294

9N Class	%
1	37.7
2	3.1
3	.8
4	.8
5	21.9
6	20.7
7	8.2
8	2.9

N = 789



2A Class	%
1	57.3
2	9.0
3	5.7
4	6.5
5	9.4
6	2.1
7	.6
8	4.3

N = 2341

2B Class	%
1	60.5
2	6.8
3	7.4
4	4.8
5	11.9
6	2.3
7	.2
8	3.6

N = 2137

2C Class	%
1	57.2
2	8.6
3	7.2
4	4.4
5	13.8
6	3.0
7	.7
8	4.6

N = 2492

2D Class	%
1	59.6
2	3.9
3	5.5
4	3.7
5	11.6
6	6.9
7	2.0
8	4.4

N = 3375

2M Class	%
1	49.9
2	2.1
3	.8
4	1.0
5	17.3
6	18.1
7	2.6
8	3.3

N = 595

2N Class	%
1	54.4
2	1.5
3	.1
4	1.3
5	19.2
6	9.4
7	1.3
8	3.8

N = 718

2P Class	%
1	36.7
2	1.7
3	.8
4	1.2
5	21.6
6	13.7
7	11.2
8	5.1

N = 560

2S Class	%
1	59.9
2	2.1
3	1.4
4	1.4
5	6.6
6	12.1
7	4.7
8	4.5

N = 948

2E Class	%
1	66.5
2	2.0
3	1.2
4	2.4
5	10.6
6	8.7
7	2.5
8	2.8

N = 1729

2G Class	%
1	53.1
2	1.9
3	3.6
4	2.2
5	12.8
6	17.2
7	1.4
8	4.0

N = 2300

2H Class	%
1	64.4
2	1.2
3	1.1
4	1.2
5	13.9
6	10.2
7	2.5
8	2.2

N = 852

2K Class	%
1	46.6
2	0.0
3	1.8
4	.8
5	14.1
6	27.6
7	.9
8	3.6

N = 1110

Key

Class

1 redwares
2 trailed, combed and dotted
3 delftwares
4 white saltglazed wares
5 creamwares
6 pearlwares
7 hard white
8 porcelain

TABLE 5-3

SHEET REFUSE ARTIFACT TOTALS

Operations

	4		3		2		5		9		TOTALS
	%	No.	%	No.	%	No.	%	No.	%	No.	
Ceramics	23.6	319	57.0	17,984	42.4	16,378	51.7	1,425	42.8	5,636	41,742
Glass	20.3	274	12.2	3,850	12.7	4,901	9.8	272	20.9	2,751	12,048
Nails	41.3	557	12.6	3,991	14.6	5,636	6.6	183	19.4	2,556	12,923
Misc. Iron	1.0	14	2.8	912	3.8	1,477	5.1	143	2.9	388	2,934
Brick/Mortar	2.1	29	.8	267	.7	273	.03	34	.03	49	652
Faunal	3.0	41	10.7	3,387	18.3	7,099	17.5	482	9.3	1,232	12,241
Tobacco Pipes	6.1	83	2.3	728	6.6	2,567	6.7	187	3.1	416	3,981
Other	2.2	31	1.2	397	.6	251		27	1.0	134	840
TOTAL	99.6	1,348	99.6	31,516	99.7	38,582	97.4	2,753	99.7	13,162	87,361

Nevertheless, it is possible to extend comparison of artifact distributions to other sites, such as Fort Michilimackinac, where striking differences are present (Miller and Stone 1970). Admittedly, the military site had both a shorter temporal span, c. 1715-80, and logistical/supply problems not common to the Narbonne site. Ceramic fragments from sheet refuse alone are almost three times greater at Salem than at the Fort. However, porcelain, fine saltglazed wares and tin-glazed earthenwares were present in far greater proportions at the Fort than at the Narbonne site, where utilitarian redwares formed the largest ceramic assemblage. Table 5-4 compares selected ceramic classes for the two sites, omitting later wares which originated after the occupation of the Fort had ceased. Certainly, all the fine white stonewares that reached the Fort had to be brought directly from England or shipped from some colonial port of entry. The same can be said for the creamware and porcelain. It might seem unusual that the fine stonewares and porcelain were present in much greater relative amounts at a fort in mid-continent than at a seaport town with extensive trade networks. These ceramic classes probably represented tablewares of officers stationed at the Fort, who in turn represented a social and economic class not present in the Narbonne site during the same period. The absence of utilitarian redwares at the Fort is to a certain extent compensated for by the presence of a comparatively large proportion of tin-glazed wares, many of which probably originated in French Canada. Sources of local redware production for food storage and preparation were not close, as they were in Essex County, and the cost of shipment of these heavy vessels to a distant fort would have been prohibitive when non-breakable iron and local vessels, probably including wood, could have been used. Although recent archaeological evidence at frontier military sites has shown that the officers boasted stylish ceramics as soon as their peers in the seaport towns, the comparison between Fort Michilimackinac and the Narbonne house reveals that artifact distribution was by no means uniform throughout the colonies.

III. TRASH DEPOSITS

In his provocative paper "Ceramics from Plymouth, 1620-1835" James Deetz (1973) viewed ceramics as a "functional component" of three successive cultural systems operative in New England. During his third cultural system, extending from 1760-1835, an authentic folk culture was displaced by a cosmopolitan post-Renaissance or "Georgian derived cognitive system." This post-Renaissance world view and cultural system stemmed from a well-ordered, scrutable universe. It expressed itself in a progressive and innovative world view, bilateral symmetry in architecture, homogeneity in material culture, and an insistence on order and balance in all aspects of life. Deetz then goes on to offer hypotheses from Plymouth data which suggest that ceramic systems and trash disposal patterns are a reflection of the larger cultural systems or world view.

Deetz's hypotheses illuminate the use of certain ceramics and their disposal at the Narbonne house. Excavated evidence strongly suggests that the behavior of the inhabitants reflected Deetz's second and especially his third or post-Renaissance cultural system. Although the backyard contains numerous holes or pits which included trash in their fill, clearly defined trash pits do not occur on the Narbonne site before the last quarter of the 18th century. Whatever function the other pits might have served originally, they were not densely packed with trash.

TABLE 5-4

COMPARISON OF THE CERAMIC ASSEMBLAGES FROM SHEET REFUSE: NARBONNE HOUSE AND FORT MICHILIMACKINAC

	Ceramic Class	Narbonne House		Ft. Michilimackinac	
		No.	%	No.	%
1.	redwares	19,845	59.3	--	--
2.	trailed, combed and dotted wares	1,409	4.2	67	.5
3.	delftwares	1,342	4.0	3,769	29.1
4.	white saltglazed wares	352	1.0	2,465	19.1
5.	creamware	8,544	25.5	3,549	27.4
8.	porcelain	1,953	5.8	3,082	23.8
	TOTAL	33,445	99.8	12,932	99.9

Combed and trailed slipwares, Staffordshire saltglazed stonewares, Westerwald and Nottingham stonewares and other early to mid-18th century types are found abundantly in unstratified contexts behind the house. These same types appear very rarely in primary trash pits. A pattern of sheet refuse distribution gives way to discrete and orderly disposal during the period of Deetz's third cultural system. Is the latter disposal pattern of specific types of wares simply a function of the increased availability of imported ceramics in the late 18th century, or of the improved social status of the inhabitants? Does it also reflect a post-Renaissance world view that required a conformity of nature and man to orderly natural laws and by extension, the orderly deposition of domestic refuse as well? The validity of this proposition can only be established by a more thorough examination of the material culture of the occupants during that period, together with comparative data from similar sites.

The Narbonne site is quite exceptional for the quality and quantity of material culture in its trash deposits. More than 30 areas of trash deposition were located in the backyard, and 23 of the major trash deposits have been examined according to four periods of occupation. The trash deposits have been associated with specific families on the basis of the presence or absence of key ceramic types. Those deposits containing fine, white saltglazed stonewares but without the presence of creamwares have been assigned to the Willard period (1700-50); the presence of creamware but the absence of pearlware signified the Hodges period (1750-80); the presence of both creamware and pearlware but the absence of hard white wares indicated the Andrews period (1800-20); and finally, the presence of hard white wares or other later types signified a Narbonne period deposit (1820-1905). This categorization of trash deposits based on the terminus post quem principle permits us to relate them to the life cycles of the families who occupied the site.

Willard Period (c. 1700-50): Four trash deposits date from the Willard occupancy. One is probably a large posthole located to the west of the well (feature 2) and two others are irregular shallow depressions or hollows in the yard (features 5 and 7). The fourth deposit (feature 4) was found in a large irregular-shaped depression along the western edge of the brick walk and was in part covered or destroyed by the walk. A portion of that same depression was probably excavated to the east of the walk in suboperations 9G and 9H. Probably in no instance was a pit dug expressly for trash disposal, but rather holes or depressions had other functions and received trash as incidental parts of their contents. In the case of feature 4, the large depression was probably associated with a structure or outbuilding south of the well. The brick walk, which bisects this feature, prevented its full examination and identification.

The artifact count in these deposits ranged from 133 to 816 with an average of 414 per pit (Table 5-5). This number is considerably smaller than those of later period deposits (Table 5-6). To a considerable extent, this is a reflection of the level of material culture enjoyed by families in the first half of the 18th century. This level was considerably lower than that of later periods, when the products of the industrial revolution became increasingly available. One of the first products of

TABLE 5-5

WILLARD PERIOD TRASH DEPOSITS

	Feature 5		Feature 7		Feature 4		Feature 2		Total	
Ceramics*	No.	%	No.	%	No.	%	No.	%	No.	%
Class 1	116	59.5	11	64.7	65	69.9	96	93.2	288	70.6
2	22	11.2	3	17.6	15	16.1	1	.7	41	10.0
3	32	16.4	2	11.7	6	6.4	1	.7	41	10.0
4	11	5.6	1	5.8	4	4.3	2	1.5	18	4.4
5										
6										
7										
8	7	3.6			3	3.2			10	2.4
Other 9	7	3.6					3	2.2	10	2.4
Total Ceramics	195	24.0	17	11.7	93	16.8	103	77.4	408	24.8
Tobacco pipes	77	9.4	15	10.3	28	5.0	2	1.5	122	7.4
Glass	42	5.1	5	3.4	27	4.9	6	4.5	80	4.9
Building materials	91	11.1	58	40.	39	7.0	7	5.2	195	11.8
Misc. iron	2	.2	2	1.3	17	3.1	1	.7	22	1.3
Faunal	402	49.3	46	31.7	347	62.5	14	10.5	809	49.1
Other	4	.5	2	1.3	4	.7			10	.6
Total	813	99.6	145	99.7	555	100.0	133	99.8	1646	99.9

* Ceramic classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

TABLE 5-6

TRASH PIT CONTENTS BY PERIOD

	1700-57 Willard		1757-80 Hodges		1780-1820 Andrews		1820-70 Narbonne	
	No.	%	No.	%	No.	%	No.	%
Ceramics*								
Class 1	288	70.6	928	67.6	5074	39.3	913	40.5
2	41	10.1	197	14.3	168	1.3	26	1.1
3	41	10.0	106	7.7	234	1.8	11	.4
4	18	4.4	21	1.5	178	1.3	17	.7
5			23	1.7	2803	21.7	87	3.8
6			6	.4	2874	22.3	375	16.6
7			1	.1			259	11.5
8	10	2.4	59	4.3	745	5.7	141	6.2
9	10	2.4	32	2.3	808	6.2	423	18.7
Total Ceramics	408	24.8	1373	32.0	12884	33.6	2252	34.7
Tobacco pipes	122	7.4	195	4.5	707	1.8	109	1.6
Glass	80	4.9	598	13.9	7073	18.4	949	14.6
Building Materials	195	11.8	395	9.2	3068	8.0	865	13.3
Misc. iron	22	1.3	27	.6	1820	4.7	936	14.4
Faunal	809	49.1	1663	38.8	12592	32.8	1282	19.7
Other	10	.6	34	.7	154	.4	82	1.2
Total	1646	99.9	4285	99.7	38298	99.7	6475	99.5

* Ceramics classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

large scale English manufacturing and marketing was ceramics and the tremendous increase in ceramics in the second half of the 18th century is revealed in both the archaeological record and the documentary record, especially probate inventories. The trash pits at the Narbonne house reflect this trend. The proportion of faunal material decreased over the entire occupation period, from a mean of 48.7 percent for the Willard period to a low of 19.7 percent for the Narbonne period, while manufactured products increased.

It should be noted that the general location of early trash, based on the incidence of early ceramic classes, was in sheet refuse found close to the house. In terms of the context of other artifacts, the brick/mortar/nail ratio is particularly high in one deposit (feature 7). This perhaps represents destruction debris associated with the removal of the first period southern addition and the building of the gambrel ell, a development that took place during the Willard period.

Hodges Period (1750-80): There are three deposits of refuse that were assigned to the Hodges period on the basis of the presence of creamware and the absence of pearlware. A fourth pit (feature 23) was placed in this period of occupancy even though it contained six sherds of pearlware. These sherds probably were intrusive and accounted for less than 0.9 percent of the total ceramic sample. All of these pits were deliberately constructed, although they were not constructed originally for the disposal of trash.

The largest concentration of cultural material was found in the excavated quadrant of the builder's hole for the repair of the well (feature 3). The great majority of the ceramics were redwares. Only 1.3 percent of the ceramics were creamware. Other finds included portions of buckles, pins, thimbles, gunflints, a fragment of a cast-iron kettle, and a bone-handled knife. A major portion of this rubbish (53 percent) consisted of faunal material, a larger ratio than the other pits (Table 5-7).

The three pits were located along the east property line and have been identified as privies that received trash deposits as part of their fill or during the process of abandonment (features 23, 25, 26). Bottles, other glassware, and pottery vessels from the two smaller pits (features 25 and 26) cross-mended to produce whole vessels. These pits may have been filled with refuse at the end of the Hodges period when the Andrews moved into the house and perhaps disposed of its previous furnishings. Artifact ratios show an increase in ceramics and glass and an average of about twice as many artifacts per deposit as the earlier period, but only about one-fourth the number found in the pits of the next period.

Andrews Period (1780-1820): The Andrews occupancy is associated with some of the finest ceramics excavated on any historic site in North America. During the Andrews period, the first discrete, deliberately dug trash pits appear. Some of them are even wood lined. More than half of the approximately 30 trash deposits on the site can be dated to this period of occupation. This reflects not only a new concern with orderly trash disposal, but also a dramatic increase in material culture. Some trash deposits are small, but others are immense: the Hebb Hoard

TABLE 5-7

HODGES PERIOD TRASH DEPOSITS

	Feature 25		Feature 26		Feature 23		Feature 3		Total	
Ceramics*	No.	%	No.	%	No.	%	No.	%	No.	%
Class 1	58	38.4	82	73.2	451	68.3	337	73.9	928	67.6
2	27	17.8	5	4.4	110	16.8	55	12.0	197	14.3
3	18	11.9	13	11.6	39	5.9	36	7.8	106	7.7
4	9	5.9	6	5.3	3	.4	3	.6	21	1.5
5	1	.6	2	1.7	14	2.1	6	1.3	23	1.7
6	-	-	-	-	6	.9	-	-	6	.4
7	-	-	-	-	1	.2	-	-	1	.1
8	32	21.9	4	3.5	14	2.1	9	1.9	59	4.3
Other 9	6	3.9			16	2.4	10	2.1	32	2.3
Total Ceramics	151	22.8	112	22.6	654	51.4	456	24.5	1373	32.0
Tobacco pipes	14	2.1	8	1.6	60	4.7	113	6.0	195	4.5
Glass	236	35.7	83	16.7	207	16.3	72	3.8	598	13.9
Building materials	17	2.5	38	7.6	129	10.1	211	11.3	395	9.2
Misc. iron	-	-	8	1.6	12	.9	7	.3	27	.6
Faunal	242	36.6	241	48.6	194	15.2	986	53.	1663	38.8
Other	-	-	5	1.0	16	1.2	13	.6	34	.7
Total	660	99.7	495	99.7	1272	99.8	1858	99.5	4285	99.7

* Ceramic classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

(feature 21) contained 6,566 artifacts, the Moran Hoard (feature 8) 11,288, and the Turner Hoard (feature 14) 15,145 (Table 5-8).

The material in these trash pits includes a virtual study collection of late 18th and early 19th century ceramics (see Chapter 4). While locally made redwares remain strongly represented, unusually large numbers of fine English ceramics and Chinese porcelains, including sets, are in evidence for the first time. According to Deetz (1977), increasingly after 1760 the colonial preference was for whole place settings of a single type or pattern, whereas earlier households would be inclined to accept a table setting which included redware, combed slipware, and wooden platters. In addition, it had been long common for family members to share eating and drinking vessels, whereas the availability of place settings and the inclination to use vessels individually in the later 18th century introduced the type of table settings and decorum familiar to us today.

The Chinese export porcelain vessels, and the large number of English tea service items reveal the Anglo-American enthusiasm in the late 18th century for the tea ceremony. The variety of types and forms at the Narbonne site demonstrates not only the strength of that social ceremony in the Andrews household, but the trade networks that brought these items to Salem. One does not have to resort to widow Andrews's familial merchant ties to account for these items. A Salem ship, owned by a Derby relative, pioneered in the China trade, and Salem's newspapers frequently advertised the latest imported ceramics from England and the Orient.

Among the major trash deposits of this period, the pit associated with the Moran Hoard (feature 8) appeared to have been excavated into an older irregular feature in the middle of the yard, and was clearly separated from a lower deposit of earlier materials. It was related in vessel types to the Hebb Hoard, feature 21, which seems to have been specifically excavated to receive rubbish and contained a cross-mend with a fine Leeds creamware coffeepot from the Moran Hoard. Pieces for the top of this vessel were found in the unstratified loam of suboperations 9M and 2P.

The Turner Hoard, which contained the coffeepot which probably replaced the one broken and discarded in the earlier trash pit, dates slightly later to c. 1805. This date is based on a higher incidence of pearlware and on an 1804 dated stoneware jug. It had wood sides which prevented the casual spread of artifacts into adjacent unstratified loam. This made is possible to reconstruct a large number of nearly complete vessels. The other major trash deposit with traces of wood sides was originally dug as a privy (feature 22) and apparently filled before the carriage house was built over it. The possibility exists that this privy was incorporated within the carriage house. Several examples of privies within sheds or barns survive from the 19th century.

The final major trash deposit of this period contained a comparatively modest 1,805 artifacts (2KF2) and like the Moran Hoard, was located in the south part of a much larger irregular depression (feature 11). This depression was excavated for an unknown purpose. Other minor trash deposits are found against (feature 16), and within or to the east of the

TABLE 5-8

ANDREWS PERIOD TRASH DEPOSITS

Feature	10		11		16		Fill Over Dairy		11		22		21		8		14	
Ceramics*	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Class 1	35	68.6	42	59.1	26	17.5	105	47.9	187	60.1	1032	43.4	720	42.7	1310	39.6	1617	34.2
2	-		-		-		1	.4	10	3.2	1	.1	12	.7	102	3.0	42	.8
3	2	3.9	1	1.4	5	3.3	3	1.3	5	1.6	74	3.1	4	.2	128	3.8	12	.2
4	-		1	1.4	-		3	1.3	8	2.5	45	1.8	4	.2	87	2.6	30	.6
5	5	9.8	16	22.5	87	58.7	24	10.8	35	11.2	572	24.0	240	14.2	618	18.7	1206	25.5
6	6	11.7	10	14.0	25	16.8	58	26.2	52	16.7	296	12.4	367	21.7	681	20.6	1379	29.2
7	-		-		-		-		-		-		-		-		-	
8	2	3.9	-		1	.6	17	7.6	8	2.5	65	2.7	284	16.8	209	6.3	159	3.3
Other	1	1.9	1	1.4	4	2.7	10	4.5	6	1.9	290	12.2	55	3.2	166	5.0	275	5.8
Total Ceramics	51	47.2	71	41.5	148	72.5	221	28.5	311	28.6	2375	80.2	1686	25.6	3301	29.2	4720	31.1
Tobacco pipes	4	3.7	4	2.3	1	.4	14	1.8	105	9.6	49	1.6	10	.1	388	3.4	132	.8
Glass	7	6.4	8	4.6	4	1.9	65	8.4	150	13.8	524	17.7	729	11.1	1535	13.5	4051	26.7
Building Materials	20	18.5	34	19.8	2	.9	65	8.4	123	11.3	-	-	407	6.1	1424	12.6	993	6.5
Misc. iron	-		-		11	5.3	136	17.5	11	1.0	-	-	28	.4	684	6.0	950	6.2
Faunal	25	23.1	54	31.5	38	18.6	269	34.7	384	35.3	-	-	3674	55.9	3936	34.8	4212	27.8
Other	1	.9	-		-		3	.3	1	.1	10	.3	32	.4	20	.1	87	.5
Total	108	99.8	171	99.7	204	99.6	773	99.6	1085	99.6	2958	99.8	6566	99.6	11288	99.6	15145	99.6

TABLE 5-8

(Continued)

ANDREWS

TOTALS

	No.	%
Class 1	5074	39.3
2	168	1.3
3	234	1.8
4	178	1.3
5	2803	21.7
6	2874	22.3
7	-	
8	745	5.7
9	808	6.2
Total ceramics	12884	33.6
Tobacco pipes	707	1.8
Glass	7073	18.4
Building materials	3068	8.0
Misc. iron	1820	4.7
Faunal	12592	32.8
Other	154	.4
Total	38298	99.7

* Ceramics classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

dairy (features 9 and 10). The dairy was apparently abandoned and filled in during this period. The number of artifacts from these deposits are trifling compared to the mean of 4,255 per deposit for this period. There was an overall total of 38,298 artifacts from this period.

Narbonne Period (1820-1905): During the Narbonne occupancy, a period twice as long as the preceding one, the number of trash pits and total number of recovered artifacts dropped considerably (Table 5-9). This trend is a result of the introduction of private or municipal rubbish disposal which occurred in most New England cities during the late 19th century. The six analyzed trash deposits seemed to be randomly located in the back yard. This disposal pattern differs from that of the preceding period where the majority of trash deposits were located in a band at mid-yard between the property lines. In addition, the number of artifacts averaged only one-fourth of those found in deposits from the preceding period and in total count was approximately of the same size as that from the trash deposits of the Hodges period.

The number of clay pipe fragments remained low, continuing a trend noted in the Andrews period. This category of sex-linked artifacts probably reflects the female-dominated household of this period in which a mother and daughter were the primary long term inhabitants of the house. Of particular interest is the increase in the miscellaneous iron category. A quantity of thin-bodied tin ware, including coffeepots, cups, buckets, and pails, were recovered from the Emmons Hoard, feature 18, together with a fine assemblage of mid-19th century ceramic types. These included a few pearlware vessels in the same patterns as those recovered from the Andrews period trash pits, and demonstrated a continuity in furnishings across the periods. The well produced a large assemblage of 19th century materials including items which also related to excavated materials from earlier Andrews contexts. The well, filled in with refuse c. 1870 when city water reached Essex Street, contained an exceptionally fine assortment of molded bottles with inscriptions. Those bottles and other artifacts of the well are described in Appendix D.

IV. Analysis and Hypothesis Testing

The trash deposits derived from the occupancy of the Willard, Hodges, and Andrews families fall within Deetz's second and third cultural periods and are summarized in Table 5-10 (see Deetz 1977 for a discussion of his theory). As suggested above, it has been possible to distinguish a fundamental functional distinction among these trash deposits: in one group are features that contain artifacts in their fill but do not seem to represent a deliberate disposal of trash; a second group of features exist whose primary or secondary use was deliberate disposal of trash. There are considerable morphological differences within both categories of features. For example, the three "hoards" from the Andrews period were all designed for the purpose of primary trash disposal, yet vary in each case: the Moran Hoard being an irregular hole, the Hebb Hoard being a small square pit, and the Turner Hoard being a much larger square pit carefully framed in wood. While three privies from the Hodges period contained trash, only one of these represented a deliberate and extensive trash disposal function and was classified as a secondary-use trash pit; the other two privies contained distinct bucketfuls of trash amid cleaner fills. One of these privies which contained incidental amounts of trash

TABLE 5-9

NARBONNE PERIOD TRASH DEPOSITS

Feature	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ceramics*														
Class 1	15	38.4	68	30.4	32	38.0	253	87.5	178	41.6	367	30.8	913	40.5
2	2	5.1	3	1.3	3	3.5	2	.6	11	2.5	3	.2	26	1.1
3	1	2.5	1	.4	-	-	-	-	3	.7	6	.5	11	.4
4	-	-	4	1.7	-	-	11	3.8	2	.4	-	-	17	.7
5	5	12.8	29	13.0	5	5.9	5	1.7	18	4.2	25	2.1	87	3.8
6	7	17.9	49	21.9	2	2.3	2	.6	21	4.9	294	24.7	375	16.6
7	4	10.2	42	18.8	39	46.4	3	1.0	98	22.9	73	6.1	259	11.5
8	3	7.6	14	6.2	1	1.1	8	2.7	20	4.6	95	7.9	141	6.2
9	2	5.1	13	5.8	2	2.3	5	1.7	76	17.7	327	27.4	423	18.7
Total ceramics	39	22.1	223	66.3	84	12.7	289	29.8	427	22.6	1190	48.6	2252	34.7
Tobacco pipes	4	2.2	12	3.5	1	.1	57	5.8	5	.2	30	1.2	109	1.6
Glass	24	13.6	23	6.8	48	7.2	69	7.1	434	22.9	351	14.3	949	14.6
Building Materials	-	-	20	5.9	87	13.1	162	16.7	324	17.1	272	11.1	865	13.3
Misc. iron	44	25.0	8	2.3	252	38.1	21	2.1	532	28.1	79	3.2	936	14.4
Faunal	65	36.9	50	14.8	187	28.3	352	36.3	128	6.7	501	20.4	1282	19.7
Other	-		-		1	.1	18	1.8	37	1.9	25	1.0	82	1.2
Total	176	99.8	336	99.6	660	99.6	968	99.6	1887	99.5	2448	99.8	6475	99.5

* Ceramics classes

Class 1 redwares
2 trailed, combed and dotted wares
3 delftwares
4 fine white saltglazed wares
5 creamwares
6 pearlwares
7 hard white wares
8 porcelain
9 others

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TABLE 5-10

NARBONNE FEATURES CONTAINING REFUSE BY OCCUPATION PERIOD
A MORPHOLOGICAL AND FUNCTIONAL ANALYSIS

		Total Artifacts
WILLARD PERIOD 1700-57		
Feature 2	Posthole	133
7	Irregular shallow hole	145
5	Same	816
4	Large irregular depression under brick walk	562
HODGES PERIOD 1757-80		
3	Builder's hole for well	1,858
23	Privy with deliberate secondary trash use	1,278
25	Privy	660
26	Privy	495
ANDREWS PERIOD		
8	Moran Hoard; primary trash pit	11,288
14	Turner Hoard; primary trash pit	15,145
16	Irregular shallow hole	204
10	Same	108
9	Same	171
Dairy	Trash deposit over floor	733
11	Pit within larger irregular depression	1,085
22	Privy with deliberate secondary trash use	2,958

		Willard	Hodges	Andrews
Primary or secondary use as trash pits	Features	5	3, 23	8, 14, 21, dairy, 11, 22
Other features containing artifacts	Features	2, 7, 4	25, 26	16, 10, 9

(feature 25) showed evidence of being shored with wood, a structural element that apparently occurred in various subsurface features and was not limited to primary trash pits.

While such nominal data is best presented in a tabular format, such as Table 5-10, where trends or patterns can be read directly, certain nonparametric tests can be applied in order to test Deetz's model. The inferences developed will not be very strong, nor can we expect hypotheses drawn from this model to be vertified or refuted by data sets drawn from a single site of questionable representation. Nevertheless, such an exercise may raise implications worthy of further testing on different data.

