

**Carpenter Shop Data Recovery Excavations at
Fort Vancouver National Historic Site,
Clark County, Washington**

By: Bryn Thomas and Linda Freidenburg

**Eastern Washington University Reports in Archaeology and History 100-98
Archaeological and Historical Services**

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By: Bryn Thomas and Linda Freidenburg

Principal Investigator: Jerry R. Galm

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Abstract

Archaeological excavations were undertaken in the Hudson's Bay Company Carpenter Shop reconstruction location at Fort Vancouver National Historic Site (FOVA)(45CL300) in the summer and fall of 1996 by Archaeological and Historical Services (AHS), Eastern Washington University. The National Park Service (NPS), after contracting with Oregon State University and David Brauner to excavate the eastern end of the project area in 1994, decided that impacts to the western end of the project area also needed to be mitigated. The AHS data recovery excavations were undertaken to mitigate any effects the reconstruction project might have on undisturbed archaeological resources. Research objectives included obtaining any architectural or furnishing data about the ca. 1844-1866 Carpenter Shop, identifying any pre-1834/1836 HBC use of that area of the fort, identifying post-HBC activities by the U.S. Army and NPS and assessing their impacts on the integrity of undisturbed HBC cultural deposits, and integrating findings from the current investigation with previous efforts at the same location.

The excavations revealed four strata containing cultural items; 16 features were recorded in three of them. The most recent stratum, Stratum 1, represented post-World War I activities by the NPS, including previous archaeological investigations, and by the U.S. Army, including a large unidentified trench containing live ordnance. The underlying layer, Stratum 2, consisted of World War I fill material. It is postulated that Stratum 3 represents an 1894 flood deposits and had no associated cultural features. In spite of the post-HBC activities, four cultural features were identified in Stratum 4, the HBC cultural layer. Unfortunately, none of the identified cultural features appears to be associated with the Carpenter Shop building, a finding consistent with previous archaeological investigations.

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Introduction

The National Park Service (NPS) is planning to reconstruct the Carpenter Shop (or shop) at Fort Vancouver National Historic Site (FOVA) in Vancouver, Clark County, Washington (Figure 1). The reconstruction of the Carpenter Shop will be sited using measurements taken from the 1845 M. Vavasour map (Figure 2) of Fort Vancouver and results of the excavations conducted by Oregon State University (OSU) in 1994 (Brauner