Deetz's model of culture change suggests that a "Georgian mind set" became widespread after 1760 in Plymouth Colony, and that the new paradigm was reflected in more formal and deliberate trash disposal patterns in which sheet refuse was replaced by the orderly disposal of trash in pits. The test hypothesis based on the data in Table 5-10 is that there is a significant difference in trash disposal patterns after 1760 in the direction of more trash pits after that date. To establish this the hypothesis of no difference (H_o) was tested.

	T. P.	Other	
before 1760	0	4	4
after 1760	8	5	13
	8	9	17

The Fisher exact probability test was used to test the hypothesis. It revealed that there was a probability of occurrence under H_o of 0.0529. Since this is smaller than the level of significance of .10, it means that over 90 percent of the time this distribution of trash would not occur by chance. If privy features 25 and 26, which contained deliberate bucketfuls of trash, were included in the trash pit column, the probability would be much higher. This supports the hypothesis that trash pits are to be expected after 1760, as Deetz's model suggests. The hypothesis of no difference can be rejected.

While it is clear that sheet refuse continued to be a form of trash disposal on the Narbonne site after 1760, relationships between the two disposal patterns should show significant differences after that date according to the Deetz model. A test hypothesis could be framed as follows: greater use of trash pits after 1760 will lead to significantly larger amounts of creamware and pearlware in trash pits than in sheet refuse.

	Sheet Refuse	Trash Pits	
C.W./P.W.	13,795	6,162	19,957
Other	27,868	10,765	38,633
	41,663	16,927	58,590

Since the test hypothesis is directional, the value of X^2 at the 0.05 level of significance need be 3.841 or better to reject the null hypothesis of no

difference. The observed value of X^2 = 58.0955 far exceeds this. Consequently the null hypothesis can be rejected. There is a statistically significant difference in trash disposal patterns after 1760, as represented by the appearance of creamware and pearlware in sheet refuse and trash pits.

A second test hypothesis would be that there is a significantly greater frequency of faunal material in trash deposits rather than sheet refuse. Because the large cell numbers would inflate the chance for significant results, the frequency data was divided by 1,000.

	Sheet Refuse	Trash Pits	
Faunal	12.2	16.3	28.5
Other Artifacts	75.0	34.4	109.4
	87.2	50.7	137.9

An observed X^2 value of 6.449 exceeds the 3.841 value of X^2 at .05, thus rejecting the null hypothesis of no difference and supporting the hypothesis of the nonrandom difference in disposal patterns in sheet refuse and trash pits.

Although X^2 tests indicate that there is a significant difference in the amount of selected artifact categories in sheet refuse and trash pits, the results of these nonparametric tests should not be exaggerated. When the Spearman rank test is applied to all categories of artifacts in sheet refuse and trash deposits, the value r_s = 0.857 is obtained. This indicates a very large degree of correspondence between the groups of artifacts.

As anticipated earlier, Deetz's model of culture change could not be either verified or refuted by nonparametric tests based on data from what seems to be a decidedly "non-representative" site. At most, it receives tentative support. In the absence of statistically unbiased samples of data from numerous excavated sites, Deetz's model will of necessity remain a provacative but scientifically untested explanation of culture change.

Indeed, data derived from the archaeological record alone is insufficient to confirm a model in which one cognitive set or world view replaces another, and manifests itself (presumably) in all categories of cultural activity, not limiting itself to material culture. Certainly in his publication, In Small Things Forgotten (1977), Deetz selectively marshalls convincing evidence from many categories of material culture to support his model. For those schooled in western intellectual history, Deetz's model is a welcomed contribution which demonstrates the extension of the post-Newtonian world view to categories of material culture not previously recognized. It can be argued that the natural rights philosophy of man and the rational and orderly disposal of trash can equally be the product of the post-Newtonian or Enlightenment world view which embraces the conception of a well-ordered, scrutable universe, and expressed itself through bilateral symmetry in architecture, rational laws for man and nature, and an insistence on reason and order in all aspects of life. At once doctrinaire and flexible, these new principals pervaded colonial America in the 18th century, and served as the organizing force in the details of domestic life and the rhetoric of revolutionary self-justification.

While students of modern western civilzation and early American history have for generations charted the existence of these principles among intellectuals, Deetz has extended the concept from the realm of the intellectual history of the few, to the total culture of the many. For most historians who continue to search for generalizing principles of explanation, even though they have abandoned the search for historical "laws" a century ago, Deetz's model is a useful explanatory device. For many anthropologists, who also require it to be testable many more backyards and trash pits will have to be excavated and analyzed.

V. CONCLUSION

The sheet refuse and trash deposits from the Narbonne site constitute a wealth of potential information about the former inhabitants. Analysis of and inference from this data has only begun and many more specialized studies should be undertaken. No analysis has been made of the faunal remains from the sheet refuse, although some discussion has been made of their distribution above. Analysis of two major trash pits from the backyard has been undertaken by Joanne Bowen and her report is found in Appendix E. Features 8 and 14, the Moran and Turner Hoards, apparently date to within about 15 years of each other at the end of the 18th century and are associated with the Andrews period. Analysis revealed a great similarity between the two deposits. Immature cows (under 19 months of age) formed the major proportion of faunal remains, although pig and sheep were also present in large numbers. Chicken and turkey bones were also present, but only as a supplementary food item. Domestic and wild geese and ducks, grouse, passenger pigeon, and seagull bones were also represented. Among seafood sources, soft-shelled clams were certainly the most numerous category, but there were also many fish bones. Butchered portions of a whale vertebrae found in feature 14 were similar to those found at the Wellfleet Tavern site (Ekholm and Deetz 1971). The examination of faunal remains from other occupational periods would permit valuable intra-site comparison for a fuller understanding of food systems.

There is surprisingly little in the artifactual record that is not, strictly speaking, domestic. The occasional ax or sawblade, gunflint, or fishhook are all household items rather than part of an occupant's specialized tool kit. The only category of artifacts that might have been deposited as the result of the occupation of inhabitant is the large number of pins and needles. Sarah Narbonne was listed as a seamstress in the Salem directory, and no doubt practiced her trade at home, in contrast to other occupants of the house.

Finally, the patterned context of rubbish disposal supports Deetz's second and third cultural systems and may reflect a direct relationship between cognition and material culture. During the Hodges period, trash is clearly and deliberately deposited for the first time in the site's history, although during this period the holes used were originally dug for other purposes, mainly privy pits. Only during the Andrews period, after 1780, do we find pits dug specifically for the primary disposal of rubbish. This changing pattern corresponds neatly to Deetz's third cultural period, after 1760, when the Georgian mind set required the precise and orderly disposal of refuse. Not only was a continuation of sheet refuse disposal "unthinkable," but apparently it was not sufficient

to merely take advantage of depressions or holes already available in the yard. It should also be added that students of late 18th century material culture are grateful that the Andrews family dug trash pits in the yard and filled them from bottom to top with their rubbish.

Chapter 6 - RECOMMENDATIONS

At several points in this report, the incomplete nature of the analysis and the need for further study has been stressed. The basic reason for this recommendation is the incredible weight of material culture from the Narbonne site. It is one of the richest and most demanding domestic sites excavated and reported in North America. Neither the National Park Service nor the principal investigator were prepared for the excavation and analysis of nearly 150,000 artifacts. Thanks to the contribution of students at Bradford College and Brown University, and especially to the handful of key researchers, a substantial though still preliminary investigation of these materials has been accomplished.

A complete synthesis has been impossible, given the nature of existing funding and contract deadlines. However, the collection offers immense opportunities for research that will continue to attract scholars of early American material culture. It is hoped that the National Park Service will find the opportunity to support future research efforts on these materials to a degree outside the scope and funding of the original contract. In addition, the National Park Service is urged to anticipate the possibility that future historic sites may yield the same problems and opportunities as the Narbonne site. On comparable historic sites periodic reexamination of the research design and funding program would be welcomed and indeed required, and the appropriate professional review supplied by a consultant committee if the Denver Service Center lacks the inhouse ability to evaluate historic sites in distant New England. The effective distance between Colorado and Massachusetts can be diminished if an archaeology contract can be administered on the basis of its research merits as well as its bookkeeping accountability.

Several legitimate and promising site oriented research projects are currently underway or have been recommended in the various chapters. A fuller understanding of food systems can result from an examination of faunal materials from all datable trash pits. Other components or assemblages also merit individual attention, including but by no means limited to ceramic types. Especially important would be a detailed analysis of the domestic redwares which formed the bulk of ceramic materials from all periods. This would include research into local manufacturers. It is ironic that a great deal more is known about imported English ceramics, their place and date of manufacture, vessel form, marketing and cost, and so on, than locally produced redwares. The National Park Service should consider the publication of a monograph on ceramics and glassware from the Narbonne house in the tradition of the fine publications from Fort Michilimackinac (Miller and Stone 1970) and the steamboat Bertram (Switzer 1974).

The Narbonne materials have a greater role than simply site oriented research. They can enlarge our present understanding of a regional cultural framework. It should provide a base line for understanding other New England sites, rural as well as urban/maritime. The comparative data base is very small, but will inevitably grow in the future. At this time only three other sites occupied by individuals with maritime related occupations have been studied in Massachusetts. Only

one, the Wellfleet Tavern site, has been thoroughly excavated (Eckholm and Deetz 1971). The remaining two are single trash pits: one associated with an innkeeper's home on Naushon Island, c. 1800-10 (Yentsch 1975), and the other near a whaler's dwelling on Chappaquiddick Island, c. 1830-40 (Symonds 1977). Comparative work on these assemblages is currently underway, but until data is presented from rural sites, it will not be possible to determine the degree to which quality imported ceramics are a status indicator or simply a function of maritime-related occupations. Of particular comparative importance will be the results of additional documentary research into ceramics in Salem and Essex County. This is now the subject of dissertation research by a Brown University student.

Additional excavation at Salem would also be vital to place the Narbonne materials in comparative perspective. It is recommended that the National Park Service sponsor an excavation program at the Elias Hasket Derby house which abuts the Narbonne house to the south. It is contemporary with and related to the Andrews family. The Derbys were at the highest level of Salem society. Whether class or economic differences between the two families is represented by the ceramic categories of material culture is a significant research question which could be answered in the archaeological record.

Among the other categories of further work recommended for the Narbonne house are two final and comparatively minor excavation items. One of the earliest and largest trash deposits was located in feature 4 and associated with the Willard period. This large feature seems to have been related to an early structure, but the recovery of both structural information and additional early 18th century artifacts has been prevented by the brick walk. Portions of the walk have already been removed adjacent to this feature to allow for the excavation of the well; the removal of an additional section to the south would allow full investigation of this important early feature. And finally, further testing should be done along the western property line to determine whether any other trash pits or privies remain undetected there.

The Narbonne house is now nearly rehabilitated although its role within the Salem Maritime National Historic Site has not been fully determined. This investigator would urge the National Park Service to proceed with great caution in any future development programs at the site or within the park as a whole. Cultural resources have been the victim of certain recent site improvements such as the walk, the rebuilding of the Narbonne lean-to, and the removal of the carriage house. Serious consideration should be given to the reconstruction of the well-documented carriage house. It represented a very significant period in the site's history and would serve to indicate the presence of at least one outbuilding on a lot which must have always featured several such buildings. A new carriage house could be used for the interpretation of the history of the site utilizing selected excavated materials. In any case, it is hoped that the future interpretive program of the Salem Maritime National Historic Site will exploit some of the excavated evidence in presenting the Narbonne house to the public.

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Appendix A

ARTIFACT SUMMARIES

by

Anne Yentsch

Distribution of artifacts recovered from beneath gambrel ell

CERAMICS	Excavation Units A&C	Excavation Units, D,E,G	Excavation Units K&M	Total
Redwares	24	7	52	83
Trailed slipware	5	4	8	17
Combed and Dotted wares	1	3	9	13
Delft	5	4	14	23
Jackfield			3	3
Creamware			2	2
Pearlware		2	16	18
Hard White	1			1
Porcelain	3		3	6
Stoneware	2	4	6	12
White Saltglazed		1	1	2
TOTAL CERAMICS	41	25	114	180
OTHER ARTIFACTS				
Pipe stems	9	9	28	46
Pipe bowls	5	2	17	24
Curved glass	14	20	58	92
Bottle glass	1	2	5	8
Flat glass	20	13	65	98
Nails	39	37	101	177
Misc. Iron	4	37	50	91
TOTAL OTHER ARTIFACTS	92	120	324	536

ARTIFACT SUMMARY SHEET Excavation Unit 1G (Surface layer beneath ell)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	2			2
TOTAL CERAMICS	2			2
OTHER ARTIFACTS				
Curved glass	9			9
Flat glass	3			3
Plaster	1			1
Nails	3			3
Shell	1			1
Buttons	2			2
Bead, red	1			1
TOTAL OTHER ARTIFACTS	20			20

ARTIFACT SUMMARY SHEET Excavation Unit 1K (last pit beneath ell)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	12	3	4	19
Combed & Dotted wares	2			2
Delft	1	2	4	7
Creamware		2		2
Pearlware	11	1	2	14
Porcelain	1	1		2
White Saltglazed		3		3
TOTAL CERAMICS	27	12	10	49
OTHER ARTIFACTS				
Pipe stems		5		5
Pipe bowls	1	1	4	6
Curved glass	25	5	5	35
Flat glass	2	7	2	11
Plaster	1			1
Nails	9	11	24	44
Misc Iron	1	3	yes	4
Bone	20	yes		20
Shell	16	1		17
Buttons	2			2
Cloth	10		1 bag	10
Coral	2			2
Pin, hair	1			1
Pin, straight	2	1		3
Silver	2			2
TOTAL OTHER ARTIFACTS	94	34	35	163

ARTIFACT SUMMARY SHEET Excavation Unit 1M (test pit beneath ell)

CERAMICS	Level 1	Level 2	Level 3	Level 4	Total
Redwares	3	9	4	13	29
Trailed slipware		2	1	7	10
Combed & Dotted wares		2	8	3	13
Delft		2	2	2	6
Jackfield			3		3
Pearlware	1			1	2
Porcelain	1				1
Stoneware			2		2
White Saltglazed	1	1			2
TOTAL CERAMICS	6	16	20	26	68
OTHER ARTIFACTS					
Pipe stems		6	9	5	20
Pipe bowls		3	5	3	11
Curved glass	3	4	1	3	11
Flat glass	5	9	14	11	39
Nails	4	12	7	24	47
Misc Iron		2	31	2	35
Bone	yes	yes	58		58
Shell	1		1	2	4
lead	1				1
whalebone				1	1
wood	1				1
TOTAL OTHER ARTIFACTS	15	36	126	51	228

ARTIFACT SUMMARY SHEET Excavation Unit 2A (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	221	1131		1352
Sgraffito		3		3
Trailed slipware	20	114		134
Combed & Dotted wares	4	74		78
Delft	2	133		135
Mottled	1	8		9
Whieldon		5		5
Jackfield	1	10		11
Dry-bodied wares	1	4		5
Creamware	149	73		222
Pearlware	6	45		51
Hard White		16		16
Porcelain	27	74		101
Stoneware	22			22
Frenchen/Bellarmine	1			1
Westerwals	4			4
White Saltglazed	14			14
Slip-dipped white saltglazed	6			6
Other		19		19
TOTAL CERAMICS	479	1709		2188
OTHER ARTIFACTS				
Pipe stems	51	353		404
Pipe bowls	16	155		171
Curved glass	91	264		355
Flat glass	46	340		386
Brick	1	16		17
Plaster	2			2
Mortar		16		16
Nails	233	865		1098
Misc Iron	44	503		547
Bone	134	1193		1327
Shell	6	64		70
bar - iron		1		1
ball - rubber		1		1
bottle top - glass/clay		2		2
buckle - buckle parts		3		3
buckle - shoe		1		1
buttons	6	8		14
coin		1		1
eyelet		1		1
flint		4		4
hoop iron		1		1
knob - drawer		1		1
pins		8		8
pipe rest		1		1
sphere 3/4" dia		1		1
slate		1		1
thimbles		5		5
wood		6		6
TOTAL OTHER ARTIFACTS	630	3815		4445

ARTIFACT SUMMARY SHEET Excavation Unit 2B (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	4	1290		1294
Trailed slipware		77		77
Combed & Dotted wares		70		70
Delft		159		159
Mottled		6		6
Whieldon		7		7
Jackfield		2		2
Dry-bodied wares		1		1
Creamware		255		255
Pearlware		50		50
Hard White		5		5
Porcelain		78		78
Nottingham	1			1
Slip-Dipped White Saltglazed	1			1
Other		4		4
TOTAL CERAMICS	6	2004		2010
OTHER ARTIFACTS				
Pipe stems	1		256	257
Pipe bowls			165	165
Curved glass			193	193
Flat glass			541	541
Brick			27	27
Mortar			49	49
Nails	3		831	834
Misc Iron			134	134
Bone	2		821	823
Shell			26	26
bead, blue			1	1
buckle		1		1
buttons		7	7	14
cloth one piece		1		1
lead		1		1
musket bare-lead		1		1
pins			1	1
tack, brass			3	3
thimble			2	2
TOTAL OTHER ARTIFACTS	6	11	3057	3074

ARTIFACT SUMMARY SHEET Excavation Unit 2C (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	342	1084		1426
Trailed slipware	12	136		148
Combed & Dotted wares	14	54		68
Delft	36	145		181
Mottled	5	5		10
Whieldon	3	1		4
Jackfield	5	12		17
Dry-bodied wares	2	6		8
Creamware	260	84		344
Pearlware	6	10		16
Hard White	11	7		18
Porcelain	54	61		115
Nottingham	1			1
Frenchen/Bellarmine	1			1
Westerwald	6			6
White Saltglazed	20			20
Scratch Blue	3			3
Other		3		3
TOTAL CERAMICS	781	1608		2389
OTHER ARTIFACTS				
Pipe stems	40	213		253
Pipe bowls	30	96		126
Curved glass	80	247		327
Flat glass	159	247		406
Brick	7	1		8
Mortar	15	10		25
Nails	467	741		1208
Misc Iron	13	29		42
Bone	292	1006		1298
Shell	13	78		91
buckle		1		1
Buttons	5	2		7
iron bolt		3		3
lead	2	2		4
nut (bolt)		1		1
Marble Clay	5			5
cuff-link	1			1
dou's leg	1			1
pin		1		1
seal - glass		1		1
screw		1		1
spoonhandle		1		1
thimble	3	2		5
wood	7			7
TOTAL OTHER ARTIFACTS	1140	2683		3823

ARTIFACT SUMMARY SHEET EXCAVATION Unit 2D (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	643	1370		2013
Sgraffito		1		1
Trailed slipware	11	51		62
Combed & Dotted wares	18	52		70
Delft	45	141		186
Mottled	2	12		14
Whieldon	2	7		9
Jackfield	6	4		10
Creamware	128	266		394
Pearlware	74	162		236
Hard White	35	35		70
Annular ware		2		2
Porcelain	46	95		141
Stoneware	4			4
Nottingham	1			1
Westerwald	10			10
White Saltglazed	26			26
Scratch Blue	13			13
Other		8		8
TOTAL CERAMICS	1064	2206		3270
OTHER ARTIFACTS				
Pipe stems	64	244		308
Pipe bowls	82	158		240
Curved Glass	110	224		334
Mortar		3		3
Nails	447	825		1272
Misc Iron	37	88		125
Bone	250	1023		1273
Shell	27	9		36
Brass - furniture piece	1			1
Brass Rings	3			3
Brass Rosette (hand made)	1			1
Brass - Misc.		6		6
Bone - carved		2		2
Coin		2		2
Eyelet - brass		1		1
Flint		1		1
Marble	1			1
Pin	1			1
Glass Jewel	1			1
Iron Bolt	1			1
Iron Pipe		1		1
Wood Peg	3			3
Weight - lead		1		1
TOTAL OTHER ARTIFACTS	1029	2588		3617

ARTIFACT SUMMARY SHEET Excavation Unit 2E (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	31	1120		1151
Trailed slipware		24		24
Combed & Dotted wares		11		11
Delft		21		21
Mottled		10		10
Jackfield		2		2
Dry-bodied wares		2		2
Creamware	5	179		184
Pearlware	3	148		151
Yellow ware		4		4
Hard White	4	40		44
Annular ware		2		2
Marbelized		1		1
Sponged		2		2
Porcelain	3	46		49
Stoneware	1	7		8
Nottingham		2		2
Westerwald		3		3
White Saltglazed		37		37
Scratch Blue		2		2
Domestic		7		7
Other		4		4
TOTAL CERAMICS	47	1674		1721
OTHER ARTIFACTS				
Pipe stems	1	118		119
Pipe bowls	2	83		85
Curved glass	14	390		404
Flat glass		2		2
Brick		26		26
Mortar		15		15
Nails	9	105		114
Misc Iron		116		116
Bone	13	416		429
Shell		5		5
buttons		2		2
coins		3		3
eyelet		1		1
marble		1		1
pin		1		1
screw - brass		1		1
thimble		1		1
wood		7		7
TOTAL OTHER ARTIFACTS	39	1293		1332

ARTIFACT SUMMARY SHEET Excavation Unit 2G (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	18			18
Delft	2			2
Creamware	18			18
Pearlware	16			16
Yellow ware	4			4
Annular ware	2			2
Porcelain	2			2
TOTAL CERAMICS	62			62
OTHER ARTIFACTS				
Pipe stems	7			7
Pipe bowls	2			2
Curved glass	16			16
Nails	yes			
Bone	yes			
Shell	2			2
buttons	1			1
pickle fork (silver-plate)	1			1
rod - iron	1			1
TOTAL OTHER ARTIFACTS	30			30

ARTIFACT SUMMARY SHEET Excavation Unit 2H (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	57	492		549
Trailed slipware		11		11
Delft		10		10
Mottled	1	7		8
Dry-bodied wares		1		1
Creamware	8	111		119
Pearlware	4	83		87
Hard White	12	10		22
Annular ware		2		2
Porcelain	1	18		19
Other		2		2
TOTAL CERAMICS	83	747		830
OTHER ARTIFACTS				
Pipe stems		34		34
Pipe bowls	1	31		32
Curved glass	73	196		269
Mortar		4		4
Nails	53			53
Bone		126		126
Shell		8		8
Bone - bush base		1		1
brass nail		1		1
Buttons		1		1
cork		2		2
hook, brass		1		1
lead		2		2
pins		2		2
stone (worked)				
tack (brass)	1			1
TOTAL OTHER ARTIFACTS	128	409		537

ARTIFACT SUMMARY SHEET Excavation Unit 2K (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	9	509		518
Trailed slipware		18		18
Delft		20		20
Mottled		3		3
Jackfield		1		1
Creamware	9	148		157
Pearlware	5	302		307
Yellow ware	1	1		2
Hard White		11		11
Annular ware		5		5
Porcelain		41		41
Other		1		1
TOTAL CERAMICS	24	1060		1084
OTHER ARTIFACTS				
Pipe stems		42		42
Pipe bowls		39		39
Curved glass	23	247		270
Flat glass	1	14		15
Brick		1		1
Nails	15			15
Bone	7	364		371
Shell	2	18		20
bead (red)		1		1
bead (blue)		1		1
bone (finial carved)		1		1
buckle (brass)		2		2
buttons		2		2
chain (3-link)	1			1
flint		2		2
handle (knob)		1		1
lead		1		1
medal (St. Christopher)		1		1
pin		1		1
screw		1		1
slate		1		1
thimble		1		1
whistle (wooden		1		1
TOTAL OTHER ARTIFACTS	49	742		791

ARTIFACT SUMMARY SHEET Excavation Unit 2M (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	10	287		297
Trailed slipware		7		7
Combed & Dotted wares		6		6
Delft	2	5		7
Mottled		4		4
Creamware	8	95		103
Pearlware	13	95		108
Yellow ware	2	4		6
Hard White	4	12		16
Annular ware	2	2		4
Porcelain	4	23		27
Westerwald	2			2
White Saltglazed	1			1
Other		8		8
TOTAL CERAMICS	48	548		596
OTHER ARTIFACTS				
Pipe stems	2		32	34
Pipe bowls			22	22
Curved glass	21		162	183
Flat glass	1		15	16
Brick			3	3
Mortar	5		3	8
Nails	30		235	265
Misc. Iron	1		16	17
Bone	31		471	
		includes fish bones	(85)	502
Shell	2		41	43
brass (misc)			4	4
buttons			6	6
pin (brass)	1		2	3
ring (brass)			1	1
wooden chair rung			2	2
TOTAL OTHER ARTIFACTS	94		1015	1109

ARTIFACT SUMMARY SHEET Excavation Unit 2N (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	38	353		391
Trailed slipware	1	8		9
Combed & Dotted wares		2		2
Delft	2	7		
Mottled	1			1
Whieldon	2	1		3
Jackfield		6		6
Dry-bodied wares		1		1
Creamware	7	131		138
Pearlware	9	59		68
Yellow ware	3			3
Hard White	5	5		10
Annular ware		13		13
Porcelain	5	23		28
White Saltglazed	1			1
Other		8		8
TOTAL CERAMICS				
OTHER ARTIFACTS	4	29		33
Pipe bowls		20		20
Curved Glass	86	104		190
Brick	8	25		33
Mortar		6		6
Nails	22	85		107
Misc. Iron	3	120		123
Bone	7	165		172
Shell		15		15
brass (misc)	2			2
buttons		1		1
Flint		13		13
knife blade		1		1
marble		1		1
slate		1		1
wood		3		3
TOTAL OTHER ARTIFACTS	132	589		721

ARTIFACT SUMMARY SHEET Excavation Unit 2P (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	18	188		206
Trailed slipware		5		5
Combed & Dotted wares		5		5
Delft		5		5
Mottled		4		4
Creamware	5	116		121
Pearlware	10	67		77
Yellow ware	2	6		8
Hard White	5	58		63
Annular ware	1	2		3
Porcelain	5	24		29
Nottingham		1		1
Frechen/Bellarmine		1		1
Other		1		1
TOTAL CERAMICS	46	483		529
OTHER ARTIFACTS				
Pipe stems	3	41		44
Pipe bowls	1	19		20
Curved glass	16	224		240
Brick	3	4		7
Mortar		9		9
Nails	2	166		168
Misc. Iron	6	22		28
Bone	10			10
Shell		14		14
brass hook eye		1		1
drawer pull (porcelain)		1		1
glass rod (1½")		1		1
lite (iron)		1		1
marble (clay		1		1
ring (brass		1		1
slate		1		1
wood		1		1
TOTAL OTHER ARTIFACTS	41	507		548

ARTIFACT SUMMARY SHEET Excavation Unit 2S (Sheet Refuse)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares	8	560		568
Trailed slipware		16		16
Combed & Dotted wares		4		4
Delft		14		14
Mottled		2		2
Whieldon	1	3		4
Dry-bodied wares		5		5
Creamware	5	58		63
Pearlware	5	110		115
Yellow ware		29		29
Hard White		45		45
Annular ware		3		3
Mocha ware		1		1
Rockingham		2		2
Porcelain	4	39		43
Stoneware		6		6
Westerwald		4		4
White Saltglazed Slip-dipped		1		1
White Saltglazed		11		11
Other		5		5
TOTAL CERAMICS	23	918		941
OTHER ARTIFACTS				
Pipe stems		55		55
Pipe bowls		59		59
Curved glass	10	263		273
Brick		12		12
Mortar		1		1
Nails	5			5
Misc. Iron		345		345
Bone	4	428		432
Shell		8		8
Buttons		5		5
Bead - blue		1		1
Coin		2		2
Door knob - clay	1			1
Flint		1		1
Pill Box		1		1
Misc Metal		7		7
TOTAL OTHER ARTIFACTS	20	1188		1208

ARTIFACT SUMMARY SHEET Operation 3 - Sheet Refuse

	Excavation Unit								
CERAMICS	A	B	C	D	E	G	H	K	Total
Redwares	443	433	376	1097	640	891	1793	1468	7141
Sgraffito			1	1	1		1	1	5
Trailed slipware	12	14	5	45	7	17	19	18	137
Combed and dotted wares	3	16	4	7		7	4	76	117
Delft	59	40	40	57	25	27	63	74	385
Mottled	3	4	4	5	6	1	6	10	39
Whieldon	2	7		5	3		1	3	21
Jackfield	6	3	13	16	18	21	33	17	127
Dry-bodied wares	7	3		1	2				13
Creamware	397	389	399	988	401	442	782	1364	5162
Pearlware	74	216	196	402	264	411	411	943	2917
Yellow ware	1			4	3	7	1		16
Hard white	19	26	91	38	45	39	153	32	443
Annular ware		10		8	5	12	10	13	58
Mocha ware								1	1
Marbelized						1	18	3	22
Sponged			2	1	1	2	6	2	14
Rockingham						1			1
Porcelain	50	99	64	113	145	169	161	186	987
Stoneware	3		3	10	13	3	16	15	63
Nottingham				1					1
Frchen/Bellarmine				1	5			2	8
Westerwald	2	4	5	7	7	7	6	8	46
White saltglazed slip-dipped	5	17	8	7	18	18	13	19	105
White saltglazed		2	1	1			9		13
Scratch blue	2	2	1		1	5		1	12
Agate		6							6
Fiaence		3	1	2			1		7
Domestic			1	5		38	13	8	65
Other		9		7	9	11	14	2	52
TOTAL CERAMICS	1088	1303	1215	2829	1619	2130	3534	4266	17984
OTHER ARTIFACTS									
Pipe stems	47	27	49	59	42	109	78	81	492
Pipe bowls	41	22	14	54	8	18	35	44	236
Curved glass	99	128	147	301	361	710	300	473	2519
Bottle glass								89	89
Flat glass	179	205	124	214	82	176	93	169	1242

ARTIFACT SUMMARY SHEET Operation 3 - Sheet Refuse

OTHER ARTIFACTS (Continued)	Excavation Unit A	B	C	D	E	G	H	K	Total
Brick		2		82	14	16	5	6	125
Plaster	1				1			4	6
Mortar	4	9	4	20	17	10	11	61	136
Nails	548	650	594	578	355	226	506	534	3991
Misc. iron	104	144	31	187	72	1	20	353	912
Bone	99	122	254	1277	345	151	222	791	3261
Shell	3	7	2	34	8	14	5	53	126
Buttons	4	6	5	12	11	5	7	3	53
Other (Specify)	44	5	16	44	171	21	24	19	344
TOTAL OTHER ARTIFACTS	1173	1327	1240	2862	1487	1457	1306	2680	13532

ARTIFACT SUMMARY SHEET Excavation Unit 4A,B,C,G (Sheet Refuse - West Yard)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares				98
Sgraffito				1
Trailed slipware				18
Combed & Dotted wares				14
Delft				40
Mottled				4
Jackfield				1
Creamware				42
Pearlware				31
Hard White				19
Porcelain				20
Marbelized salt-white				8
Sponged slip-dipped				1
Rockingham Nottingham				2
Westerwald				9
Bellarmine				1
TOTAL CERAMICS				309
OTHER ARTIFACTS				
Pipe stems				51
Pipe bowls				32
Curved glass				88
Flat glass				186
brick				5
Mortar				24
Nails				557
Misc. Iron				14
Bone				40
Shell				1
brass ring band				1
brass spoon without handle				1
buttone				2
coin - George II				1
copper - flat				1
flint				5
iron cap				1
lead seal				1
marble				1
pin				1
wine glass stem				1
wood fragments				15
TOTAL OTHER ARTIFACTS				1029

ARTIFACT SUMMARY SHEET Excavation Unit 4 A, B, C (Builder's Trench E11-West)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares				66
Trailed slipware				11
Combed & Dotted wares				8
Delft				19
Mocha ware westerwald				1
Marbelized salt-glazed				1
Sponged sc.blue debased				1
Porcelain				1
TOTAL CERAMICS				108
OTHER ARTIFACTS				
Pipe stems				22
Pipe bowls				22
Curved glass				13
Flat glass				56
Brick				3
Mortar				18
Nails				64
Misc. Iron				57
Bone				72
Shell				3
lead strip				1
brass object				1
charcoal				6
TOTAL OTHER ARTIFACTS				338

ARTIFACT SUMMARY SHEET - Operation 5

	Excavation Unit											
CERAMICS	A	B	C	D	E	G	H	J	K	L	M	Total
Redwares	250	7	42	51	81	59	34	30	28	107	22	711
Trailed slipware	12			2	5	1	1	2	1	8		32
Combed and dotted wares	4	1	1				1			4		11
Delft	19				4	1	1	1		6	1	33
Mottled	4	1	2		1	2						10
Whieldon	1				2							3
Jackfield			2	2	1							5
Dry-bodied wares	1											1
Creamware	62	7	16	25	35	14	7	11	12	13	6	208
Pearlware	72	7	14	5	17	12	3	3	2	35	15	185
Yellow ware	2			3						5		10
Hard White	9	3	9	9	3	2	2	7	4	59	6	113
Annular ware	6		3	1	2			1			1	14
Rockingham									1			1
Porcelain	17	2	2	8	3	2	2	4	3	7	1	51
Stoneware	2											2
Westerwald			1							5		6
White saltglazed	4	1	2	4	3	1		1	2	1		19
Scratch blue	1									1		2
Domestic			1	1	3	1		1	2			9
Other			1		1							2
TOTAL CERAMICS	466	29	96	111	161	95	51	61	55	251	52	1428
OTHER ARTIFACTS												
Pipe stems	26	2	10	11	16	13	9	7	5	18		117
Pipe bowls	29	1	3	6	9	7	5	2	1	4	3	70
Curved glass	29	1	5			14			12	104	20	185
Bottle glass				19	21							40
Flat glass	12	8		13						14		47
Brick	1		8	8			2		3	4		26
Mortar	4							1		3		8
Nails	71	15		18	21	8		7	6	37		183
Misc. iron	66		9	4	2		2	2	1	2	55	143
Bone	216	40	21	56	72	24	6	7		13	8	463
Shell	13		1	2				1	1	1		19
Buttons	1									1		2
Flint (E.U. unknown)												2
Marble (E.U. unknown)												5
TOTAL OTHER ARTIFACTS	468	67	57	137	141	66	24	27	29	201	86	1310

ARTIFACT SUMMARY SHEET Excavation Unit 8H (North Lean-to Room)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares				39
Trailed slipware				4
Combed & Dotted wares				8
Delft				10
Creamware				6
Pearlware				2
Hard White				3
Annular ware - stoneware				1
Stoneware salt glazed				8
Westerwald				4
Porcelain				3
Faience				1
Other				1
TOTAL CERAMICS				90
OTHER ARTIFACTS				
Pipe stems				16
Pipe bowls				16
Curved glass				7
Flat glass				35
Mortar				25
Nails				143
Misc Iron				14
Bone				169
Shell				9
brass plate (flat) with two prongs				1
brass ring				1
iron ring 1" diameter				1
lamp (portion of)				1
wood (blade of) 6" long (split and sawn)				1
wooden fragment (shaped) with projecting tenon				1
TOTAL OTHER ARTIFACTS				440

ARTIFACT SUMMARY SHEET Excavation Unit 8D,E,G (Middle Lean-to Room)

CERAMICS	Level 1	Level 2	Level 3	Total
Redwares				174
Trailed slipware				8
Combed & Dotted wares				15
Delft				24
Mottled				4
Jackfield				18
Creamware				31
Pearlware				7
Nottingham				1
Annular ware				2
White Salt-glaze				9
Scratch blue				1
Westerwald				1
Other				2
Porcelain				18
TOTAL CERAMICS				315
OTHER ARTIFACTS				
Pipe stems				29
Pipe bowls				20
Curved glass				43
Plaster				77
Mortar				15
Nails				220
Misc Iron				60
Bone				547
Shell				27
glass - diamond				1
bone fragment inscribed				1
brass decoration - furniture				1
iron pot fragment				1
iron - stirrup shaped				1
iron key				1
lead				5
leather				8
material				6
pins				55
tarpaper				6
thimble				2
slate				1
wooden ball				1
TOTAL OTHER ARTIFACTS				1128

ARTIFACT SUMMARY SHEET Excavation Unit 8A,B,C (Fill from beneath Southern Lean-to Room)

CERAMICS	Level 2	Level 2	Level 3	Total
Redwares	234	248	196	678
Sgraffito	1			1
Metropolitan ware	2	1		3
Trailed slipware	43	59	31	133
Combed & Dotted wares	29	33	17	79
Delft	66	89	44	199
Mottled	5	6	1	12
Whieldon			1	1
Jackfield	10	3	1	14
Dry-bodied wares			4	4
Creamware	17	15	23	55
Pearlware	5	4	5	14
Hard White	1		1	2
Annular ware		2	2	4
Porcelain	16	18	17	51
Nottingham	1	1		2
Frechen/Bellarmine	10	3		13
Westerwald	15	13	2	30
White Saltglazed	14	19	7	40
Scratch Blue	4	2	3	9
Other			2	2
TOTAL CERAMICS	473	516	357	1346
OTHER ARTIFACTS				
Pipe stems	76	118	62	256
Pipe bowls	58	90	60	208
Curved glass	53	50	64	167
Bottle glass	30	31	36	97
Flat glass	127	136	51	314
Brick			3	3
Mortar	48	19	25	92
Nails	366	522	270	1158
Misc Iron	66	27	135	228
Bone	317	565	796	1678
Shell	10	5	18	33

CONTINUED:
(see attached sheet with title Other Artifacts Specify)

ARTIFACT SUMMARY SHEET (Continued)

Excavation Unit 8A,B,C (Fill from beneath Southern Lean-to Room)

Other Artifacts (Continued)	Level 1	Level 2	Level 3	Total
bead - gold			1	1
bone - part of fan		1		1
bone - carved		1		1
buckles	3	1		4
buttone	7	3	4	14
coin 1906	1			1
coral		1		1
comb - tortoise shell		1		1
cork			1	1
flint	2	6	2	10
fruit pits	6	2	5	13
horseshoe			1	1
ivory	1		1	2
lead	5	3	3	11
leather fragments	4	14	46	64
misc metal	11	5	9	25
peach pit	1	3		4
pins	33	56	38	127
rope			1	1
sewing eyes			2	2
slate		1	2	3
sliding bolt	1			1
spoon			1	1
thimble	1	2	1	4
whale bone 2"		1		1
wrought iron rod 9"	1			1
wood, carved			1	1
TOTAL OTHER ARTIFACTS	1228	1664	1639	4531

ARTIFACT SUMMARY SHEET - Operation 9

	Excavation Unit															
CERAMICS	B	C	D	G	H	J	K	L	M	N	P	Q	R	S	V	Total
Redwares	147	100	148	62	254	197	36	5	124	298	290	142	34	198	95	2130
Sgraffito			1	1			1					2	1			6
Trailed slipware	1	8	17	3	7	9	11	9	2	19	58	20	2	19	10	195
Combed and dotted wares	1		8	4	14	3	2		1	6	3	2		6	2	52
Delft	17	6	11	3	14	5	2	4	7	7	16	26		13	6	137
Mottled				8	4	2		1								15
Whieldon	2		1							8		1				12
Jackfield	1	2		5										1	4	13
Dry-bodied wares	1				2	1				3						7
Creamware	78	30	80	21	94	58	8	4	45	173	14	187	18	66	28	904
Pearlware	46	13	8	34	102	55	18		45	164	3	141	30	96	52	807
Yellow ware	2	2	1	10	67	12	16	33	6	14	3	17	2		1	186
Hard white	16	9	3	70	143	122	70	20	39	65	6	6	3	14	12	598
Annular ware				1		2						2				5
Mocha ware		1			1	1										3
Rockingham	2	2	1	1	11	5	1		1	2	2		4			32
Porcelain	53	11	13	17	22	23	6	3	14	23	4	10	6	16	3	224
Stoneware															13	13
Nottingham	2		1		1					1		2				7
Frechen/Bellarmine	1					1				3				1		6
Westerwald	2		5	3	5	1	1	2	3	4		2	1			29
White saltglazed slip-dipped			8	6	2	3		3	1	5	2	4	4	12		50
White saltglazed										1						1
Scratch blue				2						1	1			1		5
Other	4	7	9	22	26	13	1		6	3	1	5	1	13	4	115
TOTAL CERAMICS	376	191	315	273	769	513	173	84	294	800	403	569	106	456	230	5552

ARTIFACT SUMMARY SHEET - Operation 9

OTHER ARTIFACTS	B	C	D	G	H	J	K	L	M	N	P	Q	R	S	V	Total
Pipe stems	35	9	46	33	34	45	16	22	7	12	2	26	7	21	12	327
Pipe bowls	3	5	14	2	16	11	1	6	2	8	1	11		3	6	89
Curved glass	21	9	11	111	61	132	48	8	32	64	3	65	24	134	38	761
Bottle glass	14	10	15	48	29	54	19	16	77	67	23	45	16	38	54	525
Flat glass	32	21	11	88	81	157	45	200	177	257	22	124	46	141	83	1485
Brick		1				2										3
Mortar					1	3	2	1	19		2	4		12	2	46
Nails	128	94	102	54	186	392	26	15	309	309	53	344	70	410	64	2556
Misc. iron	8	14	6	9	12	86	4	5	78	62	8	43	6	40	7	388
Bone	61	10	72	69	39	66	92	31	124	271	6	74	20	88	125	1148
Shell	1	1	3	1	4	23		2	4		1	39	1	4		84
Buttons	1					2	1			1		1		3	1	10
Other (Specify)	6	4	2	13	27	7	3		12	10	3	9	1	18	9	124
TOTAL OTHER ARTIFACTS	310	178	282	428	490	980	257	306	841	1061	124	785	191	912	401	7546

Appendix B

DATING TOOLS

by

G. P. Moran

DATING TOOLS

Stanley South's (1972) mean ceramic date formula, presented in detail in the 1971 "Conference on Historic Site Archaeology Papers," has been widely acclaimed as a new dating tool. Several thoughtful papers accompanying its publication questioned certain theoretical assumptions, offered statistical refinements, and even deleted certain ceramic type categories. But the proof of the formula was manifest in its correlation with numerous contexts which were dated by historical documentation. It worked.

South's mean ceramic date formula has been applied to the contents of the major trash pit, together with a modification of that formula based on mass weight rather than sherd count. The purpose was two-fold. In the first place, a goal was to view the disposal sequence over time by applying the formula to the arbitrary vertical levels. That is, not only a mean ceramic date was sought for the entire assemblage, but also an indication of the functional life of the trash pit. Secondly, the intent was to modify South's formula by substituting mass weight in place of sherd count as a measure of frequency.

There are at least three distinct advantages to utilizing mass weight rather than sherd count in South's formula and perhaps other statistical manipulations as well. Logic suggests that the number of sherds is not necessarily a valid indication of vessel frequency. Indeed, the variability of breakage patterns has been called into question in the 1971 conference papers. A shell-edged plate may break into three or 30 pieces, but its mass weight remains the same in either case. It would seem that the validity of the mean ceramic date formula would be increased, and a potentially significant extraneous variable eliminated by basing frequency on mass weight rather than sherd count.

The ideal index for frequency would, of course, be vessel count rather than sherd count. By substituting mass weight for sherd count, one shares the statistical advantage of vessel count by moving from a level of nominal data to ratio data. One final advantage is the convenience factor. It is much more efficient to weigh artifacts than to count them.

In the analysis of the Turner Hoard, the mean ceramic date formula was applied using both sherd count and mass weight to the unstratified half, and the 19 separate 2" lots of the stratified half. Then the mean ceramic date was computed on 4" and 6" levels for comparative purposes. The results were illuminating. The mean ceramic date for the unstratified half was 1793.03 based on sherd frequency and 1793.33 based on mass weight. The date based on weight is four months more recent. The mean ceramic date for the stratified half was 1792.77 based on sherd count, 1793.36 based on weight. Again, the date based on weight is seven months more recent. The mean ceramic date for the entire assemblage is scarcely affected by the substitution of mass weight for sherd count. Then the stratified half, which was excavated according to arbitrary 2" levels, was examined. When the mean ceramic date formula is applied to the various levels, in order to detect the sequence of disposal over time, the mean ceramic date changed from 1799.06 to 1773.33 based on sherd count from the top to the bottom level. Computed on the basis of mass

weight, the mean ceramic date varied from 1798.71 to 1766.80, suggesting a broader range for the active life of the trash pit. On the basis of sherd count and weight respectively, the mean ceramic date formula indicates a life of either 26 or 32 years for the trash pit.

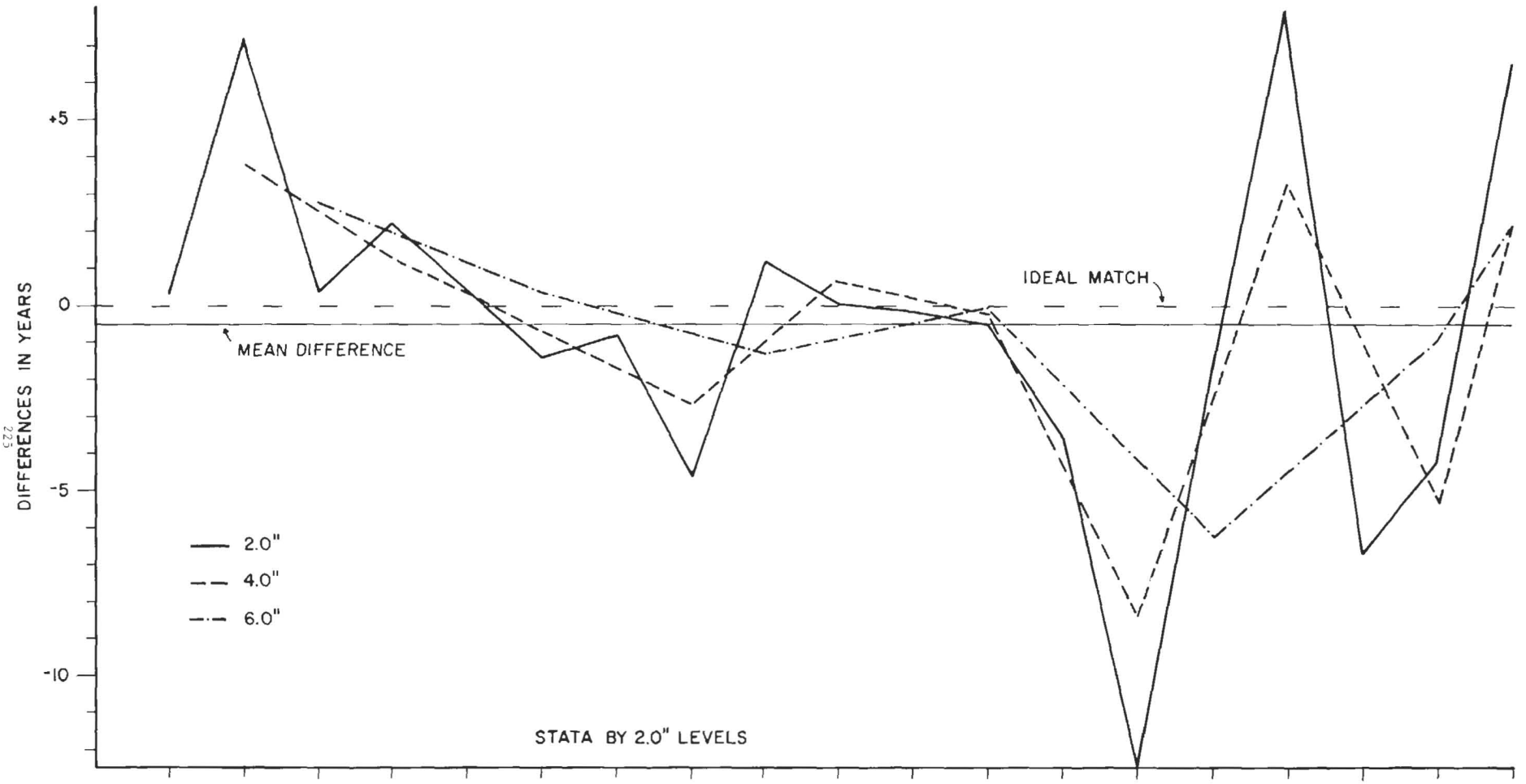
The regression in mean ceramic date from top to bottom, however, is by no means at regular temporal intervals according to either sherd count or mass weight frequency. In addition, the difference between the mean ceramic date based on sherd counts and mean ceramic date based on mass weight varied across identical 2" levels from as little as 0.03 of a year--a mere eleven days--to as much as 13 years. However, the mean difference between sherd-computed and weight-computed dates for the entire stratified half was 0.55. That is, on an average, mass weight as a measure of frequency yielded a slightly more recent date by six months. When the difference between mean ceramic date based on sherd count and mean ceramic date based on mass weight are plotted at 2", 4", and 6" levels (Table B-1), it appears that nothing would have been lost by excavating at the larger or one-half ft vertical levels.

Several conclusions emerge from the data. In the first place, the similarity in results whether using mass weight or sherd count adds support to the validity of South's mean ceramic date formula. Whether mass weight is a more accurate frequency index than sherd count remains to be demonstrated. It would be useful to see the formula using mass weight applied to other sites which boast independent historical documentation. A good starting point would be the application of this modified formula to the same sites which form the appendix and supporting data in South's original paper.

The mean ceramic date formula, based on either sherd count or mass weight, probably does not give an accurate picture of the active life of the trash pit or the sequence of deposition. One doubts on face value whether a single domestic trash pit could function over a span of 26 or 32 years. In addition, there is no uniform chronological regression, in spite of ample ceramic samples for each 2" level. The mean ceramic date formula has questionable validity when applied to this trash pit at either 2", 4", or 6" levels. Part of the problem is certainly inherent in the arbitrary vertical excavation controls. They bear no necessary correlation to original patterns of disposal, slumpage, and even stratigraphic reversal. A better test of the validity of South's formula for intra-feature variation in date of deposition would be its application to contexts with visible stratigraphy.

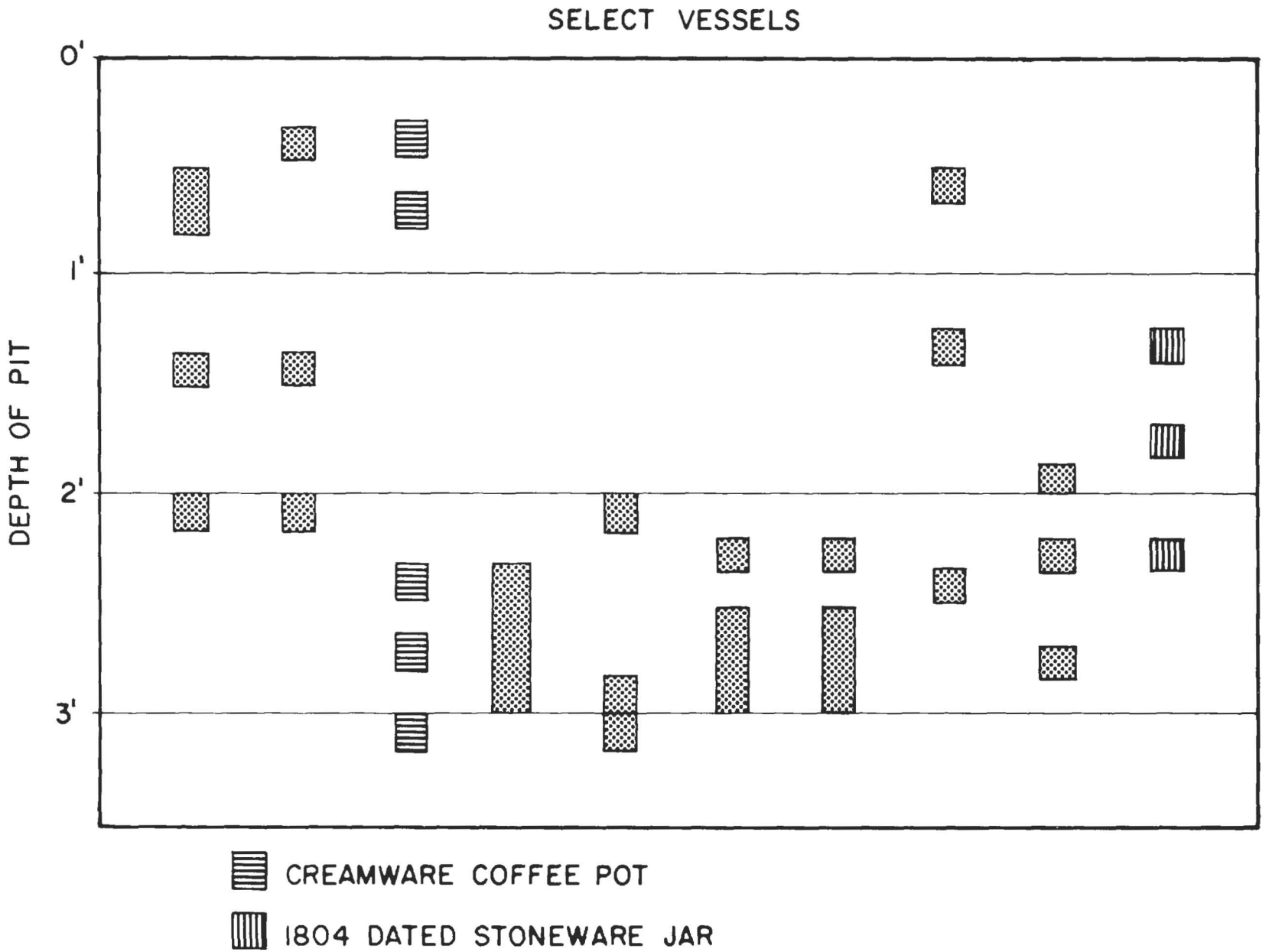
The more conventional, non-statistical technique of examining the distribution of cross-mended vessels gives a more realistic picture of the sequence of disposal. The chart (Table B-2) showing the distribution pattern for ten vessels indicates the relatively abbreviated active life for the trash pit. Thus, evidence from cross-mended vessels conflicts with the much broader time span indicated by the mean ceramic date formula.

Finally, there is a significant bit of evidence which questions the ability of South's formula to give an accurate date for the entire trash pit. The presence of several pieces of an 1804 dated stoneware jar in the lower 2' of the Turner Hoard cannot be dismissed as an intrusion. The



DIFFERENCES IN YEARS: CERAMIC MEAN DATE BY SHERD COUNT MINUS CERAMIC MEAN DATE BY MASS WEIGHT AT 2", 4", 6" LEVELS

TABLE B-1



DISTRIBUTION PATTERN: 10 SELECT VESSELS

TABLE B-2

date of these pieces was not used when calculating the mean ceramic date, however tempting, because the 1804 date does not necessarily represent the mean date of manufacture. In addition, the large size of the stoneware jar would undermine the logic of the ceramic frequency based on mass weight. It would have skewed the results since it is much heavier than such items as a saltglazed plate or a shell-edged pearlware plate. The existence of an 1804 terminus post quem pushes the actual date of the trash pit more than a decade beyond the mean ceramic date of 1793.

In the case of this trash pit at least, more conventional means of artifact analysis such as cross-mending and a terminus post quem date give a much more accurate picture of both the fill sequence and date of deposition, than the application of South's formula based on either sherd count or mass weight frequency. Beyond that, no generalized conclusion about the validity or reliability of the mean ceramic date formula can be offered from its application to this trash pit however compelling and comprehensive its ceramic assemblage might be.

REFERENCE

South, Stanley
1972 Evolution and horizon as revealed in ceramic analysis in historical archaeology. In The Conference on Historic Site Archaeology Papers 1971 6:71-116.

Appendix C

FAMILY RECONSTRUCTION CHARTS

by

Anne Yentsch

FAMILY RECONSTITUTION CHART

Husband: Thomas Ives Occ: Slaughterer Wife: Martha Withe

Son of: _____ Occ: _____ Daughter of: _____ Occ: _____

_____ _____

Grandson of: _____ Occ: _____ Granddaughter of: _____ Occ: _____

_____ _____

_____ Occ: _____ _____ Occ: _____

_____ _____

_____ Salem, 1668 _____ _____

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 4-1-1672 Date at end of union: _____ Length: _____

Baptism: c. 1640 Age at marr: _____ Age at end of union: _____ Baptism: _____ Age at marr: _____ Age at end of union: _____

Burial: 9-26-1695 Buried at: _____ Burial: _____ Buried at: _____

Age: _____ Cause of death: _____ Age: _____ Cause of death: _____

Duration of widowhood: _____ Remarriages: Elizabeth of Ipwich in 1679 (John White 1-16-1695/96)

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	12-8-1672	7-21-1673		Elizabeth					
	3-31-1674			Thomas					
	12-8-1675			Deborah					
bp	3-1683			Joseph					
bp	3-1683			John					
bp	12-4-1687			Elizabeth	12-11-1718		John Philpot		
	c. 1692	1752		Benjamin, Capt.					
				(tanner, master					
				mariner)	1-2-1718		Anne Derby		

REMARKS: House sold by Elizabeth and John White in 1699, so in 17th century, it was home of a butcher, his wife and their 6 surviving children.

FAMILY RECONSTITUTION CHART

Husband: Simon Willard Occ: weaver, worster comber, cloather Wife: Martha

on of: Major Simon Willard Occ: shoreman Daughter of: Richard Jacob Occ:

Joanna

Grandson of: Occ: Granddaughter of: Occ:

Occ: Occ:

Concord Birthplace Salem Residence Birthplace Residence

Marriage recorded at: Intentions recorded at:

Marriage date: c. 1679 Date at end of union: Length:

Baptism: 11-23-1649 Age at marr: Age at end of union: Baptism: Age at marr: Age at end of union:

Burial: 6-23-1731 Buried at: Burial: 10-14-1721 Buried at:

Age: Cause of death: Age: 72 Cause of death:

Duration of widowhood: Remarriages: Mrs. Priscilla Buttolph 7-25-1722 (d. 6-23-1731)

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	9-17-1680	after 1734		Jacob, tanner & shoreman	5-3-1704		Sarah Flint *		
	3-24-1682	4-7-1731	49 (1)	Josiah, capt., innkeeper, shoreman, cloather	11-24-1708		Jane Jacobs		
	1-27-1683			Martha (A)	9-24-1718		John Sterns		
	11-4-1685	9-6-1687		Simon					
	1-29-1686/87	1629/30		Richard, mariner	10-24-1714		Mrs. Hannah Butman		
				(1) married second	1-26-1726/27		Susanna Parkman	of	Boston (no)
				Jane Jacob - d. 4-25-1726 at		44			

REMARKS: * Inherits household goods from father-in-law.
A-Infants in birth and death 8-7-1719-no further record in town-either they moved away or she also died.

Scarlet, daughter, Josiah and Jane, d. 3-15-1711/12; George, son, Richard and Hannah, died 4-12-1723

FAMILY RECONSTITUTION CHART

Husband: Josiah Willard Occ: _____ Wife: Jane Jacob

Son of: Major Simon Willard Occ: _____ Daughter of: _____ Occ: _____

Martha Jacob

Grandson of: _____ Occ: _____ Granddaughter of: _____ Occ: _____

Richard Jacob Occ: _____ _____ Occ: _____

Joanna

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 11-24-1708 Date at end of union: _____ Length: _____

Baptism: 3-24-1682 Age at marr: _____ Age at end of union: _____ Baptism: 1682 Age at marr: _____ Age at end of union: _____

Burial: 4-7-1731 Buried at: _____ Burial: 4-25-1726 Buried at: _____

Age: 49 Cause of death: _____ Age: 44 Cause of death: _____

Susanna Parkman of Boston 1-26-1726/27

Duration of widowhood: _____ Remarriages: died 1750 in Boston

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	3-18-1712/13			Jane					
	10-16-1710			Josiah, sailmaker					Boston (1750)
	9-30-1717			Margaret	12-23-1736		Jacob Hassey		Newport, R.I.
	4-18-1715			Mary	4-14-1737 10-31-1741		James Strong John Johnson		(1750) Boston (1750)
	3-1-1712	3-15-1712		Scarlett					
	12-23-1719			John					
	9-22-1722			James					

REMARKS: These children are under 16 when mother dies and not all are adults when father dies. Did they live in Narbonne house with grandparents?

FAMILY RECONSTITUTION CHART

Husband: Richard Willard Occ: Mariner Wife: Hannah Butman

on of: Major Simon Willard Occ: _____ Daughter of: _____ Occ: _____

Martha Jacob _____

Grandson of: _____ Occ: _____ Granddaughter of: _____ Occ: _____

_____ _____

Richard Jacob Occ: _____ _____ Occ: _____

Joanna _____

_____ _____ _____ _____

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: _____ Date at end of union: _____ Length: _____

Baptism: 1-2-1686/87 Age at marr: _____ Age at end of union: _____ Baptism: _____ Age at marr: _____ Age at end of union: _____

Burial: 1729-before 1730 Buried at: _____ Burial: _____ Buried at: _____

Age: _____ Cause of death: _____ Age: _____ Cause of death: _____

Duration of widowhood: _____ Remarriages: Susanna Parkman of Boston 1-26-1726/27(?)

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	1-8-1720/21	4-12-1723	2 yrs	George					
	3-24-1715/16			Hannah					
	5-27-1723			Mehitable					
	5-27-1723			William					
	7-4-1717			Martha					
	7-11-1719			Richard					

REMARKS: Did not live in Narbonne house after 1720 (?). Court records show still married to Hannah in 1730 when she is a widow.

FAMILY RECONSTITUTION CHART

Husband: Jacob Willard Occ: _____ Wife: Sarah Flint

Son of: Major Simon Willard Occ: _____ Daughter of: _____ Occ: _____

Martha Jacob _____

Grandson of: _____ Occ: _____ Granddaughter of: _____ Occ: _____

_____ _____

Richard Jacob Occ: _____ _____ Occ: _____

Joanna _____

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 5-3-1704 Date at end of union: _____ Length: _____

Baptism: _____ Age at marr: _____ Age at end of union: _____ Baptism: _____ Age at marr: _____ Age at end of union: _____

Burial: after 1734 Buried at: _____ Burial: before 1743 Buried at: _____

Age: _____ Cause of death: _____ Age: _____ Cause of death: _____

Duration of widowhood: _____ Remarriages: _____

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	9-24-1717			Abigail					
	11-4-1714			Elizabeth					
	2-7-1711/12			Jacob					
	6-1-1709			Samuel					
	2-6-1705			Sarah	7-28-1727		Jonathan Peal		
	11-19-1706			Simon					

REMARKS: Sarah is alive and inherits household goods from her father-in-law in 1731. This family had responsibility for caring for (a) Major Simon Willard in his old age as well as orphaned children of Josiah and Jane.

FAMILY RECONSTITUTION CHART

Husband: Nathaniel Andrews Occ: Capt. Wife: Mrs. Nancy Higginson

son of: _____ Occ: _____ Daughter of: Nathaniel Occ: _____

_____ Hannah Gernish

Grandson of: _____ Occ: _____ Granddaughter of: John Esq. Occ: _____

_____ Sarah Savage

_____ Occ: _____ Benjamin Occ: _____

_____ Hannah Ruck

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 9-19-1729 Date at end of union: _____ Length: _____

Baptism: _____ Age at marr: _____ Age at end of union: _____ Baptism: 10-14-1708 Age at marr: _____ Age at end of union: _____

Burial: _____ Buried at: _____ Burial: 10-3-1747 Buried at: _____

Age: _____ Cause of death: _____ Age: 39 Cause of death: _____

Duration of widowhood: _____ Remarriages: widow Abigail Peel 5-20-1748 (d. 3-20-1790 at 9[illegible])

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	6-11-1731	3-20-1731	32	Nathaniel					
	4-5-1733			Mary					
	2-5-1734	2-16-1734		Abigail, twins					
	"	2-24-1734		Joseph, twins					
	5- 1736	11-28-1736		Hannah					
	2-6-1737			Jonathan	6-12-1760				

REMARKS:

FAMILY RECONSTITUTION CHART

Husband: Joseph Hodges Occ: mariner / merchant Wife: Elizabeth Stone

Son of: Gamabiel Occ: cooper Daughter of: Robert Occ:

Sarah Williams Elizabeth Hardy

Grandson of: George Occ: Granddaughter of: Occ:

Sarah Phippes

John Williams Occ: Occ:

Sarah Manning

Salem	Salem		
Birthplace	Residence	Birthplace	Residence

Marriage recorded at: Intentions recorded at:

Marriage date: 5-13-1742 Date at end of union: Length:

Baptism: 3-8-1714/15	Age at marr:	Age at end of union:	Baptism: 1721	Age at marr:	Age at end of union:
Burial: 10-11-1785	Buried at:		Burial: alive 1774	Buried at:	
Age:	Cause of death:		Age:	Cause of death:	

Duration of widowhood: Remarriages:

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
				NO CHILDREN					

REMARKS:

FAMILY RECONSTITUTION CHART

Husband: Jonathan Andrew Occ: tanner

on of: Capt. Nathaniel Occ: _____

Mrs. Mary Higgenson m. 9-19-1729

Grandson of: Daniel Andrews Occ: _____

_____

_____ Occ: _____

_____

Salem Birthplace | Salem Residence

Wife: Mary Gardner

Daughter of: Capt Jonathan, died 11-20-1783 Occ: _____

Elizabeth Gardner

Granddaughter of: _____ Occ: _____

_____

Abell Gardner Occ: _____

Sarah

Salem Birthplace | Salem Residence

Marriage recorded at: Salem Intentions recorded at: _____

Marriage date: 6-12-1760 Date at end of union: 5-16-1781 Length: 21 years

Baptism: 2-6-1737 Age at marr: 23 Age at end of union: 44

Burial: 5-16-1781 Buried at: Salem

Age: 44 Cause of death: _____

Baptism: 3-19-1739 Age at marr: 21 Age at end of union: 42

Burial: 1-19-1820 Buried at: Salem

Age: 81 Cause of death: "old age"

Duration of widowhood: 39 years Remarriages: None

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
	1761	9-6-1798	37	Mary	9-21-83	22	Joseph Hodges		
	9-5-1762			Elisabeth					
	4-4-1764	bef. 68	4	Nathaniel	-		-		
	8-1-1765	bef. 70	5	Sarah	-		-		
	3-2-1767	bef. 71	4	Jonathan, trader	-		-		
	6-14-68	bef. 77	9	Nathaniel	-		-		
	70	1-9-1811	41	Sarah	10-24-90	20	Matthew Vincent		
	8-19-71	bef. 73	2	Jonathan	-		-		
	4-26-73	4-18-1844	71	Jonathan, trader					
	11-8-74	4-25-1826	51	Samuel	6-21-1812		Martha Collins ?		
	11-8-77	10-21-95	18	Nathaniel	-		-		

REMARKS: Cause of death: (1) fever; (7) dropsy; (9) lung disease; (10) sudden; (11) fever.

Occupation: (9) trader.

Data from Salem Vital Records, vols 1-6.

FAMILY RECONSTITUTION CHART

Husband: Joseph Hodges Occ: _____ Wife: Mary Gardner Andrews

Son of: Gamaliel Occ: Mariner Daughter of: Jonathan Occ: _____

Priscilla Webb Mary Gardner

Grandson of: Gamaliel Occ: Carpr. Granddaughter of: Capt. Nathaniel Occ: _____

Sarah Williams Mary Higgenson

Jonathan Webb Occ: _____ Jonathan Occ: _____

Priscilla Bray Elizabeth

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 9-21-1783 Date at end of union: _____ Length: _____

Baptism: 6-10-1757 Age at marr: _____ Age at end of union: _____ Baptism: _____ Age at marr: _____ Age at end of union: _____

Burial: 10-5-1826 Buried at: _____ Burial: 9-6-1798 Buried at: _____

Age: _____ Cause of death: _____ Age: 37 Cause of death: fever

Duration of widowhood: _____ Remarriages: _____

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
bp	1-11-1787 11-2-1788	3-8-1860		Gamaliel *	5-4-1816		Hannah Byrne		
bp	11-2-1788			Mary	5-24-1812		Ward Chipman		
	12-29-1788	7-18-1809		Priscilla	11-2-1809		John Jayne of Marblehead		
bp	1-1790 12-11-1791	fever 9-11-1798	7 yrs	Sarah					
		9-27-1783	1	Mary (?)					
	1-11-1781	1787		Joseph					

REMARKS: * no children

FAMILY RECONSTITUTION CHART

Husband: Matthew Vincent Occ: _____ Wife: Sarah Andrews

on of: Josephy Occ: _____ Daughter of: Jonathan Occ: _____

_____ Mary Gardner

Grandson of: _____ Occ: _____ Granddaughter of: Capt. Nathaniel Occ: _____

_____ Mary Higgenson

_____ Occ: _____ Jonathan Gardner Occ: _____

_____ Elizabeth

Kittery (?) _____ _____ _____

Birthplace Residence Birthplace Residence

Marriage recorded at: _____ Intentions recorded at: _____

Marriage date: 10-24-1790 Date at end of union: _____ Length: _____

Baptism: 12-2-1764 Age at marr: _____ Age at end of union: _____ Baptism: _____ Age at marr: _____ Age at end of union: _____

Burial: 5-23-1821 Buried at: _____ (in Boston) Burial: 1-9-1811 Buried at: _____

Age: 57 Cause of death: intemperance Age: _____ Cause of death: dropsy

Duration of widowhood: _____ Remarriages: Betsey Titcomb of Newburyport in 7-6-1811

Sex & Rank	Baptism or Birth	Burial	Status & Age	Name	Marriage Date	Age	Spouse	Kin	Other
bp	2-22-1795			Sarah	11-9-1823		Nicholas Narbonne		
bp	2-5-1797			Nathaniel			n.s.		
bp	9-15-1799	at sea 7-15-1831	32	Joseph	7-13-1826		Lotta Pease		
bp	2-14-1802	dropsy 10-24-1842	40	Elizabeth *	6-2-1821		Samuel Bassett of	Marblehead	
	5-19-1805	12-31-1834	29	Jonathan Andrew			n.s.		
	c. 1792	10-9-1792		son					

REMARKS: * this marriage did not take place, it only was filed.

All from Salem vital records, Vols. 1-6

Appendix D

THE NARBONNE WELL: ARTIFACTS REPORT

by

E. Zimmer

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THE FILLING OF THE NARBONNE WELL

The well at the Narbonne house site in Salem, Massachusetts, was excavated in the summer of 1974. This report focuses on the extensive assemblage of artifacts extracted from the well interior, rather than on the structure of the well itself. The main body of the report details what is known about the artifacts, but the excavation of the well and study of its contents also suggest much about how the well was filled. In this introductory section, the general types of materials removed from the well are discussed, along with the manner and approximate date of the filling of the well.

In the summer of 1974, the fill of the well was carefully removed in 25 6" layers, numbered 1 through 25. Number 1 (1E2W1) was assigned to the clay plug at the top of the well, number 25 (1E2W25) identified the last level at the bottom of the well, down to the stone base. Below the clay plug of level 1, the soil of the next several layers consisted of brown loam mixed with rocks. Beginning at level 5 the brown loam contained a considerable amount of cinders. This continued down to level 15, about 7' down into the well. Water was struck at level 16, and from that level to the bottom of the 12' well the main component of the fill was ash.

The artifacts recovered from the well consist almost entirely of household ceramics, bottles, and utensils. Examination of the artifacts suggests both the time frame and something of the manner in which the well was filled. In general, most of the artifacts were manufactured from about 1840 to 1870. The artifact with the latest firm date of manufacture is a brass wick key from a kerosene lamp (no. 85 in the artifact section) which bears the inscription WARRENS PATENT SEPT 14 1869. This artifact was found in level 6, about 3' below the top of the well, and indicates that the filling of the well was not complete in 1869.

Two artifacts taken from much deeper in the well indicate that the filling could not have begun much before 1869. One of the last artifacts extracted from the well, from level 23, was a steel wire nail 2-3/4" long (no. 88 in the artifact section), and it is unlikely that this nail would have been available before the 1860s. The dating of this artifact is discussed in the artifact section. Another artifact from the bottom levels of the well also establishes that the filling could not have progressed very far before the mid-1860s. Three fragments of glass found at levels 21 and 22 pieced together into a small bottle embossed with the inscription J & I E M (no. 48 in the artifact section). As discussed in the next section, the J. and I. E. Moore Ink Company patented and introduced this type of bottle in 1865, so the filling of the well could not have progressed beyond a foot or two of the bottom as late as 1865.

The bottle from near the well bottom and the lamp key near the top means that the filling of the well could not have begun, or at least not proceeded very far, by 1865 and was completed sometime after September of 1869. This suggests a rather brief life span for the well as a trash pit. A broader examination of the artifacts supports this suggestion, and indicates possibilities concerning the manner in which the well was filled.

The accompanying chart (Table D-1) diagrams the levels at which most of the datable artifacts were found. Since many of the artifacts were found in fragments and pieced together, these items are represented as coming from several levels. Perhaps the most important conclusion to be drawn from the distribution of artifacts within the well is that no discrete patterns based on the time of deposition of the different levels of artifacts are discernible. The chart also supports in a more positive way the assumption that the well was filled in rather quickly. The fragments of any one vessel tended to be recovered from a narrow span of levels--usually no more than three--representing a spread of no more than 18" and possibly little more than 6". But in two cases, solitary fragments were found far above the majority of the pieces for that vessel. A single sherd of a small platter was found at level 12, which matched three other pieces found on levels 21 and 22, and together they constitute the whole vessel. A chamber pot pieced from 21 fragments recovered from levels 16 through 18 was matched to a single sherd found in level 3. These vessels were apparently broken in household use and most of their pieces discarded deep into the well. Since substantial filling had occurred before the last fragment of each entered the well, this suggests an intensive use of the well as a trash pit and its rapid filling.

Other characteristics of the well as a trash pit can be extrapolated from a general perusal of the ceramics recovered. In even a quick look at that part of the assemblage, two points are apparent. A large number of complete or nearly complete vessels were recovered intact or pieced together from the well artifacts, and only a small quantity of sherds of other vessels remained after that piecing was completed. Apparently in the filling of the well, dirt from the surrounding yard, with its inevitable mixture of artifacts, was seldom mixed with or used to cover the trash. In itself this is probably not too important, but it raises interesting questions.

With the closeness of the well to the house, one would imagine that the odors of decaying organic matter could have been a problem. Dirt from the yard seemingly was not used to seal off layers of trash, but materials removed from the well suggest two other possible ways in which this problem was met. First of all, relatively few bones were found in the well, especially compared to other trash pits at the Narbonne site. In only six of the 25 levels were more than three bones found. This relative scarcity of bones suggests that little organic material was thrown into the well. The other possibility is that the ash and cinders found in quantity through most of the well fill served to seal off obnoxious layers of trash, making dirt plugs unnecessary. Once the well was filled with trash and ash, it was much less likely than other trash pits to suffer disturbance to its contents of the sort that would have reduced the number of vessels that pieced together and increased the proportion of surplus sherds.

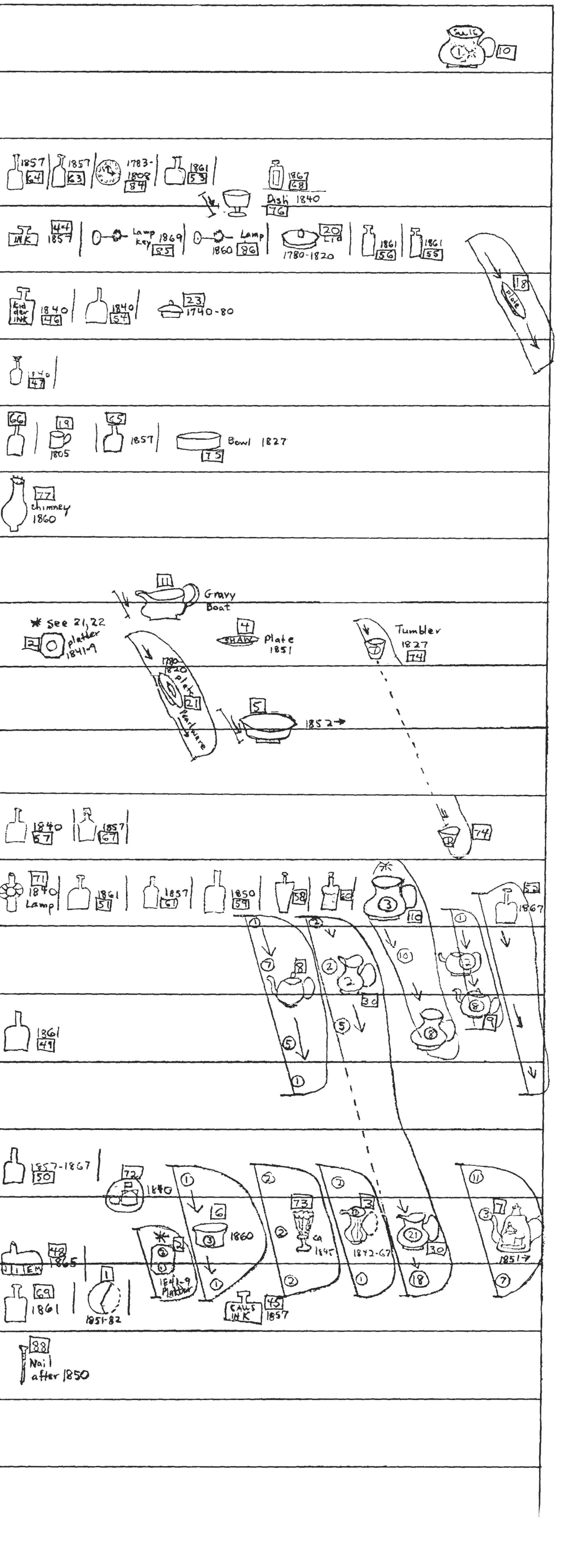
The artifacts recovered from the well indicate that its use as a trash pit could not have begun much before 1865, and still continued in 1869. They also suggest that the filling of the well was rapid. Evidence outside the body of artifacts supports a date in the late 1860s or early 1870s for the filling of the well. The engineers' office of the Salem City Water Department reported that the municipal water system was built in

TABLE D-1

1 The circled numbers accompanying artifacts found at several levels indicate the number of pieces of the vessel found in each level.
The squares represent the artifact's number in the artifacts report.

2 The dates indicated represent the earliest date at which the artifact could have been manufactured, except in the case of double dates, which indicate the earliest and latest dates at which it could have been made. Artifacts omitted from this chart are generally those which have not been dated.

The circled numbers on the illustration indicate the number of pieces of the vessel found in each level.
The squares represent the artifact's number in the artifacts report.
The dates indicated represent the earliest date at which the artifact could have been manufactured, except in the case of double dates, which indicate the earliest and latest dates at which it could have been made. Artifacts omitted from this chart are generally those which have not been dated.



Salem soon after the Civil War, and service reached the area of the Narbonne house around 1868 or 1869. Once municipal water service was available to the house's residents, the well could have been viewed as both a convenient trash pit and an unnecessary hazard, leading to a prompt change from well to trash pit, and its rapid filling.

THE ARTIFACTS

The bulk of the artifacts recovered from the well interior at the Narbonne site were household ceramics such as plates, cups, teapots, flowerpots, and bottles that appear to have contained products appropriate to household use: ink, medicine, and perhaps liquor and cosmetics. This section of the report details the major artifacts and what has been learned about them. The ceramics are listed first, beginning with six pieces datable by their maker's mark or decorative motifs. Next the whole or substantially whole unmarked vessels are discussed, together with particularly interesting fragments, all grouped by the type of ware.

The second portion of this section deals with the bottles from the well, grouped by their former contents. Six ink bottles form the first group, followed by eight medicine bottles, and four liquor-type bottles and several fragments of that type of bottle. A final group of miscellaneous bottles completes the listing of bottles. In addition to the bottles, several other interesting glass artifacts were recovered and are discussed. This section is completed by a listing and discussion of about a dozen other artifacts, mostly of metal, that warranted inclusion in this report.

CERAMICS

In the previous section, it was pointed out that numerous intact ceramic vessels were recovered from the well, and that most of the sherds recovered pieced together into whole or nearly whole vessels. Several of the remaining sherds are listed in this section. The number of unpieced fragments still outstanding is remarkably small. A few dozen redware sherds, glazed and unglazed, about a dozen fragments of pearlware, creamware, and hard white, a few pieces of Rockingham ware, porcelain, and stoneware, and a mere pair of delftware chips, combined with the artifacts listed below, constitute the total collection of ceramic artifacts recovered from the well.

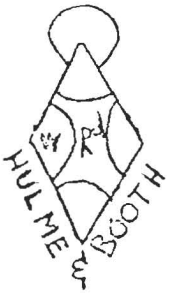
1. SAUCER (fragment) Level 22
ware: hard white
dimensions: 5-3/4" diameter
description: round white saucer, unornamented
mark: (fragmentary, impressed into base) RDS & SON
HALL
country of manufacture: England
date of manufacture: 1851-82

comment: The only published mark yet found that plausibly completes this fragment is that of James Edwards and Son of Dale Hall, Burslem, Staffordshire potteries. They produced earthenware, ironstone, etc. between 1851 and 1882 (Godden 1964: 231).

2. PLATTER Levels 12, 21, 22
ware: hard white
dimensions: 6" by 8-3/16"
description: small rectangular platter with transfer printed decoration in brown on the white background depicting scene with domed buildings and minarets in the background, exotic foilage and a pair of figures in the foreground
mark: (transfer printed on bottom) SIGANESE
R H Co
country of manufacture: England
date of manufacture: 1841-49

comment: R H & CO is recorded as the distinguishing detail of several printed marks used from 1841 to 1849 by Ralph Hall and Co. of Swan Bank, Tunstall, Staffordshire potteries, makers of earthenwares (Godden 1964: 303). SIGANESE probably refers to the pattern. A basket stand by Ralph Hall, decorated with a transfer printed scene in a similar vein, is illustrated in Godden (1966: 176).

3. CREAM PITCHER Levels 20, 21, 22
ware: hard white
dimensions: 5" in height, 3-1/4" wide at base
description: small white pitcher, handle missing, eight-sided design with bell-shaped body, flaired rim
mark: (impressed into base)



country of manufacture: England
date of manufacture: 1842-67

comment: In this case the registration mark, though incomplete, provides a surer date than the firm's name. Registration marks were used "to show that the design or shape had been registered at the Patent Office in London and was thereby protected from piracy by other manufacturers for an initial period of three years" (Godden 1964: 526). These marks were used from 1842 until 1883, and in this case the specific year cannot be determined, because the year code letter is missing from the space at the top of the diamond. However, a different placement of figures was used in the first period of registration, 1842-67, than in the second, 1868-83. Where the W appears on this mark a number would have appeared in the later period, hence the mark can be dated to the 1842-67 period. Godden (1964: 85, 340) mentions the firm of Booth and Sons, earthenware manufactures at Lane End in Staffordshire from 1830-35, and the firm of Hulme and Sons, active as earthenware potters around 1828 to 1830, also at Lane End. Another source lists two Lane End Booths who lived beyond 1842, Joseph (1773-1848) and Thomas (died c. 1865), but lists only the elder Hulme, John, who died in 1831, and his son H. Hulme, who died

in 1829 (Mankowitz and Hagger 1968: 28, 114). Presumably there was at least one more Hulme son, and it seems likely that he joined one of the Booths to produce this pitcher, probably closer to 1842 than to 1867.

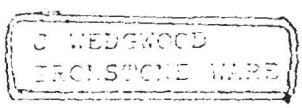
4. PLATE Level 12
ware: hard white
dimensions: 7-1/2" diameter
description: round white plate, with rim into 14 scallops
mark: (impressed into base)



country of manufacture: England
date of manufacture: c. 1851-c. 1900

comment: Anthony Shaw produced earthenwares in Tunstall from about 1851 to 1856, and in Burslem, from about 1860 to about 1900, both in Staffordshire (Godden 1964: 571). Opaque china was a trade name for a fine white porcellanous earthenware produced in the 19th century by several potters (Mankowitz and Hagger 1968: 169).

5. BOWL Levels 13, 14
ware: hard white
dimensions: 8-1/4" in width, 1-7/8" in height
description: white bowl, 10-sided, with a broad rim
mark: (impressed into base)





country of manufacture: England
date of manufacture: c. 1852

comment: Ironstone china, ironstone ware, and stone china were all terms for a hard, durable type of white earthenware produced from the 1820s on. The famous Wedgwood firm produced a version marked WEDGWOOD'S STONE CHINA from about 1827 until 1861 (Godden 1966: 340). Whether this example indicates that the firm used an alternate mark and name for this ware, or represents one of the many "borrowings" of the famous name by other markers is not clear. The registration mark

suggests that the vessel is truly Wedgwood, and indicates that the design was registered on October 27, 1852 (Godden 1964: 526).

6. BOWL Levels 20, 21, 22
ware: hard white
dimensions: 5-5/8" in width, 7-5/8" in length, 2-5/8" in height
description: oval white bowl with narrow rim and no foot
mark: (impressed into base) WEDGWOOD & CO
country of manufacture: England
date of manufacture: after 1860

comment: Wedgwood and Co. (Ltd.) produced earthenwares, stone china, etc., at the Unicorn and Pinnox Works, Tunstall, Staffordshire beginning in 1860 and continuing for a long period (Godden 1964: 655).

7. TEAPOT Levels 20, 21, 22
ware: Rockingham ware
dimensions: 5-3/8" in height
description: mottled brown glaze over thin, buff-bodied earthenware; molded 10-sided teapot with raised scene of a woman by a well, impressed inscription REBECCAH AT THE WELL on both sides
mark: none
country of manufacture: United States
date of manufacture: after 1851

comment: Many potters produced "Rebeccah at the Well" teapots after the design was introduced into this country by Charles Coxon, chief designer for the firm of William and Edwin Bennett of Baltimore, in 1851 or 1852 (Ramsey 1939: 51). Coxon is said to have copied the design from a Parian jug with a blue background and the raised figure of Rebeccah in white, produced by S. Alcock of Burslem, Staffordshire (Barber 1893: 143). Ramsey illustrates an example of the Bennett teapot, which differs in several details from the Narbonne teapot (Ramsey 1939: plate 15, no. 12). Godden (1966: 7, plate 13, cf. 186, plate 325) illustrates an example of an Alcock blue and white Parian jug of the "Gipsy" pattern. Spargo (1938: 24) points out and Barret (1958: 82) agrees that while the "Rebeccah at the Well" pattern teapots were made at many potteries, Bennington never produced a version.

8. TEAPOT Levels 16, 17, 18, 19
ware: Rockingham ware
dimensions: 6" in height
description: mottled brown glaze over thin, buff-bodied earthenware; molded 10-sided teapot with identical scenes on both sides of raised Oriental figure and buildings
mark: none
country of manufacture: probably United States
date of manufacture: c. 1840-60

comment: Barret (1958: 18) states: "The brown glazed pottery from which many household items were made is known as Rockingham. This type of ware was first produced in Swinton, England at the private pottery owned by the Marquis of Rockingham . . . In America . . . Rockingham generally denotes a coarse ware with a brown tortoiseshell

mottled glaze." He dates the ware to the 1840s and 1850s (Barret 1958: 99).

9. TEAPOT Levels 16, 17, 18
ware: Rockingham ware
dimensions: 5-1/2" in height
description: mottled, dark brown glaze over buff earthenware body; squat teapot with body molded into 10 segments
mark: none
date of manufacture: c. 1840-60

comment: Early Rockingham ware was sometimes referred to as "dark luster." The very dark, glossy character of the glaze of this teapot seems consistent with that description, suggesting an early date of manufacture for this piece (Barret 1958: 18).

10. CHAMBER POT Levels 3, 16, 17, 18
ware: hard white
dimensions: 5-5/8" in height, base diameter 5-1/2"
descriptions: clear glaze over heavy white body, handle missing
mark: none

comment: Noel Hume (1970: 130) states that the hard white wares, introduced around 1800, had superseded pearlware by about 1820, but are hard to date accurately unless they bear factory marks.

11. GRAVY BOAT Levels 11, 12
ware: hard white
dimensions: 5" in height at handle, 7-1/2" in length
description: small oblong pitcher of molded, gray-white body with strap handle and wide pouring spout, with transfer printed scene in blue of pagoda and exotic foilage
mark: (transfer printed in blue on base) 2

12. TEA CUP Levels 20, 22
ware: hard white
dimensions: 3" in diameter
description: handleless white tea cup, 12-sided, with transfer printed blue designs inside and scenes outside of figures in landscape
mark: none

comment: A single rim fragment of a cup of the same ware, design, and decoration as this cup was found at level 1 (1E2W1) in the well.

13. TEA CUP Level 7
ware: hard white
dimensions: 3" in height
description: white handleless tea cup, shaped in mold, otherwise undecorated
mark: none

14. SAUCER Levels 12, 13, 14
ware: hard white

dimensions: 4-1/4" diameter
description: round white saucer, unornamented
mark: none

15. PLATE Levels 20, 21
ware: hard white
dimensions: 6-5/8" diameter
description: incomplete small white plate, 12-sided
mark: none

16. PLATE Levels 16, 20, 22
ware: hard white
dimensions: 7-5/8" diameter
description: small, round, white plate
mark: none

17. LID Level 20
ware: hard white
dimensions: 2-1/8" in height
description: high domed lid, eight-sided, with transfer printed blue decoration on white; finial missing
mark: none

18. PLATE (fragment) Levels 6, 7, 8
ware: porcelain
dimensions: 6-1/4" diameter
description: fragment of a small white plate, rather thick body, with painted overglaze gold line near rim
mark: none

19. CUP Level 9
ware: lustreware
dimensions: 2" in height, 1-7/8" in diameter
description: demitasse size cup, with thin, hard white body in a cylindrical shape, decorated with "silver" lustre in resist pattern of lines and abstracted floral motifs
mark: none
date of manufacture: c. 1805-75
country of manufacture: probably England

comment: Decoration of ceramics by application of thin films of metal was popular in Staffordshire from 1805 until about 1875. In the 1850s lustreware was extensively imported into the United States from England. A platinum ("silver") lustre pitcher with resist pattern decoration somewhat similar to this cup is illustrated in Mankowitz and Hagger (1968: 137 and color plate 18) dated to the early 19th century.

20. LID Level 6
ware: pearlware
dimensions: 4-1/2" diameter
description: round, shallow domed white lid with ball finial, painted with underglaze floral, dot and line designs in tan, brown, green, and blue
mark: none

country of manufacture: England
date of manufacture: c. 1780-1820

comment: Although developed in the late 1760s, Noel Hume (1970: 128, 130) states that pearlware was not common until the 1780s. By the 1820s the ware was largely replaced by the hard whites.

21. PLATE Levels 12, 13, 14
ware: pearlware
dimensions: 9-5/8" diameter
description: round white plate with blue shell edge
mark: none
country of manufacture: England
date of manufacture: c. 1780-1820

22. CHAMBER POT (fragment) Level 20
ware: pearlware
dimensions: 5 1/3" diameter at base
description: base fragment of white chamber pot
mark: none
country of manufacture: England
date of manufacture: c. 1780-1820

23. LID Level 7
ware: Jackfield-type ware
dimensions: 2-1/4" diameter, 1-1/8" in height
description: small lid with finial, black glaze over dark gray body
mark: none
country of manufacture: England
date of manufacture: c. 1740-80

comment: The so-called Jackfield wares are a fine redware, glazed overall in black, that were produced by many Staffordshire potteries from about 1740 to 1780 (Godden 1966: xiv). This artifact appears to be a lid for a small teapot.

24. MEASURING CUP Level 1
ware: stoneware
dimensions: 1-1/2" in height
description: small vessel with gritty gray body; speckled tan oxide-type glaze; in form of inverted, truncated cone with flat base; pinched, triangular rim
mark: none

comment: Gore Place, an historic house in Waltham, Massachusetts, owns a nesting set of measures of which the smallest is very similar to the cup described here.

25. FLOWERPOT Levels 12, 15
ware: yellow ware
dimensions: 4-1/2" in height
description: buff-bodied flowerpot with yellow glaze and a flared rim, with bands of incised designs and three raised groups of classical figures picked out in blue
mark: none

comment: The three figure groups, which appear to be molded and applied, consist of a female figure with a lamp, a putto riding a lion-headed sea serpent, and three small figures standing before a much larger figure.

26. BOWL (fragment) Levels 20, 22
ware: yellow ware
dimensions: 5" by 7-1/2" at base
description: bottom of buff-bodied, oval vessel, yellow on the exterior and white on the interior
mark: none
country of manufacture: probably United States

comment: "Yellow Ware" was manufactured extensively in the United States throughout the 19th century, of buff colored clay with a transparent glaze, and was chiefly used for heavy baking vessels (Barber 1893: 18).

27. BOWL (fragment) Level 21
ware: yellow ware
dimensions: 2-5/8" in height, 9-3/4" diameter at rim
description: portion of buff-bodied bowl, yellow exterior, white interior
mark: none
country of manufacture: probably United States

28. BOWL (fragment) Level 16
ware: yellow ware
dimensions: 6-1/4" diameter at base
description: very heavy base of buff-bodied vessel, yellow inside and out, with fluted exterior sides
mark: none
country of manufacture: probably United States

29. TOY FLAT IRON Level 16
ware: buff earthenware
dimensions: 2-3/4" in length
description: buff-bodied earthenware in shape of miniature flat iron, light green glaze, handle missing
mark: none

30. PITCHER Levels 16, 17, 18, 21, 22
ware: redware
dimensions: 7-1/2" in height, 4-1/4" diameter at rim
description: redware pitcher with strap handle, pinched spout, transparent glaze over brown splatters
mark: none
country of manufacture: probably United States

31. CUP Level 15
ware: redware
dimensions: 2-5/8" in height
description: handleless cup with dark brown glaze on interior and exterior, ending near base

mark: none
country of manufacture: probably United States

32. CROCK Levels 15, 16, 17, 18
ware: redware
dimensions: 8-1/2" in height, 7-1/4" diameter at rim
description: redware vessel, glossy dark brown glaze on interior only
mark: none
country of manufacture: probably United States

33. CROCK Level 21
ware: redware
dimensions: 8" in height, 7-1/8" diameter at rim
description: redware vessel, glossy dark brown glaze on interior only
mark: none
country of manufacture: probably United States

34. and 35. FLOWERPOTS One: Levels 10, 11;
Other: Levels 12, 13, 14
ware: redware
dimensions: 4" in height, 4-3/8" diameter at rim
description: pair of flowerpots, with red slip on exterior and raised sprigs and bouquet moldings on the exterior, picked out in green slip
mark: none
country of manufacture: probably United States

36. and 37. FLOWERPOTS One: Level 9;
Other: Levels 13, 14
ware: redware
dimensions: 4-3/4" in height, 5-1/4" diameter at rim
description: pair of flowerpots decorated with chalky red slip on the exteriors
mark: none
country of manufacture: probably United States

38. FLOWERPOT Level 14
ware: redware
dimensions: 2-3/8" in height, 2-5/8" diameter at rim
description: small redware flowerpot, unglazed
mark: none
country of manufacture: probably United States

39. FLOWERPOT Levels 9, 10
ware: redware
dimensions: 4-1/4" in height, 4-5/8" diameter at rim
description: redware flowerpot, unglazed
mark: none
country of manufacture: probably United States

40. FLOWERPOT Levels 16, 17, 18
ware: redware
dimensions: 8-5/8" in height, 9-1/2" diameter at rim
description: large redware flowerpot, unglazed

mark: none
country of manufacture: probably United States

41. SAUCER (for flowerpot) Levels 13, 14, 15
ware: redware
dimensions: 1-1/8" in height, 5-5/8" in diameter
description: round, unglazed redware plate with upturned rim
mark: none
country of manufacture: probably United States

42. SAUCER (for flowerpot) Level 14
ware: redware
dimensions: 1-1/8" in height, 4-7/8" in diameter
description: round, unglazed redware plate with upturned rim
mark: none
country of manufacture: probably United States

43. SAUCER (for flowerpot) Level 14
ware: redware
dimensions: 1" in height, 6-3/8" in diameter
description: round, unglazed redware plate with upturned rim
mark: none
country of manufacture: probably United States

BOTTLES

Except in those cases where the inscription on a bottle provides a more specific date of manufacture, the bottles listed below are dated according to their means of manufacture as described by Lorrain (1968) in "An Archaeologist's Guide to 19th Century American Glass." Several of the bottles display special characteristics to which Lorrain assigns a date of introduction, and in the listings of these bottles his article is discussed and cited.

The dating of most of the bottles, however, is based on a few commonly seen characteristics. For instance, bottles lacking a pontil mark indicate use of the snap case, which was introduced to replace the pontil rod in 1857. Bottles displaying a very even, smooth lip indicate use of the lipping tool introduced about 1850. Two piece hinged molds, which leave a continuous seam from the base of the bottle to the neck, were introduced about 1840. Three piece hinged molds, which leave a ring seam around the shoulder of a bottle and seams up the neck, were introduced around 1810.

In those cases in which the bottles listed below are dated by means of one of the four manufacturing characteristics mentioned above, the characteristic is listed under manufactury. Lorrain is cited when that source was used. Dates assigned according to any other characteristics are discussed under comment.

In the listings below, the bottles are grouped by former contents, beginning with six ink bottles. Eight medicine bottles constitute the next group, followed by four liquor-type bottles and some fragments of that type of bottle. Six small bottles of unidentified contents, a bottle that may have contained pepper sauce, and two incomplete bottle-like artifacts that perhaps functioned as something other than bottles complete this section.

44. INK BOTTLE Level 6
manufactury: two piece mold; rather rough, flared lip; no pontil mark
color: colorless
dimensions: 2-1/8" in height, 1-3/4" square at base
description: squat bottle with square body, broad neck, with a dried residue of blue-black ink
inscription: (in raised letters on one side) CAW'S INK
NEW YORK
place of manufacture: New York
date of manufacture: 1857 or later (Lorrain 1968)

comment: Caw's ink bottles are frequently illustrated but seldom discussed as in Adams (1969: 90), Bales (1968: 57), Covill (1971: 96).

45. INK BOTTLE Level 22
manufactury: two piece mold; smooth, even lip; no pontil mark
color: pale green
dimensions: same as 44
description: squat bottle with square body, broad neck
inscription: (in raised letters on one side) CAW'S INK
NEW YORK
place of manufacture: New York
date of manufacture: 1857 or later (Lorrain 1968)

comment: see 44. It is interesting that two bottles produced from the same firm and of identical inscription, size, and form do not both display use of the lipping tool.

46. INK BOTTLE Level 7
manufactury: two piece mold; flared, flattened lip; pontil mark
color: pale green
dimensions: 2-3/8" in height, 1-1/4" by 1-1/4" at base
description: rectangular bodied bottle, with inscription vertically arranged around all four sides
inscription: (in raised letters on four sides) P KIDDER'S
IM PROVD
INDED IBLE
INK
place of manufacture: perhaps New York
date of manufacture: after 1840 (Lorrain 1968)

comment: see 47

47. INK BOTTLE (?) and STOPPER Level 8
manufactury: two piece mold, flared lip, pontil mark
color: colorless
dimensions: 1-5/8" in height, 5/8" diameter at base
description: small, cylindrical bottle with flat shoulder; neck a little narrower than body of bottle; flared, flattened lip; stopper of cork, painted red above portion that fits into bottle
inscription: none
date of manufacture: after 1840 (Lorrain 1968)

comment: Covill (1971: 109, Fig. 481) illustrates ink bottles labeled or embossed Francis, Wm., and J. Kidder. Most similar to bottle 46 in size, form, and inscription is one embossed J. KIDDER IMPROVED INDELIBLE INK, a clear glass, pontil marked, 2-9/16" high, 1-3/16" by 1-9/16" bottle. Perhaps F. Kidder used this mold before or after J. Kidder. The assignment of these bottles to New York is based on the Wm. Kidder bottle, which includes New York on its label (Covill 1971: 57, Fig. 199). F. Kidder may be the same as Covill's Francis Kidder, whose initials F. K. are embossed on the larger bottle of a two bottle set Covill (1971: 108, Fig. 480) illustrates, along with the original labeled box. The smaller bottle of that set very closely resembles bottle 47, including a cork stopper similar to the one found in the well.

48. INK BOTTLE Levels 21, 22
manufactury: two piece mold, filed lip, no pontil
color: pale green dimensions: 1-5/8" in height, base 2-1/8" by 2-1/8"
description: small domed bottle with offset neck, six of 10 sides around base flattened for lettering, rest rounded
inscription: (in raised letters on flattened sides) J & I E M
place of manufacture: probably Massachusetts
date of manufacture: 1865 or later

comment: Covill (1971: 137, 141-42) illustrates several bottles similar to this one, and states: "The domed type with offset neck was patented and introduced during 1865 by J. & I. E. Moore of Warren, Mass. This type of bottle was very popular and was used extensively for over 30 years."

49. INK BOTTLE (?) Level 18
manufactury: two piece mold, fairly even lip, no pontil mark
color: colorless
dimensions: 2-3/8" in height, 1-1/4" square base
description: square-bodied bottle with beveled corners, purple-red residue inside
inscription: none
date of manufacture: 1861 or later

comment: Lorrain (1968: 43-44) labels this type of square or rectangular body design with beveled corners the "French square," a form introduced in this country about 1861. The size and shape of this bottle and the purple-red residue all suggest that this is an ink bottle.

50. MEDICINE BOTTLE Level 20
manufactury: two piece mold, irregular lip, no pontil mark
color: pale green
dimensions: 8-3/8" in height
description: tall, oval-shaped bottle with short neck
inscription: (in raised letters, vertically placed on a single side)
JOHN I BROWN & SON
No 425 Washington St
BOSTON
place of manufacture: probably Massachusetts
date of manufacture: c. 1857-67

comment: John I. Brown is listed as a druggist in the Boston Directory at 425 Washington Street from 1842 through 1867, and Atherton, his son, is first listed with him in the 1846-47 directory. However, the lack of a pontil mark on the base of the bottle indicates use of a snap case, which means that the bottle could not have been made before 1857. Additional addresses were added to the firm's directory listing in 1861, and a second son was added in 1866. Whether these changes would have been reflected in the firm's bottles is difficult to guess, but it seems that the old mold would not have been used after 1868, when the firm moved from 425 Washington.

51. MEDICINE BOTTLE Level 16
manufactury: two piece mold, fairly even lip, no pontil mark
color: colorless
dimensions: 5-1/8" in height, 2-3/8" by 1-1/2" at base
description: rectangular bodied bottle with beveled corners
inscription: (in raised letters on one side) TARRANT & CO
Druggists
New York
place of manufacture: probably New York
date of manufacture: 1861 or later

comment: The date is based on Lorrain's (1968: 43-44) dating of the introduction of the beveled corners "French square" form. John A. Tarrant, druggist, of New York City ran a full page advertisement for his various preparations in the Boston directories of the mid-1850s (Boston Directory, "Advertising Department" 1855: 56; 1856: 31; 1857: 43).

52. MEDICINE BOTTLE Levels 16, 17, 18, 19
manufactury: two piece mold, even lip, no pontil mark
color: blue green
dimensions: about 8-1/2" in height, 2-1/8" by 2-7/8" at base
description: rectangular body with beveled edges, square shoulder, inset panels, lettered on three sides
inscription: (in raised letters) DOCT.
HARRISON'S
CHARLYBEATE
TONIC
date of manufacture: 1867 or later

comment: Lorrain (1968: 43-44) dates the introduction of lettered, inset panels to 1867, but Switzer (1974: 6) dates this development to about 1861.

53. MEDICINE BOTTLE Level 5
manufactury: two piece mold, even lip, no pontil mark
color: colorless
dimensions: 5" in height
description: rectangular bodied bottle with beveled corners, inset panels, letters on three sides
inscription: (in raised letters) RENNE'S
PAIN KILLING
MAGIC OIL
date of manufacture: 1867 or later

comment: see comment for bottle 52

54. MEDICINE BOTTLE Level 7
manufactury: two piece mold; irregular, minimal lip; pontil mark
color: pale green
dimensions: 4-1/4" in height, 1-1/4" by 7/8" at base
description: rectangular bodied bottle
inscription: (in raised letters on front) Dr. Porter New York
place of manufacture: probably New York
date of manufacture: after 1840 (Lorrain 1968)

55. MEDICINE BOTTLE Level 6
manufactury: two piece mold, even lip, no pontil mark
color: pale green
dimensions: 4-7/8" in height
description: square bodied bottle, with square shoulder and wide neck, beveled corners
inscription: (in raised letters on base) B36
date of manufacture: 1861 or later

comment: The date is based on Lorrain's (1968: 43-44) date for the introduction of the beveled corners "French square" form. See comment for bottle 56.

56. MEDICINE BOTTLE Level 6
manufactury: same as 55
color: pale green, with slightly more yellow than 55
dimensions: same as 55
description: same as 55, with the addition of remnants of paper labels on two sides of this bottle
inscription: (in raised letters on bottom) 2
date of manufacture: 1861 or later (see comment 55)

comment: The paper labels on this bottle are fragmentary and considerably abraded. One label appears to be a wood engraving of a two story, mansard roofed building; the other label appears to be lettered, with CINE legible on the right half of the label. Presumably these letters formed half of the word MEDICINE. Bottle 55 appears to be a mate to this bottle.

57. MEDICINE BOTTLE (?) Level 15
manufactury: two piece mold, irregular lip, pontil mark
color: colorless
dimensions: 3-3/4" in height, 1-1/2" diameter at base
description: round bodied bottle with rounded shoulder and short neck
inscription: (in raised letters) L T PIVER
PARIS
AND LONDON
place of manufacture: perhaps England
date of manufacture: after 1840 (Lorrain 1968)

comment: This bottle may have contained some product other than medicine, such as cosmetics, but advertisements such as Tarrant's (see bottle 51) list the products of London chemists.

58. CASE BOTTLE Level 16
manufactury: irregular, flared lip, pontil mark
color: dark green
dimensions: 9-1/4" in height, 2-1/2" square at base, 3-1/2" square at shoulder
description: tall bottle, with four flattened sides tapering to base; very short neck; flared, flattened lip; slight kick-up; liquid contents
inscription: none

59. LIQUOR-TYPE BOTTLE Level 16
manufactury: three piece mold, fairly even lip, smoothed pontil mark
color: dark green
dimensions: 9-3/4" in height
description: cylindrical bodied bottle with rounded shoulder and long neck
inscription: none
date of manufacture: 1850 or later (Lorrain 1968) if lipping tool used

60. LIQUOR-TYPE BOTTLE Level 16
manufactury: free blown (or turned in mold), irregular lip, pontil mark
color: dark green
dimensions: 8-1/4" in height
description: cylindrical bodied bottle with rounded shoulder and long neck, liquid contents
inscription: none

61. LIQUOR-TYPE BOTTLE Level 16
manufactury: three piece mold, fairly even lip, no pontil mark
color: dark green
dimensions: 6-1/2" in height, 2-3/4" diameter at base
description: cylindrical bodied bottle with rounded shoulder and relatively long neck
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

62. LIQUOR-TYPE BOTTLE FRAGMENTS Neck: Level 25;
Kick-ups: Levels 20 and 21
color: dark green
description: two kick-ups (one very heavy) and one neck with hand formed lip

comment: Bottles 58 through 61, plus these three fragments, represent all of the artifacts of heavy, dark green glass recovered from the well.

63. BOTTLE Level 5
manufactury: two piece mold, even lip, no pontil mark
color: pale green
dimensions: 3-3/8" in height
description: cylindrical bodied bottle
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

64. BOTTLE Level 5
manufactury: two piece mold, irregular lip, no pontil mark
color: colorless
dimensions: 2" in height
description: small 12-sided bottle with wide, round neck and flared lips
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

65. BOTTLE Level 9
manufactury: two piece mold, irregular lip, no pontil mark
color: cloudy white
dimensions: 2-1/8" in height
description: small, cylindrical bodied bottle with flared lip and misshapen neck
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

66. BOTTLE Level 9
manufactury: turned in mold, irregular lip, pontil mark
color: colorless
dimensions: 2-1/8" in height, 1-1/8" diameter at base
description: small, cylindrical bodied bottle with flared lip
inscription: none

comment: This bottle's smooth surface with very fine horizontal lines around the body indicate that the bottle was turned in the mold while still soft to erase the seams rather than being free blown.

67. BOTTLE WITH SCREW CAP Level 15
manufactury: two piece mold, threaded lip, no pontil mark
color: colorless
dimensions: 2-1/4" in height
description: small bottle with beveled corners which continue over the shoulder to the base of threaded neck; tapering body from shoulder to base; metal screw-on cap, perhaps of pewter
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

68. BOTTLE Level 5
manufactury: two piece mold, even lip, no pontil mark
color: pale green
dimensions: 3-3/4" in height
description: small rectangular bottle with inset panels
inscription: none
date of manufacture: 1867 or later

comment: Date is based on Lorrain's (1968: 43-44) dating of the introduction of inset panels.

69. PEPPER SAUCE BOTTLE (?) Level 22
manufactury: two piece mold, irregular lip, no pontil mark
color: colorless
dimensions; 5-3/8" in height, 2-1/8" by 1-1/4" at base

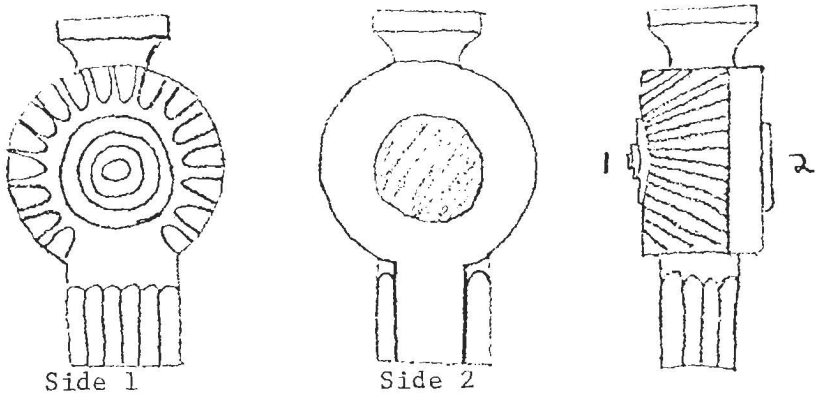
description: rectangular bottle with beveled corners, inset panels with arched tops
inscription: none
date of manufacture: 1867 or later

comment: Lorrain (1968: 43-44) dates the introduction of inset panels to 1867, Switzer (1974: 6) to about 1861. Bottles rather similar to this one in size and arched top panels recovered from the steamship Bertram were identified as pepper sauce bottles (Switzer 1974: 55-61).

70. BOTTLE Level 21, 22
manufactury: two piece mold, no pontil mark
color: colorless
dimensions: 3-1/2" in height (incomplete)
description: vessel of clear, hard glass; incomplete above shoulder; base, body and shoulder all of eight even sides; parallel walled base supports wider round ring, topped with outward flared body
inscription: none
date of manufacture: 1857 or later (Lorrain 1968)

comment: The fine quality of the glass of this vessel and complexity of its form suggest that its missing neck terminated in the spout of a cruet rather than the lip of a bottle.

71. BOTTLE (?) Level 16
manufactury: two piece mold, filed lip, no pontil mark
color: colorless
dimensions: 4-7/8" in height
description: complex form with opening at top and at side, both with cylindrical, filed rim. See sketches.



Side 1 Side 2

inscription: none
date of manufacture: after 1840 (Lorrain 1968)

comment: Perhaps this vessel functioned as a fluid-burning lamp. The lower portion might have been filled with oil. The hole in side two could have allowed for lighting a floating wick and feeding oxygen to the flame. The neck could have served as a chimney, and the concentric circles on side one might have focused the light coming through them, serving as a lens.

OTHER GLASS AND MISCELLANEOUS ARTIFACTS

In addition to the ceramics and the bottles, several other glass artifacts and a number of noteworthy metal artifacts were recovered from the well. This final section begins with the glass objects, then describes five fragments, two of glass and three of brass, that constitute a thermometer, then lists the remaining metal artifacts and concludes with a tortoiseshell comb.

72. CUP PLATE Levels 21, 22
manufactury: pressed in mold
color: colorless
dimensions: 3-1/4" diameter
description: small glass plate with scalloped edge, floral sprigs around rim, scene in center with log cabin, flag, tree, and barrel
inscription: none
place of manufacture: probably Sandwich, Massachusetts
date of manufacture: c. 1840

comment: The log cabin, flag, and cider barrel motifs were William Henry Harrison's campaign symbols when he successfully campaigned for the presidency of the United States in 1840. Lee and Rose (1948: 322-23, Fig. 594) illustrates a cup plate apparently identical to this artifact and identified its probable source as the Sandwich Glass Co. of Sandwich, Massachusetts.

73. VASE Levels 20, 21, 22
manufactury: pressed in mold
color: dark blue
dimensions: 7-1/4" in height, 3-1/4" at base
description: relatively tall, thin vase with six sides; hexagonal base, short stem, elongated bell-shaped body decorated with circles and long ovals, scalloped rim
inscription: none
place of manufacture: probably Massacushetts
date of manufacture: after 1827, perhaps 1835-45

comment: Lorrain (1968: 43-44) identifies 1827 as the date of the patenting of the glass pressing mold machine. Revi (1964: 253) reproduces illustrations from a New England Glass Co. catalogue that depicts a pattern group called "Ashburton" that is similar to this vase. Lee (1966: 200) illustrates a Sandwich vase very similar to this vase which she assigns to the 1835-45 period and calls the pattern "Punty and Loop."

74. TUMBLER Levels 7, 9
manufactury: pressed in mold
color: colorless
dimensions: 2-3/4" in height
description: small drinking glass with fluted bottom portion, slight flare from base to rim, smooth rim
inscription: none
date of manufacture: 1827 or after

comment: Lorrain's (1968: 43-44) date for the patenting of the pressing mold machine provides the date for this vessel.

75. BOWL Level 9
manufactury: pressed in mold
color: white
dimensions: 1-5/8" in height, 4-7/8" by 3-1/4" at base
description: straight sided bowl of translucent white glass, oval form
inscription: none
date of manufacture: 1827 or after (see comment 74)

76. DISH Levels 5, 6
manufactury: two piece mold
color: colorless
dimensions: 3-1/4" in height, 4" diameter at rim
description: flat bottomed, flaring sided bowl set on wide stem and base
inscription: none
date of manufacture: after 1840 (Lorrain 1968)

77. CHIMNEY Level 10
manufactury: two piece mold (?)
color: colorless
dimensions: 6-1/4" in height
description: glass chimney, open at top and bottom with cylindrical base, bulbous body tapering into long neck with scalloped top
inscription: none
date of manufacture: after 1860

comment: Lorrain (1968: 43-44) dates the appearance of kerosene lamps to the 1860s. Three other scallop pinched tops of glass chimneys were found in the well, at levels 14, 15, and 17.

78. GOBLET BASE Level 10
color: colorless
dimensions: 2-1/4" diameter
description: base of stemmed glass, decorated with circle of etched dots
inscription: none

79. GLASS DECANTER STOPPERS Two: Level 18; One: Level 20
color: two colorless, one gray
description: top portions are flattened tear drop shape, stopper portions are roughened by grinding

80. GLASS BEAD Level 4
color: colorless
dimensions: 1/2" in length
description: bead of clear, very bubbly glass in tear drop shape with small end looped over to form a hold for stringing

81. THERMOMETER (fragments) Level 15
color: colorless
dimensions: one fragment 3-1/4", other 2-1/4" in length
description: two fragments of thermometer rod with red residue in tube, white stripe in the glass to aid reading; no calibration; remnant of bulb at one end of shorter fragment

82. THERMOMETER Level 16
materials: glass rod and brass backplate
dimensions: 7-1/4", reconstructed length of glass rod; 8-1/4", reconstructed length of backplate
description: Glass rod: complete in two fragments from sealed top of tube to remnant of bottom bulb; mercury residue. Back plate: three fragments, complete from top to beginning of hole that accommodated the bulb. Top and bottom fragments show remnants of two clasps that secured the rod to the plate, the clasps secured with tiny screws. Plate is calibrated along its center, numbered on left side -10 to 220, inscribed on right side WATER BOIL between 210 and 220, SPIRIT BOIL between 170 and 180, FEVER HEAT at about 110, and several other illegible inscriptions.
inscription: (engraved at top) I.Somolaioc (?)
& Son
LONDON
place of manufacture: London

comment: The maker's name engraved on the backplate is very difficult to decipher due to corrosion, although the first initial I and the first letter of the surname S are both clear. Mercury was used for thermometers by about 1717, and Fahrenheit's scale, fixing the boiling point of water at 212o, was in common use by the 1730s (Middleton 1966: 79).

83. GOLD RINGS Level 4
material: gold
dimensions: about 1/4" diameter
description: thin gold band, broader on one side where it is decorated with line of four small incised dots

84. WATCH CASE BACK Level 5
material: brass (?)
dimensions: 1-5/8" diameter at widest point
description: round metal plate, dished shape, small segment of circle flattened for hinge
inscriptions: (stamped on cave side) 2150
(inscribed in circle, convex side) J MYERS WESTMINSTER ROAD 3971
place of manufacture: London
date of manufacture: c. 1783-1808

comment: Baillie (1969: 229) lists a John Myers of York who made watches and clocks in the Southwark section of London from 1783-1808. Britten (1927: 748) lists John Myers of York in London at 225 Borough until 1804. This suggests that his Westminster Road address might date from the 1804-08 period.

85. LAMP KEY Level 6
material: brass (?)
dimensions: 2-1/4" in length
description: small metal disk with shaft attached perpendicularly at center, two toothed gears attached to shaft about two-thirds of its length away from the disk

inscription: (in raised letters on disk, arranged in circle) WARRENS
SEPT 14
1869
PATENT

date of manufacture: 1869 or later

comment: This artifact is the part of a kerosene lamp that served to adjust the wick.

86. KEROSENE LAMP Level 6
material: brass
description: This unit consists of all the components of a kerosene lamp except wick, reservoir, and chimney. It includes threaded base to screw into reservoir, wick key, wick guide, perforated base for chimney and four clamps for holding chimney and hinged wick cover.
inscription: (in raised letters on key) MANHATTAN BRASS CO NY
place of manufacture: New York
date of manufacture: after 1860 (see comment 77)

comment: One of the two gears on the wick key that are supposed to propel the wick is bent, blocking the turning of the key. This may have prompted the discarding of the intact lamp.

87. PESTICIDE CAN Level 6
material: ferrous metal
dimensions: 1-1/4" in height, 1-7/8" diameter
description: small can of thin metal with a cover that fits tightly over the top of the can
inscription: (in raised letters on top) COSTARS
RAT & ROACH
EXTERMINATOR

comment: Fragments of a similar can were removed from level 4 in the well.

88. NAIL Level 23
material: steel, perhaps galvanized
dimensions: 2-3/4" in length
description: casing type wire nail
date of manufacture: after 1850

comment: Nelson (1963: 25) states that wire nails were manufactured in this country after about 1850. Noel Hume (1970: 254) agrees but specifies that the earliest wire nails produced in the United States were small brads, and that not until the final quarter of the 19th century were sufficient quantities of all sizes of wire nails produced to compete successfully with cut nails.

89. BOWL Level 9
material: iron
dimensions: 3-1/2" in height, 12-1/2" in length, 6-1/2" at widest point
description: flat bottomed iron vessel, walls perpendicular to base, one straight side, the other curving as a segment

90. KNIFE Level 12
materials: iron blade, bone handle
dimensions: handle 3", incomplete blade 4"
description: thin, broad iron blade set into one piece bone handle of oval cross section

91. COMB Level 16
materials: tortoiseshell and brass
dimensions: 3-1/4" by 3-1/4"
description: curved comb with six of 10 long teeth, remnant of brass attachment in one corner near where the teeth begin

CONCLUSION

This report does not, of course, complete the examination of the well and the artifacts it contained. The structure of the well itself, which combines brick lining and wooden stave construction, and the remains of a wooden pump that were found in it are particularly worthy of further research. Within the narrower focus of the artifact study, several interesting items have not yet been satisfactorily identified as to place and/or date of manufacture. The strange yellow ware flowerpot, the Rockingham ware teapots, several of the medicine bottles, the thermometer, and the rat poison are all in this category. The quantity of medicine bottles recovered suggests the need for further research into their former contents and how those were used by the house's residents.

An important aspect of the study of this assemblage that remains to be completed is the determination of its relationship to other artifacts and assemblages from the site through cross-mending and artifact comparisons. The Moran Hoard contains numerous vessels and sherds of yellow ware, transfer printed hard white, and Rockingham ware, as does the well group, and several glazed redware storage crocks and unglazed redware flowerpots from that trash pit closely resemble vessels from the well. A small trash pit excavated in the summer of 1975 yielded a fragment of a "Rebeccah at the Well" teapot that should be compared to the incomplete "Rebeccah" teapot pieced from sherds found in the well.

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Appendix E

FAUNAL ANALYSIS OF TWO TRASH PITS

by

Joanne Bowen

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INTRODUCTION

The faunal remains excavated from two trash pits located on the property of the Narbonne house in Salem, Massachusetts, were submitted for identification and analysis during the summer of 1975. Using my own comparative collection, supplemented by the amphibian, bird, and mammal collections of the Peabody Museum of Comparative Zoology of Harvard University, bones from feature 8, the Turner Hoard, dating to c. 1790 and from feature 14, the Moran Hoard, dating to c. 1805 were identified. Identifications were completed for all amphibians, birds, and mammals. The fish bones were not identified.

The text that follows will describe the procedures followed in the identification and analysis. Descriptions will include the initial sorting, determination of species, fragment counts, minimum number of individuals (MNI), and ages of animals at the time of their death. It is hoped that not only will these descriptions better enable the reader to interpret the faunal data, but will also demonstrate that the procedures followed in the initial sorting and identification are crucial to the accuracy of the final fragment counts and MNI figures. Using these proportions of identified animals along with the age estimates, animal use and dietary factors will be discussed, stressing how this data can contribute to the study of foodways.

PROCEDURES

Procedures followed in the initial sorting and identification are crucial in minimizing biases in the quantitative data. With the Narbonne bones, the faunal analysis was aimed at culturally and temporally significant "units," meaning a feature or closely dated living surface that could be related to a sociocultural group and a particular temporal unit. The first step was to determine from the archaeological data, artifacts, and documentary evidence the significant units. The bones excavated from two trash pits which had been submitted for identification seemed to meet the above criteria. Each pit had revealed no stratigraphy and it was possible to cross-mend pieces of ceramics throughout the contents of the pit. Therefore, each pit was treated as a single unit and all bone fragments from each pit were removed from their separate bags and combined.

Fragments were divided into groups, including both probable species and bone elements that were difficult to readily distinguish. Thus groups of probable pig, sheep or goat, cow, bird, fish, small mammals, amphibians and reptiles, as well as vertebra, carpal/tarsal, rib, and unidentifiable bone groups were formed. Each species group was then broken down into bone elements for more detailed identifications. By examining all the bones from each pit, a significant amount of time was saved. As bones were sorted into species and bone element, bones did not have to be individually recorded. Instead, the entire group of one bone element was identified and recorded at once.

By combining the bones, many factors which can skew the faunal data are at least partially controlled; one can produce more accurate fragment counts, MNI figures, and a better estimate of the relative importance of identified species. Once identification was completed, those

bones which were broken during excavation, laboratory work or handling were matched and glued. There were a surprising number of broken bones that were matched. As well, unfused epiphyses which had been separated from their long bones were matched.

Some bone elements are more difficult to distinguish in some species than in others and if included in the total counts, they can introduce a bias in the proportions of animals. This identification problem has long been recognized by the discipline. Not all bones can be identified because of use, food preparation, preservation and excavation factors. A solution that has become common practice is to follow a set of identification rules that informs the reader how closely the zooarchaeologist was able to identify the fragment. Levels of identification have been set up, ranging from specific designations such as species (Canis familiaris--Dog) to more general categories such as genus (Canis spp.). If a bone closely resembles a species, or group, but not closely enough to warrant that designation, it is given a "cf" or compare designation (as in Canis cf. familiaris, which means that the fragment is definitely in the Canis family and is probably a domestic dog). The difficulty in distinguishing between sheep and goat is one good example of the problem of identification. Some bone elements are more difficult to distinguish than others. Some elements, particularly if the epiphysis are missing, are impossible to distinguish. In this situation, they are frequently placed in a Sheep/Goat category. But in maintaining strict levels of accuracy in identification, in some instances the actual proportions of animals can be unnecessarily skewed.

At this site in figuring the proportions of domestic animals from the fragment totals, an attempt was made to correct for this bias. To produce a more accurate estimate of the numbers of sheep fragments, a number of categories were formed: Goat, cf. Goat, Sheep, cf. Sheep, Sheep/Goat, cf. Sheep/Goat, and Artiodactyla (Sheep, Goat, or Deer). There were no goat fragments, and only one cf. Goat fragment from either pit. A large number of fragments were identified as Sheep and cf. Sheep, and another large number fell into the Sheep/Goat and cf. Sheep/Goat categories. As the number of definite or cf. Goat bones was so small, it was assumed that almost all of the Sheep/Goat fragments were, in fact, sheep. All fragment counts were first figured keeping the Sheep/Goat separate from the Sheep. A more realistic representation of the actual number of sheep was produced when the Sheep and Sheep/Goat categories were combined. When this was done it became evident that sheep were twice as important as pig or cattle for both time periods. In all of the charts showing the proportions of fragments, MNI, and age distributions, the Sheep/Goat was first left out of the calculations and then included with the sheep fragments and in no case does the addition of Sheep/Goat fragments alter the proportions of animals.

Another step taken to reduce the biases in the fragment counts was to determine if any of the less, or more easily identifiable elements would skew the proportions. Rib and vertebra fragments are notoriously difficult to distinguish while some elements, such as teeth, are unusually well preserved. In this study rib fragments were not even considered. The time required to identify them to even general categories was too great. All teeth and vertebra were identified. To determine if either one

had skewed the proportions, they were first included in the total counts and then subtracted to compare the difference. To do this, however, the problem of a disproportionate representation of the domestic animals had to be resolved. Many of the teeth and vertebra fragments had been identified as Pig and Cow, but most of the others as only Sheep/Goat. If the strict levels of identification had been kept, the percentage would not have been representative. Therefore, the Sheep/Goat fragments were added to the Sheep, making the vertebra and teeth part of the total count. Percentages were figured for this fragment count and were compared to those with the teeth and vertebra fragments subtracted from the total. No significant difference was found.

The combination of matching freshly broken fragments and unfused epiphyses with long bones helped to increase the accuracy of the fragment counts. This was also the result of adjusting the levels of identification categories and checking for the disproportionate representation of teeth and vertebra in the fragment counts. With these controls, it was possible to determine the relative accuracy of the fragment counts.

This identification procedure also provided an advantage in the determination of the minimum number of individuals. By having spread the bones out, it was possible to determine the MNI visually, and not have to rely on notes taken during identifications. Estimates were much more accurate; proximal, medial, and distal fragments could be much more accurately correlated as could their relative sizes and ages. Also by having matched loose epiphyses with long bones, it was possible to include these in the MNI figures. Strong support for this identification procedure came with the comparison of the percentages of fragments to the percentages of MNI. They were remarkably similar.

Estimates of the minimum number of pounds of meat represented by the identified faunal remains were not done for these two trash pits. Other zooarchaeologists have used these estimates to determine the relative food value of animals from faunal remains. By multiplying the minimum number of individuals determined from the faunal remains times an estimate of the number of pounds of usable meat for a given species, the relative value of an animal can be estimated. The use of weights derived from modern breeds to determine pounds of usable meat from earlier breeds, however, is questionable. The sizes of breeds and proportions of meat and bones have undergone tremendous changes, and estimates for domestic animals given by several zooarchaeologists have varied up to 100 percent for a given species. Moreover, in this site a tremendous number of bones were those of immature cows (80 percent in the 1790 pit and 82 percent in the 1805 pit). Any estimate using figures established for adult cows would have grossly overestimated the importance of beef in the occupants diet.

Another analytical method used to study patterns of animal use is the determination of the ages of animals at the time of their death. One means is to determine the degree of fusion of epiphysis to the long bone. For many of the domestic animals, the ages at which these bones fuse is known and can be used to determine a distribution of ages for animals on the site. This method was followed with some success for the bones from both trash pits.

The use of the epiphyseal fusion of long bones to age animals is based on the premise that there are three growth areas: the shaft, and an epiphysis on each end. During the growth of an animal, the shaft of a long bone is separated from the epiphysis. The rate at which epiphyses fuse varies both on the same bone and among different bones. By noting which epiphyses are fused and which are not in animals of known age, the sequence of bone fusion has been determined. This sequence appears to be consistent for a species, but the exact age at which the epiphyses fuse varies in ways not fully understood. In females and castrated males, the fusion process appear to be delayed. It also varies according to different breeds of the same species, diet, and environmental factors. Thus, many factors interact to vary the ages at which the epiphyses fuse. To determine this age for earlier breeds, one must take into account all the variables that influence the maturation process of these animals. To control these factors, one should ideally use fusion rates established from early breeds. This is impossible unfortunately, for almost all fusion rates have been determined using modern animals.

To get around this dilemma, it was assumed for the Narbonne site bones that although the ages at which bones fuse may vary, the sequence of fusion has remained relatively unchanged. Following Chaplin (1971) the fused or unfused condition of the epiphyses of limb bones were recorded in order to determine the age at death for sheep, pig, and cow bones. Figures for the age of fusion were drawn from Silver's (1970) data which was derived from modern stock. From this, age structure was produced. The result is a distribution of the percentage of animals killed within a given age range. But, because the ages at which epiphyses fuse vary, the age distributions given in months should be taken only in relative terms and as part of an entire sequence.

FAUNAL ANALYSIS

The identification of the faunal remains from the two trash pits revealed virtually identical patterns for the two time periods. The discussion of animal use and dietary patterns, therefore, will refer to both time periods except where noted.

The most striking pattern revealed in the faunal remains is the overwhelming reliance on domestic animals. In terms of clearly identified bone fragments that might have been used for food, only 2.1 percent of the total identified sample of fragments for the 1790 pit (Bullfrog, Gull, and Passenger Pigeon) and 1.29 percent for the 1805 pit (Canada Goose, Bobwhite or Ruffed Grouse, and Passenger Pigeon) were of wild animals. All of these would have been easily obtainable in or near Salem in the late 18th and early 19th centuries.

Amphibians

Whether or not these specimens were consumed cannot be surmised. The bullfrog fragment had no sign of butchering, but it is of the long-legged genus Rana from which the "frogs legs of commerce" come (Conant 1975: 337-38). It could well have been used for dietary purposes. Of the American toad, it is more doubtful that it was consumed. Conant (1975: 307) says, "Habitats are legion, ranging from

suburban backyards to mountain wildernesses. Requisites seem to be shallow bodies of water from which to breed . . . hiding places where there is some moisture, and an abundant supply of insects and other invertebrates for food."

Birds

For many of the geese bones, it was impossible to distinguish domestic from wild, for the comparative collection did not include an adequate collection. Some bones were definitely the Canada Goose (Branta canadensis), but they should be studied again when there is an adequate collection. Nevertheless, the Canada Goose is a favorite game bird, considered to be "fine eating" by contemporary hunters. These birds may be found throughout the year when the waters do not freeze over. After the breeding season they gather in large flocks and graze in open fields within commuting distance of water (Reilley 1968: 58-59; Robbins, Bruun, and Zim 1966: 40). They could have easily been obtained in Salem.

The comparative collection for domestic ducks was very poor. All duck bones should be compared in the future with an adequate duck collection. Some bones, however, closely resembled the Mallard (Anas platyrynchos), a very common bird found in almost any body of fresh water. This bird remains as far north as possible through the winter. It will stay in an area as long as it can find open shallow fresh water and it returns northward in spring as soon as melting ice permits (Reilly 1968: 65).

A small and immature gallinaceous bird was identified from the 1805 trash pits: Gallinaceous cf. Colinus virginianus (Bobwhite), Bonasa umbellus (Ruffed Grouse), or Phasianus colchicus (Ring-necked Pheasant). The bones could not be assigned to a species, however, as they were indistinct and lacked epiphyses. They compared closely to immature Ruffed Grouse and Bobwhite specimens, but there was not an immature specimen of the larger Ring-necked Pheasant. The small size of the bones, however, points to the smaller Bobwhite and Ruffed Grouse. The Ruffed Grouse is common in mixed or deciduous forest lands. The Bobwhite is common in farmlands and open areas with scrub growth, and the Ring-necked Pheasant is common in open grasslands (Reilley 1968: 116-17, 124-25, 129-30). Any one of these birds could well have been used as squabs.

The Passenger Pigeon (Ectopistes migratorius) is well known historically as food. John Watson wrote in 1793 that "flocks flew daily over Philadelphia and were shot from numerous high houses. The markets were crammed with them. . . ." (Schorger 1955: 13). Some thought the older birds to be tough and dry; squabs and fat birds were thought superior. In the spring adults were taken when they were fattest, though many were also fed in captivity to make them more tender. They were so common that they were considered a pest by some. The bird was apparently consumed by both rich and poor.

> The pigeon was a boon to the poor. Its importance as food during periods of migration may be gleaned from the fact that Burnaby (1760, Middle Settlements) found it the only food

> available by the inns where he stopped and the common people were living almost entirely on its flesh. More wrote from Pennsylvania in 1686 "We have had so great abundance of Pigeions [sic] this summer, that we fed all our servants with them." (Schorger 1955: 129-30)

Schorger has combined 17th, 18th, and 19th century references without discrimination. Despite this, he made it abundantly clear that these birds were easily accessible to the poor and the wealthy.

Rodents

Only the Norway Rat (Rattus norvegicus) was identified from these trash pits. Although the Black Rat (Rattus rattus) commonly lived in ships and was frequently introduced into port towns, the Norway Rat was more common in the north and in northern ports. Interestingly enough, they dominate the Black Rat even in buildings, where the weaker (though better climber) Black Rat is frequently forced to live in the upper portions of the buildings (Hall and Kelson 1959, 11: 768-69).

Cetaceans

A butchered portion of a whale vertebra was identified. Uses of these tremendous bones were numerous. A chopping block of whale vertebra was identified from an early 18th century fishing tavern in Welfleet, Massachusetts (James Deetz n.d.). They have also been listed in 17th century Plymouth, Massachusetts, probate inventories as furniture. This particular vertebra has been cut several times but its use is unknown.

Domestic Animals

A number of adult and very young domestic cats was identified from both trash pits.

Animal Use and Dietary Analysis

The proportions of domestic animals in both trash pits are almost exactly the same. Birds (chicken and turkey) supplemented a diet primarily consisting of mutton and lamb, pork, veal, and beef. One striking characteristic is that these animals were not raised to serve multiple purposes. The cow remains present the best example of animals that seem to have been purchased from urban markets. In the 1790 trash pit, of the bones which fuse between 0-18 months, 80 percent were not fused, and in the 1805 pit over 80 percent were not fused. Of that number most were only a few weeks old. To determine if these bones could be aged to a closer time period, a series of calf skeletons of known age were examined. The only difference between a two week, six week, and six month skeleton was size; there were no visible osteological differences. As size is only a relative criteria, which has changed greatly with the development of new breeds and better care, they could not be used to determine the age of the Narbonne bones. For the record, however, the bones were only slighly larger than the two week old skeleton.

But one cannot rule out the possibility that they also owned their own cow, as the rather substantial proportion of older cows might indicate. Approximately 30 percent were mature animals over three years

of age. It would seen possible that the family residing in the Narbonne house kept a cow to serve their dairy needs, as well as purchased veal and beef from the local market. The large number of young cow suggests that they purchased most of their meat. The distribution of bone elements also supports this interpretation. There are virtually no foot bones--only one metacarpal and four metapodial fragments from one pit and none from the other. Factors of bone preservation do not explain the absence of these bones. For the most part these bones have a compact, solid structure that can withstand much weathering and decay, despite butchering (Yellen 1977). Extensive research needs to be done concerning colonial urban foodways; marketing, trade, butchering, and food preparation all need to be studied before more definitive statements can be made about the cow remains.

The pig bones also seem to indicate that pigs were purchased and not raised. The age distribution for the pig shows the large majority (over 60 percent) to have fallen easily within a good marketable age, where they had obtained their optimum weight but had not yet fully matured. The frequencies of different bone elements also point to market purchases rather than home raising. There are a number of foot bones, which might be taken as an indicator of home raising, but the varying size and ages of the different elements again point to individual purchases. In particular, the skull fragments differ in age from the long bones. Most of the skull fragments are from small and immature animals, while a much larger proportion of limb bones come from larger, more mature animals.

The data for sheep is not as clear. The age distributions do not clearly fall into an optimum age range for marketing. Most fall within the 1 to 2-1/2 year age group, but there is a relatively wide spread over the age ranges. At this point in the research on foodways, it is unknown at what age farmers could obtain the most profit by selling these animals on the market. There seems to be no data as to whether sheep had gained their optimum weight within the 1 to 2-1/2 year age range. Some evidence, however, does support the idea that mutton and lamb were purchased. There was only one skull from the 1805 pit and none from the 1790 pit. There were a large number of metapodials, but almost no toe bones. More research clearly needs to be done.

Both chicken and turkey formed an important, though supplementary, part of the occupants diet. The majority of these birds were a mature, adult size, in contrast to contemporary chickens and turkeys which are still immature when killed. It is not known whether or not these were raised on the property or were purchased from a market.

CONCLUSION

Little is known about early American urban foodways--how much individual families could raise for themselves and how much they had to rely on foodstuffs raised on farms for city markets. Because of this the Narbonne faunal remains provided an excellent study. The bones are from well defined, closely dated trash pits located on the Narbonne property in Salem. It is quite possible that the family did own some livestock: a cow, chickens, and pigs. The lot, however, is quite small and would not have afforded sufficient space for any number of them and, in fact, much of the meat consumed seems to have been purchased. Research needs to be done on city regulations for keeping animals, town grazing space, and possibly probate inventories that might list livestock. It is hoped that future research will shed light on many of these interesting problems.

NOTE BY AUTHOR, 1982

Written in 1976 as a descriptive report for the Narbonne project, this analysis of the faunal remains purposed to help archaeologists understand and interpret the faunal data. It was also necessary to provide enough information on methods and assumptions used in the identification and analysis to make the data more readily useable by other archaeologists and faunal analysts. Methods used will invariably affect the final product of the analysis. Because methods are constantly either being modified or changed, there are no standards used in the identification of bone, determination of the Minimum Number of Animals, and other forms of analysis. This variability, while the healthy sign of continuing research, can make the comparison of data from different sites difficult, if not impossible. By including information on the methods used within this site report, it was hoped that the report would remain useful for future research.

When the report was written, few urban sites had been excavated and almost nothing was known about urban foodways. Due to limited funding, no research on foodways in Salem was done, and the analysis of foodways and the Narbonne faunal remains remained short and descriptive. As well, the identification and analysis of remains from additional features at the Narbonne site was begun, but not completed. The faunal analyst holds this information.

Now, six years later, additional urban sites in New England have provided rich comparative data. In comparing the Narbonne material with this new data, it has become apparent that the Narbonne bones should be restudied to more clearly indicate the presence of the relatively large amounts of veal and mutton. But, despite the increased archaeological data base, we remain ignorant on urban foodways, with its individually owned animals, peddlars, markets, along with the many social and economic factors that influenced the procurement of and the relative importance of meat in the urban dweller's diet.

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TABLE E-1

COMPARISON PERCENTAGES FRAGMENT COUNTS AND MNI

1790 TRASH PIT

	FRAGS	%	MNI	%
Pig	112	26.2	5	25
Cow	108	25.2	4	20
Sheep (Sheep/ Goat included)	208	48.6	11	55
Totals	428	100.0	20	100.0

(All cf. fragments have been included)

1805 TRASH PIT

	FRAGS	%	MNI	%
Pig	469	26.3	18	32.1
Cow	418	23.46	11	19.6
Sheep (Sheep/ Goat included)	895	50.2	27	48.2
Totals	1782	100.0	56	99.9

(All cf. fragments have been included)

TABLE E-2

NARBONNE HOUSE--1790 TRASH PIT

TOTAL COUNTS

	# FRAGMENTS	% FRAGMENTS
FISH		
Unidentified at present	324	13
AMPIBIAN		
Identified	1	.04
BIRD		
Identified	72	2.9
Unidentified	50	2
MAMMALS		
RODENTS Identified	13	.5
CARNIVORES Identified	11	.4
ARTIODACTYLS Identified	431	17.5
UNIDENTIFIED	1562	63.4
	2464	99.74

TABLE E-3

NARBONNE HOUSE-1790 TRASH PIT

SPECIES	COUNT/MNI	% FRAGMENTS
FISH		
Not Identified		
AMPHIBIANS		
Rana catesbeiana Bullfrog	1/1	.2
BIRDS		
cf. Anserinae Geese	2	.3
Anserinae Geese	10/2	1.9
Duck spp. Ducks	2	.4
cf. *Anas platyrynchos* Mallard	2/1	.2
cf. *Gallus gallus* Domestic Chicken	3	.6
Gallus gallus Domestic Chicken	29/8	5.5
Meleagris gallopavo Turkey	14/4	2.6
Larus spp. Gull	1/1	.2
Ectopistes migratorius Passenger Pigeon	9/2	1.7
MAMMALS		
Rattus sp. Rat	1	.2
Rattus norvegicus Norway Rat	12/3	2.3
Felis domesticus Domestic Cat	11/1	2.1

TABLE E-3
(Cont.)

SPECIES - 1790 TRASH PIT	COUNT/MFC	% FRAGMENTS
Artiodactyla Sheep, Goat, Deer	4	.7
Sus scrofa Domestic Pig	112/5	21.2
cf. Bos taurus Domestic Cow	3	.6
Bos taurus Domestic Cow	105/4	19.8
cf. Ovis aries/Capra hirca Domestic Sheep/Domestic Goat	2	.4
Ovis aries/Capra hirca Domestic Sheep/Domestic Goat	100	18.9
cf. Capra hirca Domestic Goat	1	.2
cf. Ovis aries Domestic Sheep	5	.9
Ovis aries Domestic Sheep	99/5	18.7
	528	99.6

		%
TOTAL IDENTIFIED FRAGMENTS	528	21.4%
TOTAL UNIDENTIFIED FRAGMENTS	1562	78.6%
	2464	100%

TABLE E-4

NARBONNE HOUSE - 1790 TRASH PIT

Number of Identified Fragments SPECIES	Cranial	Mandible	Tooth	Vertebra	Scapula	Clavicle	Humerus	Radius	Ulna	Carpals	Metacarpals	Innominate	Femur	Patella	Tibia	Fibula	Tarsals	Metatarsals	Phalanges	Metapodials	Antler	Sternum	Furculum	Carpometacarpus	Coracoid	Tibiotarsus	Tarsometatarsus	Unidentified	Total Number of Pieces	Percent of Total Pieces
Rana catesbeiana (Bullfrog)							1																						1	.2
c.f. Anserinae (Geese)		1							1																				2	.3
Anserinae (Geese)							6					1												1	2				10	1.9
Duck spp. (Ducks)																									1		1		2	.4
c.f. Anas platyrynchos (Mallard)					1			1																					2	.2
c.f. Gallus gallus (Domestic Chicken)									2																		1		3	.6
Gallus gallus (Domestic Chicken)					2		6	4	1			1	4			1									7	2	3		29	5.5
Meleagris gallopavo (Turkey)							3	3					2											1	1	4			14	2.6
Larus spp. (Gull)																								1					1	.2
Ectopistes migratorius (Passenger Pigeon)								1	1			3											1	1	2				9	1.7
Rattus sp. (Rat)		1																											1	.2
Rattus norvegicus (Norway Rat)		1			1		2					2	3		3														12	2.3
Felis domesticus (Domestic Cat)		2		2	2		1		1						1					2									11	2.1
Artiodactyla (Sheep, Goat, Deer)			3										1																4	.7
Sus scrofa (Domestic Pig)	11	2	27	7	2		3	3	2	6	3	3	2		3	2	6	2	10	13									107	21.2
c.f. Bos taurus (Domestic Cow)	2												1																3	.6
Bos taurus (Domestic Cow)	27	1	25	8	6		6	4	1	5		1	5		6		10												105	19.8
c.f. Ovis aries/Capra hirea (Sheep or Goat)												2																	2	.4
Ovis aries/Capra hirea (Sheep or Goat)		1	8	46	1		2	10			2	12	4		11				3										100	18.9
c.f. Capra hirea (Domestic Goat)									1																				1	.2
c.f. Ovis aries (Domestic Sheep)							1						4																5	.9
Ovis aries (Domestic Sheep)				4	5		8	9	5	16	9	8	11		7		14	3											99	18.7
																													523	99.6

TABLE E-5

NARBONNE HOUSE--1790 TRASH PIT

TOTAL NUMBER FRAGMENTS
MINIMUM NUMBER INDIVIDUALS

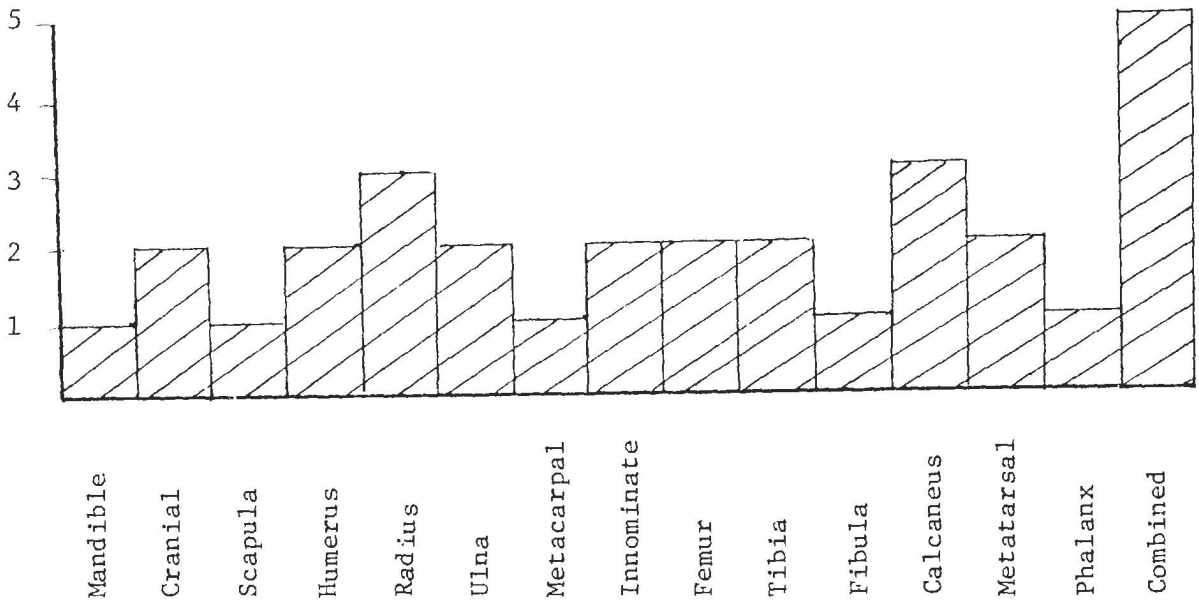
ELEMENT	PIG			COW			SHEEP			SHEEP/GOAT*			GOAT
	cf.	sp.	MNI	cf.	sp.	MNI	cf.	sp.	MNI	cf.	sp.	MNI	cf.
Mandible		2	1		1	1		-			1	1	
Teeth		27			25			-			8		
Cranial		11	2	2	27	2		-			-		
Vertebra		7			8			4			46		
Scapula		2	1		6	2		5	4		1	4	
Humerus		3	2		6	3	1	8	4		2	5	
Radius		3	3		4	2		9	4		10	7	
Ulna		2	2		1	1		5	4		-	4	1
Carpal		6			5			16			-		
Metacarpal		3	1		-	-		9	5		2	7	
Innominate		3	2		1	1		8	5	2	12	5	
Femur		2	2	1	5	2	4	11	5		4	7	
Tibia		3	2		6	3		7	4		11	10	
Fibula		2	1		-	-		-			-		
Calcaneus		3	3		4	3		7	5		-	5	
Tarsal		3			6			7			-		
Metatarsal		2	2		-			3	2		-	2	
Phalange		10	1		-			-			3	1	
Metapodial		13			-			-			-		
Carpal/Tarsal					-			-			-		
Total Number Fragments		107		3	105		5	99		2	100		1
MNI--All Elements Combined			5			4			5			11	

* MNI--Based on all fragments cf. Ovis aries, Ovis aries, cf. Sheep/Goat, and Sheep/Goat.

TABLE E-6

NARBONNE HOUSE - MINIMUM NUMBERS OF INDIVIDUALS
1790 TRASH PIT

Minimum Number of Individuals - Sus scrofa



Minimum Number of Individuals - Bos taurus

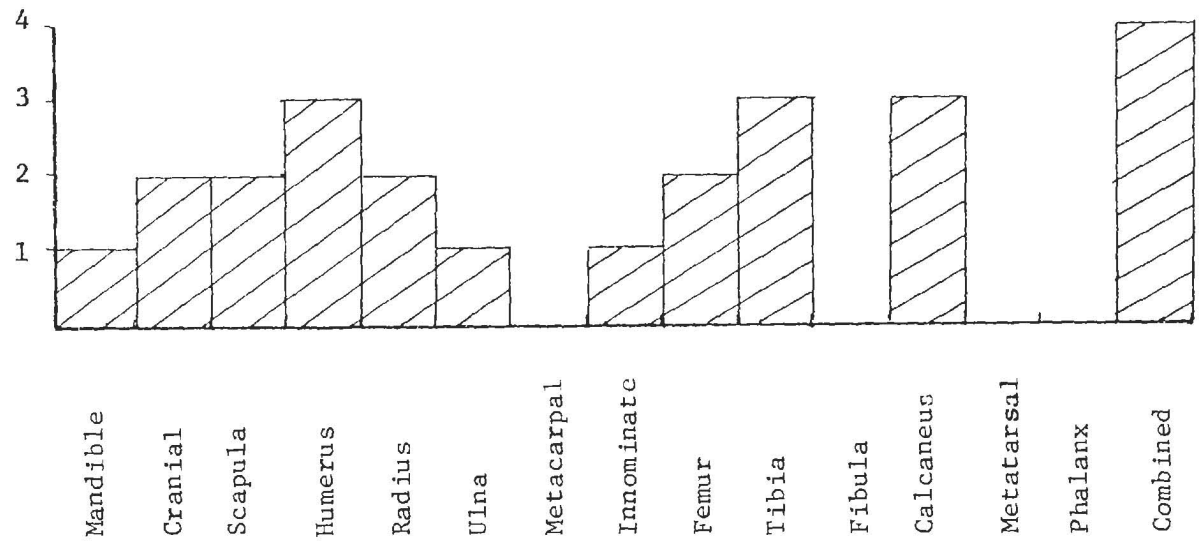
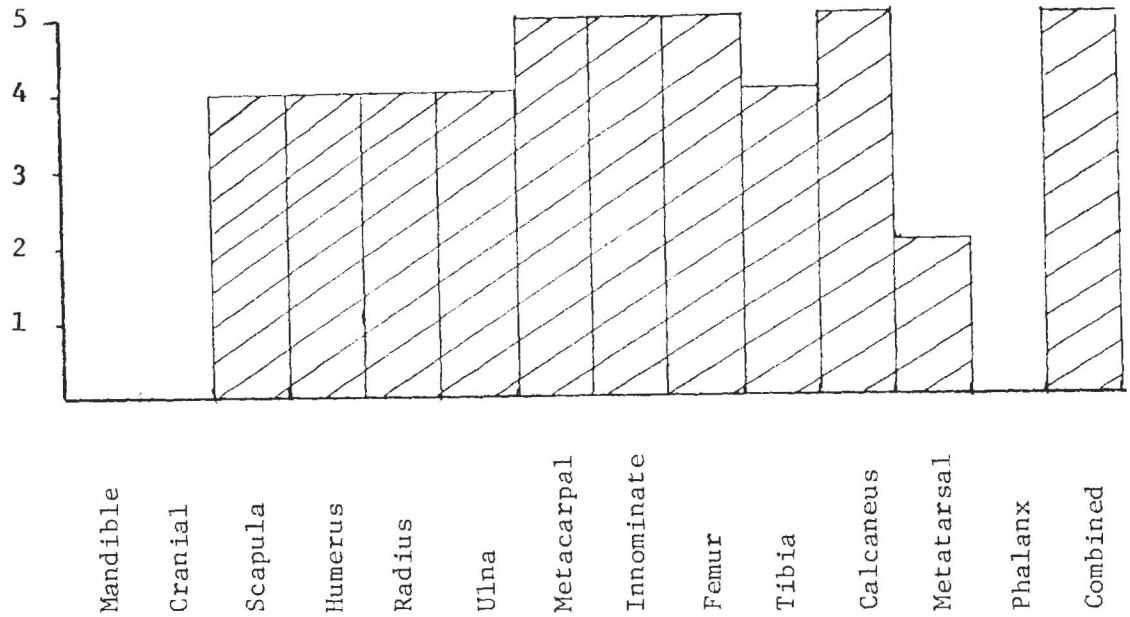


TABLE E-7

NARBONNE HOUSE - 1790 TRASH PIT

Minimum Number of Individuals - Ovis aries



Minimum Number of Individuals - Ovis aries combined with Ovis aries/Capra hirca

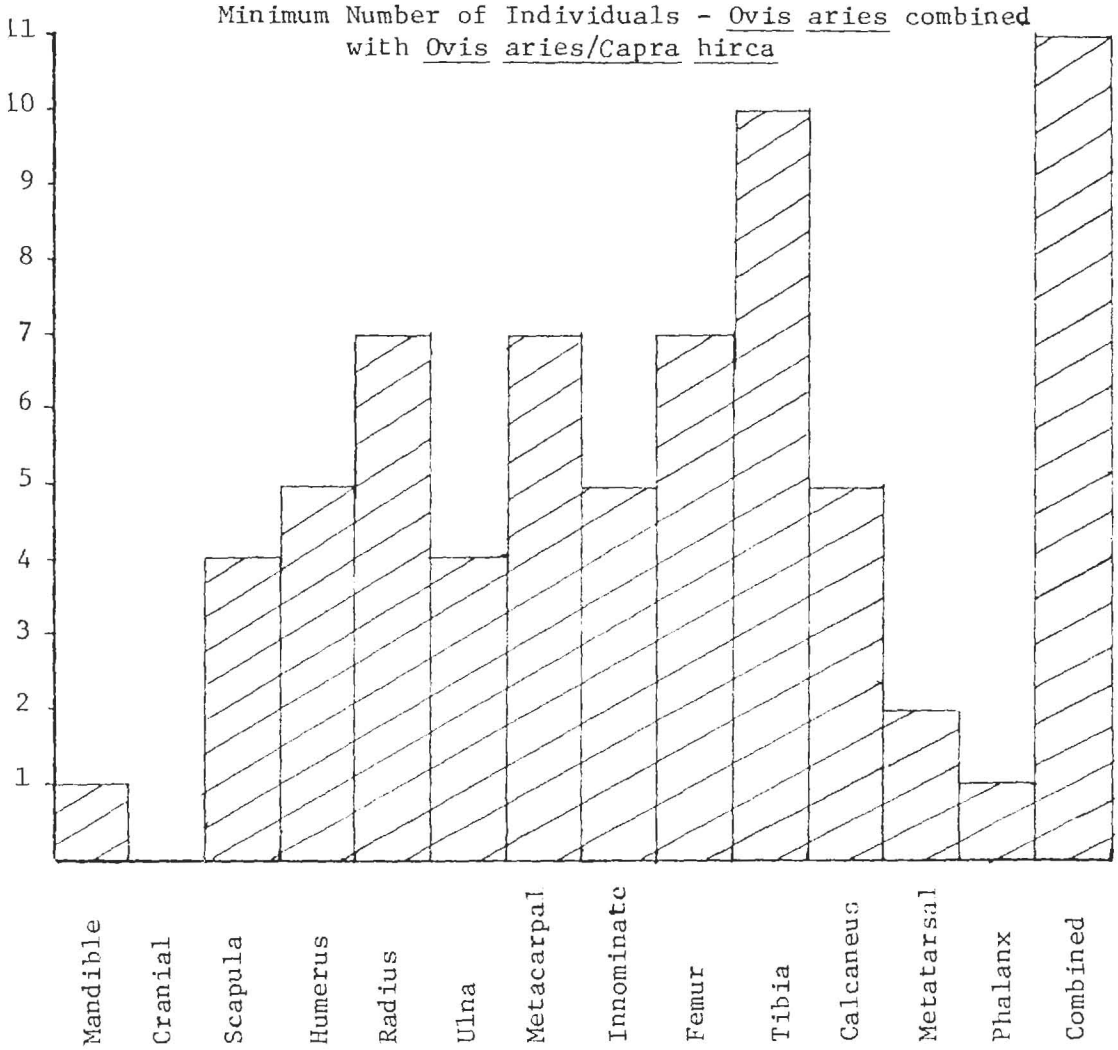
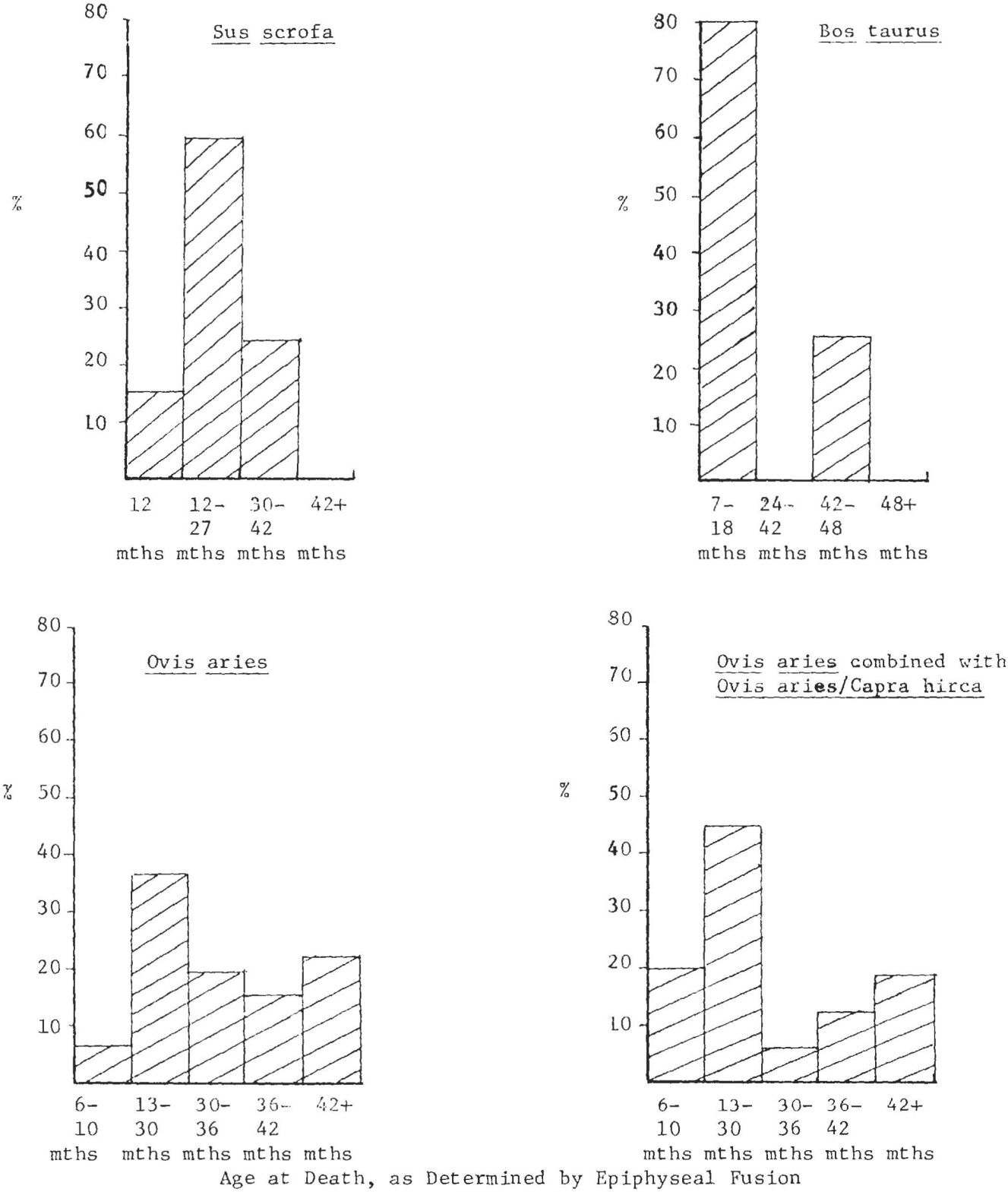


TABLE E-8

NARBONNE HOUSE - 1790 TRASH PIT



Age at Death, as Determined by Epiphyseal Fusion
Percentage Killed in Age Range

Source: Chaplin 1971: 128-35; Silver 1969: 285-86

TABLE E-9

AGE GROUPS--NARBONNE HOUSE--1790 TRASH PIT

Sus scrofa

Age of Fusion--0 to 12 Months		
Bone and Epiphysis	Fused	Not Fused
Radius--proximal	2	0
Humerus--distal	2	0
Second Phalange--proximal	1	0
Scapula	0	1
	5	1
Percent of Age Range	83.3%	16.7%

Age of Fusion--12 to 27 Months		
Bone and Epiphysis	Fused	Not Fused
Metacarpal--distal	1	1
First Phalange--proximal	3	3
Tibia--distal	0	1
Metatarsal--distal	1	1
Metapodial--distal	0	10
	5	16
Percent of Age Range	23.8	76.2

Age of Fusion--30 to 42 Months		
Bone and Epiphysis	Fused	Not Fused
Fibula--distal and proximal	0	3
Ulna--dis. and prox.	0	2
Humerus--proximal	0	0
Radius--distal	0	0
Femur--proximal	0	1
Tibia--proximal	0	1
	0	7
Percent of Age Range	0%	100%

TABLE E-10

AGE GROUPS--NARBONNE HOUSE--1790 TRASH PIT

Bos taurus

Age of Fusion--7 to 18 Months	Fused	Not Fused
Bone and Epiphysis		
Scapula	1	1
Humerus--distal	0	1
Radius--proximal	0	2
	1	4
Percentage of Age Range	20%	80%

Age of Fusion--24 to 42 Months	Fused	Not Fused
Bone and Epiphysis		
Metacarpal--distal	0	0
Tibia--distal	1	3
Metatarsal--distal	0	0
Calcaneus	1	2
Femur--proximal	0	1
	2	6
Percentage of Age Range	25%	75%

Age of Fusion--42 to 48 Months	Fused	Not Fused
Bone and Epiphysis		
Radius--distal	0	1
Ulna--distal and proximal	0	1
Femur--distal	0	3
Tibia--proximal	0	2
Humerus--proximal	0	5
	0	12
Percentage of Age Range	0%	100%

Source of Fusion Ages: Silver 1969:285-286; Chaplin 1970:128-133.

TABLE E-11

AGE GROUPS--NARBONNE HOUSE--1790 TRASH PIT

Ovis aries

Age of Fusion--6 to 10 Months Bone and Epiphysis	Fused	Not Fused	Combined with cf. specimens Fused	Not Fused
Humerus--distal	7	0	7	1
Radius-proximal	4	0	4	0
Scapula	4	1	4	1
	15	1	15	2
Percentage of Age Range	93.7%	6.3%	88.2%	11.8%

Age of Fusion--13 to 30 Months Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
First Phalange--prox	0	0	0	0
Second Phalange-prox	0	0	0	0
Metatarsal--distal	0	0	0	0
Tibia--distal	1	0	1	0
Metacarpal--distal	2	1	2	1
Ulna--distal and prox	1	2	1	2
	4	3	4	3
Percentage of Age Range	57.1%	42.9%	57.1%	42.9%

Age of Fusion--30 to 36 Months Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Calcaneus	3	2	3	2
Femur--proximal	1	5	1	6
Radius--distal	2	3	2	3
	6	10	6	11
Percentage of Age Range	37.5%	62.5%	35.3%	64.7%

Age of Fusion--36 to 42 Months Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Tibia--proximal	0	2	0	2
Femur--distal	1	5	1	5
Humerus--proximal	1	0	1	0
	2	7	2	7
Percentage of Age Range	22%	78%	22%	78%

Source of Fusion Ages: Silver 1969:285-286; Chaplin 1970:128-133.

TABLE E-12

AGE GROUPS--NARBONNE HOUSE--1790 TRASH PIT

Ovis aries, Combined with
cf. *Ovis aries*, Sheep/Goat, and cf. Sheep/Goat

Age of Fusion--6 to 10 Months Bone and Epiphysis	Fused	Not Fused
Humerus--distal	7	1
Radius--proximal	4	2
Scapula	5	1
	16	4
Percentage of Age Range	80%	20%

Age of Fusion--13 to 30 Months Bone and Epiphysis	Fused	Not Fused
First Phalange--proximal	0	1
Second Phalange--proximal	0	0
Metatarsal--distal	0	0
Tibia--distal	2	5
Metacarpal--distal	2	1
Ulna--distal and proximal	1	2
	5	9
Percentage of Age Range	35.7%	64.9%

Age of Fusion--30 to 36 Months Bone and Epiphysis	Fused	Not Fused
Calcaneus	3	2
Femur--proximal	1	6
Radius--distal	2	6
	6	14
Percentage of Age Range	30%	70%

Age of Fusion--36 to 42 Months Bone and Epiphysis	Fused	Not Fused
Tibia--proximal	0	2
Femur--distal	1	7
Humerus--proximal	1	0
	2	9
Percentage of Age Range	18.2%	81.8%

Source of Fusion Ages: Silver 1969:285-286; Chaplin 1970:128-133.

TABLE E-13

NARBONNE HOUSE--1805 TRASH PIT

TOTAL COUNTS

	# FRAGMENTS	% FRAGMENTS
FISH		
Unidentified at present	604	14.34
AMPHIBIAN		
Identified	1	.02
BIRD		
Unidentified	102	2.4
Identified	236	5.6
MAMMAL		
Unidentified	1337	31.74
Identified	1928	45.77
INDETERMINATE (Amphibian/Bird)		
Unidentified	4	.09
	4212	99.96

	#	%
TOTAL UNIDENTIFIED FRAGMENTS	2047	48.6
TOTAL IDENTIFIED FRAGMENTS	2165	51.4
	4212	100.0

TABLE E-14

NARBONNE HOUSE--1805 TRASH PIT

SPECIES	COUNT/MNI*	% FRAGS
FISH		
Not Identified		
AMPIBIANS		
Bufo americanus American Toad	1/1	.05
BIRDS		
Anserinae Geese	18/2	.8
cf. Branta canadensis Canada Goose	2/3**	.09
Branta canadensis Canada Goose	11/2	.5
Duck spp. Ducks	10/2	.46
Phasianidae cf. Colinus virginianus/Bonasa umbellus Bobwhite/Ruffed Grouse	5/1	.2
cf. Gallus gallus Domestic Chicken	28/12**	1.3
Gallus gallus Domestic Chicken	106/10	4.9
cf. Meleagris gallopavo Turkey	2	.09
Meleagris gallopavo Turkey	53/8	2.45
Ectopistes migratorius Passenger Pigeon	1/1	.05

TABLE E-14
(Cont.)

MAMMALS - 1805 TRASH PIT

	COUNT/MNI	%FRAGS
Rattus norvegicus Norway Rat	11/3	.5
Cetacean Whales, Dolphins, Porpoises	1/1	.05
cf. Felis domesticus Domestic Cat	17	.78
Felis domesticus Domestic Cat	112/7	5.2
Artiodactyla Sheep, Goat, Deer	4	.18
cf. Sus scrofa Domestic Pig	7	.3
Sus scrofa Domestic Pig	462/18	21.3
cf. Bos taurus Domestic Cow	5	.2
Bos taurus Domestic Cow	413/11	19.1
cf. Ovis aries/Capra hirca Domestic Sheep/Domestic Goat	2	.09
Ovis aries/Capra hirca Domestic Sheep/Domestic Goat	465/27**	21.5
cf. Capra hirca Domestic Goat	1	.05
cf. Ovis aries Domestic Sheep	28	1.3
Ovis aries Domestic Sheep	400/21	18.5
TOTAL # FRAGS/%	1337	99.94

* MNI=Minimum Number of Individuals determined from identified fragments

** cf. bones have been combined with bones identified to the species level to determine MNI

TABLE E-15

Number of Identified Fragments

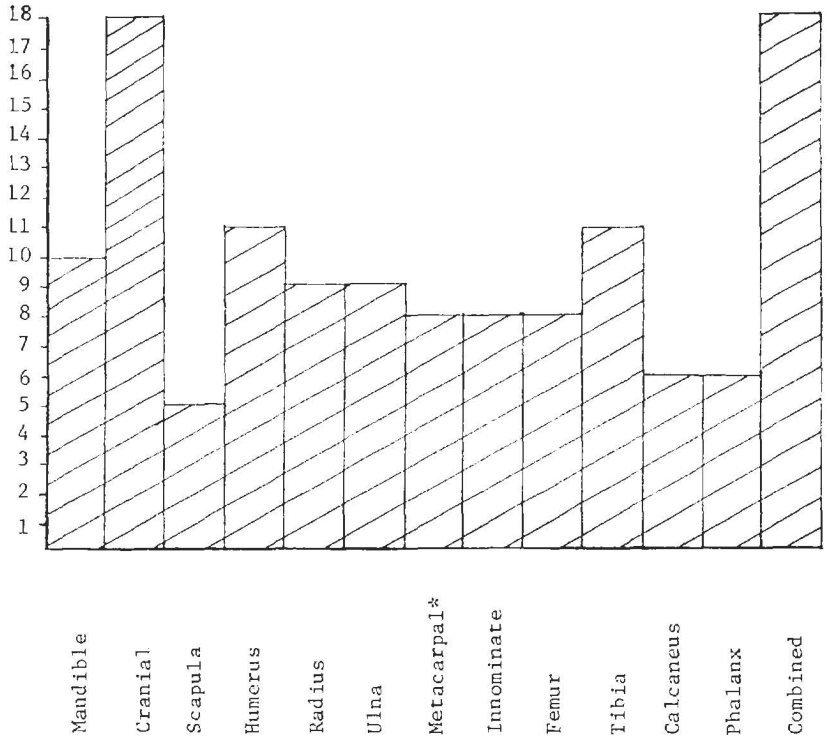
NARBONNE HOUSE - 1805 TRASH PIT

SPECIES	Cranial	Mandible	Tooth	Vertebra	Scapula	Clavicle	Humerus	Radius	Ulna	Carpals	Metacarpals	Innominate	Femur	Patella	Tibia	Fibula	Tarsals	Metatarsals	Phalanges	Metapodials	Antler	Sternum	Furculum	Carpometacarpals	Coracoid	Tibiotarsus	Tarsometatarsus	Unidentified	Total Number of Pieces	Percent of Total Pieces
Bufo americanus (American Toad)							1																						1	.05
Anserinae (Geese)							2		1										2			5	1		2	3	3		18	.8
cf. Branta canadensis (Canada Goose)													2																2	.09
Branta canadensis (Canada Goose)				2	3		1		2				2			1													11	.5
Duck spp. (Ducks)							2					6										2							10	.46
Gallinaceous cf. Colinus virginianus/ Bonasa umbellus							1						1													2	1		5	.2
c.f. Gallus gallus (Domestic Chicken)							6	2	4			4	2									2	1		1	4	3		29	1.3
Gallus gallus (Domestic Chicken)	3	2		2	2		8	2	9			9	8									8			3	19	26		101	4.9
c.f. Meleagris gallopavo (Turkey)												1	1																2	.09
Meleagris gallopavo (Turkey)					2		7	5	4			9	13									4			2	5	2		53	2.45
Ectopistes migratorius (Passenger Pigeon)												1																	1	.05
Rattus norvegicus (Norway Rat)	3						2					1	3		2														11	.5
Cetacean (Whales, porpoises, dolphins)				1																									1	.05
c.f. Felis domesticus (Domestic Cat)									2						3													Ribs 12	17	.78
Felis domesticus (Domestic Cat)	20	3		16	9		10	2	3			9	8		6	1	5		1	8								Ribs	101	5.7
Artiodactyla (Sheep, Goat, Deer)			3									1																	4	.18
c.f. Sus scrofa (Domestic Pig)		3					1					2			1														7	.3
Sus scrofa (Domestic Pig)	84	26	83	42	7		19	12	13	7	22	16	17		22	1	32	4	37	6								Carpal/ tarsal 2	462	21.3
c.f. Bos taurus (Domestic Cow)					1				1			1	1		1														5	.2
Bos taurus (Domestic Cow)	97	19	45	65	15		21	16	4	5	1	32	28	3	30		28			4									413	19.1
c.f. Ovis aries/Capra hirca (Sheep or Goat)								2																					2	.09
Ovis aries/Capra hirca (Sheep or Goat)			3	286	15		22	16			5	27	27		47		5	3		9									465	21.5
c.f. Capra hirca (Domestic Goat)									1																				1	.05
c.f. Ovis aries (Domestic Sheep)					2		2	6					10		2			2											24	1.3
Ovis aries (Domestic Sheep)	5			21	14		42	39	17	19	33	46	22	3	35		70	36											400	18.5
																													2156	99.94

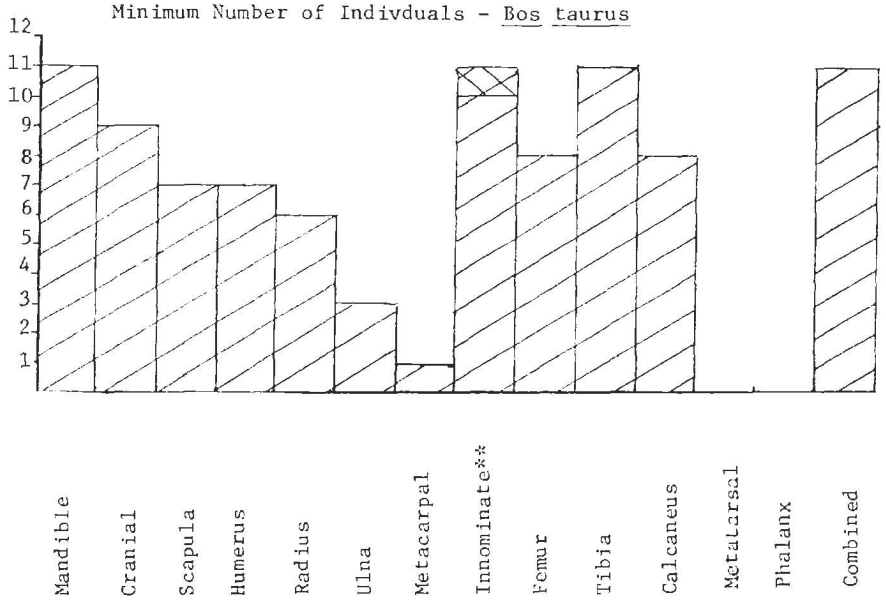
TABLE E-16

NARBONNE HOUSE - 1805 TRASH PIT

Minimum Number of Individuals - Sus scrofa



Minimum Number of Indivduals - Bos taurus



* Number includes metatarsal fragments

** ⊠ Indicates cf. fragments combined with bones identified to species in determining minimum number of individuals

TABLE E-17

NARBONNE HOUSE - 1805 TRASH PIT

Minimum Number of Individuals - Ovis aries

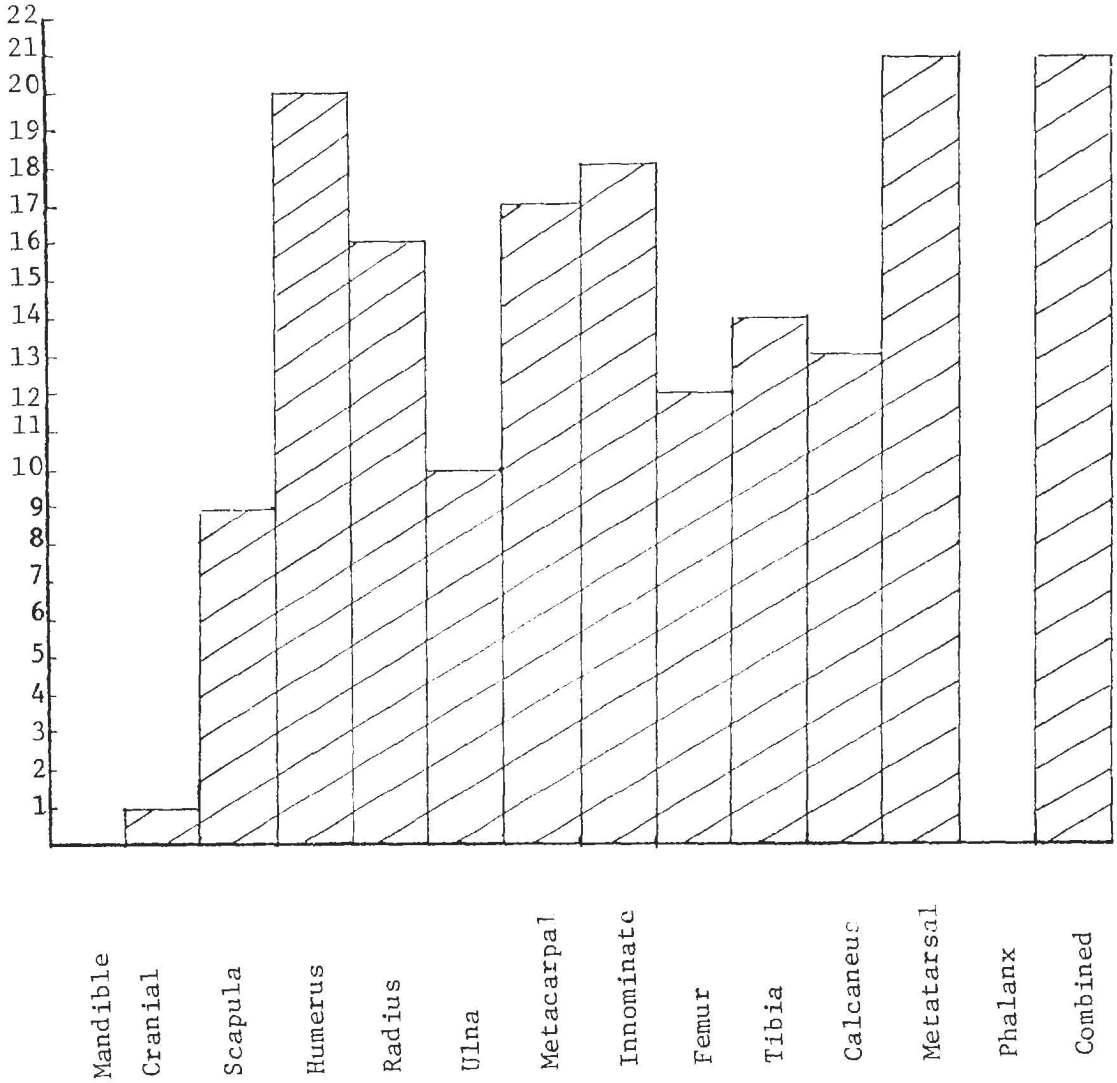


TABLE E-18

NARBONNE HOUSE - 1805 TRASH PIT

Minimum Number of Individuals - Ovis aries
Combined with Ovis aries/Capra hirca

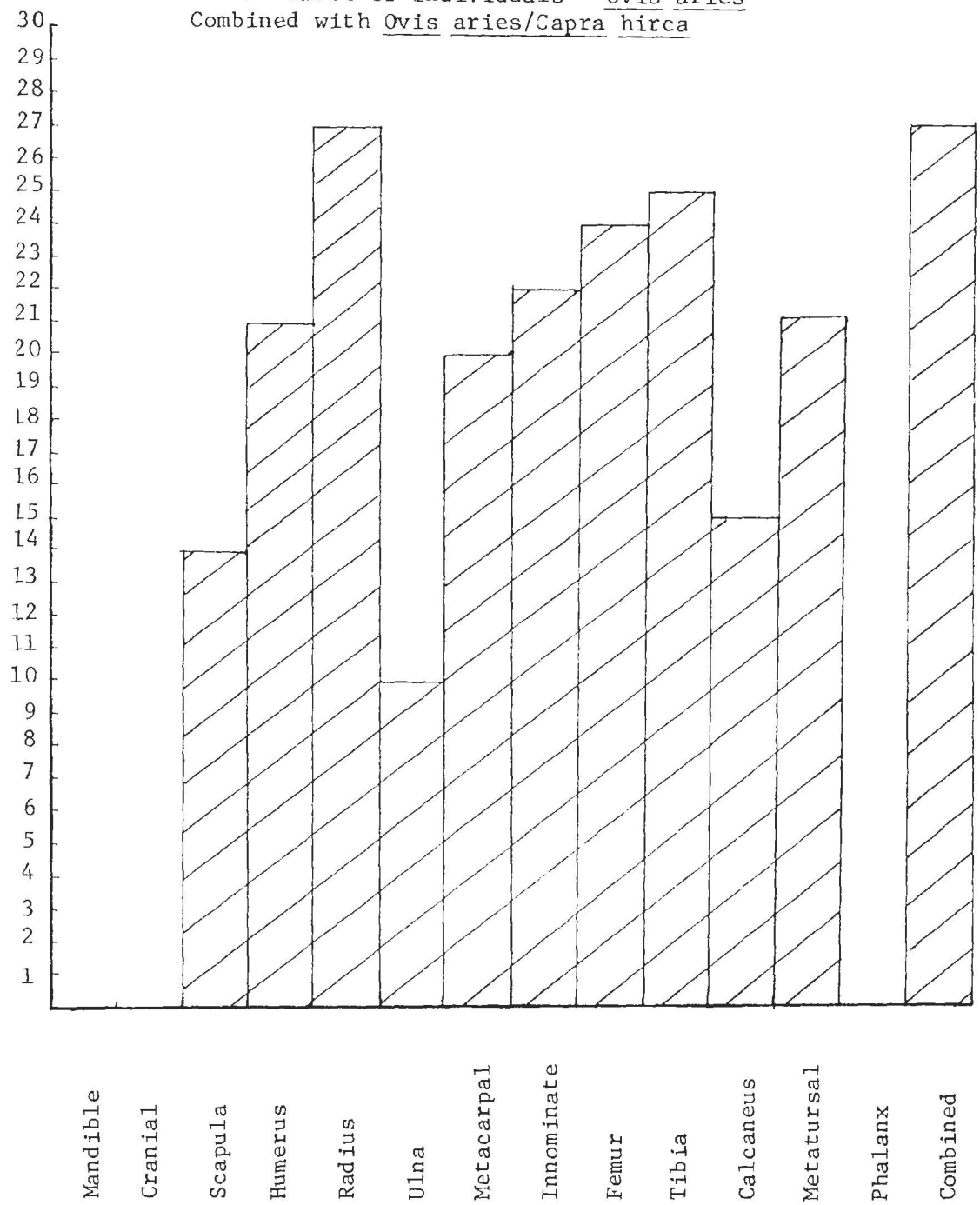
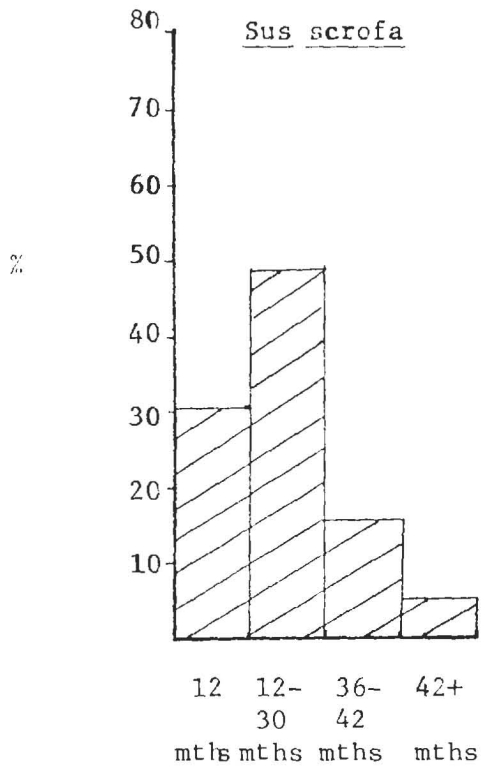
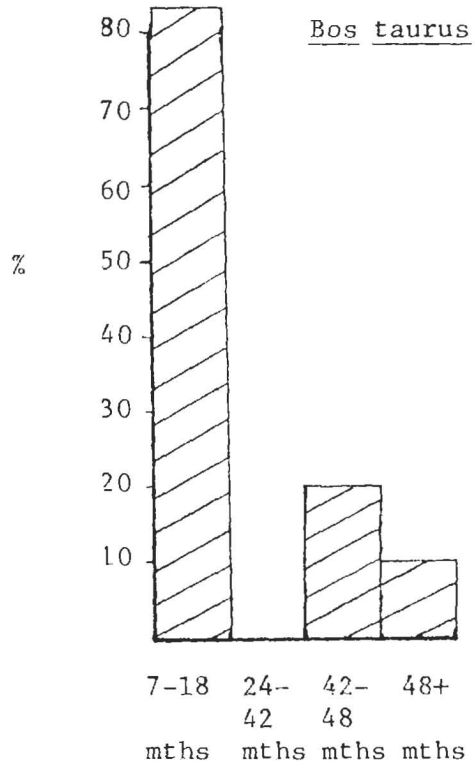
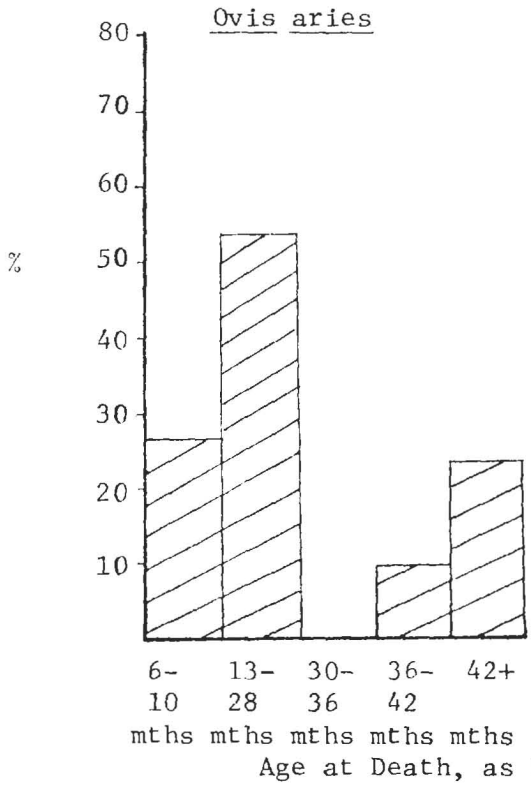


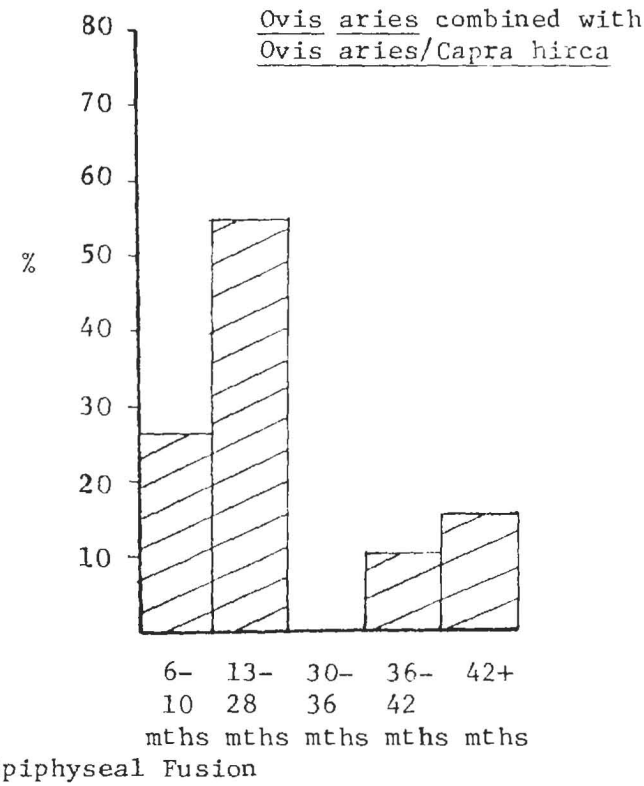
TABLE E-19

NARBONNE HOUSE - 1805 TRASH PIT









Age at Death, as Determined by Epiphyseal Fusion
Percentage Killed in Age Range

Source: Chaplin 1971: 128-35; Silver 1969: 285-86

TABLE E-20

AGE GROUPS--NARBONNE HOUSE--1805 TRASH PIT

Sus scrofa

Age of Fusion--0 to 12 Months Bone and Epiphysis	Fused	Not Fused
Radius--proximal	6	2
Humerus--distal	6	5
Second Phalange--proximal	9	1
Scapula	2	2
	23	10
Percent of Age Range	69.7%	30.3%

Age of Fusion--12 to 30 Months Bone and Epiphysis	Fused	Not Fused
Metacarpal--distal	1	8
First Phalange--proximal	4	13
Tibia--distal	2	6
Metatarsal--distal	2	3
Calcaneus	0	3
Fibula--distal	0	1
	9	34
Percent of Age Range	21%	79%

Age of Fusion--36 to 42 Months Bone and Epiphysis	Fused	Not Fused
Ulna--proximal and distal	2	6
Fibula--proximal	0	1
Humerus--proximal	0	5
Radius--distal	0	4
Femur--proximal and distal	0	13
Tibia--proximal	0	9
	2	38
Percent of Age Range	5%	95%

Source of Fusion Ages: Silver 1969:285-286; Chaplin 1970:128-135.

TABLE E-21

AGE GROUPS--NARBONNE HOUSE--1805 TRASH PIT

Bos taurus

Age of Fusion--0 to 18 Months		
Bone and Epiphysis	Fused	Not Fused
Scapula	0	8
Humerus--distal	3	10
Radius--proximal	2	5
	5	23
Percent of Age Range	17.8%	82.2%

Age of Fusion--24 to 42 Months		
Bone and Epiphysis	Fused	Not Fused
Metacarpal--distal	1	0
Metapodial--distal	2	0
Tibia--distal	0	10
Calcaneus	2	7
Femur-proximal	5	6
	10	23
Percent of Age Range	30%	70%

Age of Fusion--42 to 48 Months		
Bone and Epiphysis	Fused	Not Fused
Radius--distal	1	6
Ulna--distal and proximal	0	4
Femur--distal	2	9
Tibia--proximal	1	15
Humerus--proximal	0	6
	4	40
Percent of Age Range	9%	91%

Source of Fusion Ages: Silver 1969:285-286; Chaplin 1970:128-135.

TABLE E-22

AGE GROUPS--NARBONNE HOUSE--1805 TRASH PIT

Ovis aries

Age of Fusion--0 to 10 Months			Combined with cf. specimens	
Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Scapula	12	2	13	3
Humerus--distal	20	10	22	10
Radius--proximal	19	6	21	7
	51	18	56	20
Percent of Age Range	73.9%	26.1%	73.7%	26.3%

Age of Fusion--13 to 28 Months			Combined with cf. specimens	
Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Metacarpal--distal	1	13	1	13
Tibia--distal	10	16	10	18
Metatarsal--distal	2	21	2	21
	13	50	13	52
Percent of Age Range	20.6%	79.4%	20%	80%

Age of Fusion--30 to 36 Months			Combined with cf. specimens	
Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Ulna--proximal	4	5	4	5
Calcaneus	7	14	8	14
Femur--proximal	1	6	1	8
Radius--distal	9	15	9	18
	21	40	22	45
Percent of Age Range	34.4%	65.6%	32.8%	67.2%

Age of Fusion--36 to 42 Months			Combined with cf. specimens	
Bone and Epiphysis	Fused	Not Fused	Fused	Not Fused
Tibia--proximal	2	6	2	7
Humerus--proximal	4	7	4	7
Femur--distal	2	14	3	16
	8	27	9	30
Percent of Age Range	22.9%	77.1%	23.1%	76.9%

Source of Age of Fusion: Silver 1969:285-286; Chaplin 1970:128-133.

TABLE E-23

AGE GROUPS--NARBONNE HOUSE--1805 TRASH PIT

Ovis aries, Combined with
cf. Ovis aries, Sheep/Goat, and cf. Sheep/Goat

Age of Fusion--0 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	18	3
Humerus--distal	25	11
Radius--proximal	22	9
	65	23
Percent of Age Range	73.9%	26.1%

Age of Fusion--13 to 28 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal--distal	3	13
Tibia--distal	11	32
Metatarsal--distal	2	21
Metapodial--distal	0	4
	16	70
Percent of Age Range	18.6%	81.4%

Age of Fusion--30 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna--proximal	4	5
Calcaneus	8	16
Femur--proximal	1	20
Radius--distal	9	20
	22	61
Percent of Age Range	26.5%	74.5%

Age of Fusion--36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Tibia--proximal	4	18
Humerus--proximal	4	16
Femur--distal	3	26
	11	60
Percent of Age Range	15.5%	85.5%

Source of Ages of Fusion: Silver 1969:285-286; Chaplin 1970:128-133.

ACKNOWLEDGEMENTS

I want to thank Geoffrey Moran for giving me the opportunity to analyze the faunal remains excavated from two trash pits located on the Narbonne house property in Salem, Massachusetts. Also, I wish to thank Raymond Paynter, Barbara Lawrence, and Edith Rutzmoser of the Peabody Museum of Comparative Zoology, Harvard University, for their advice and the use of their comparative collection.

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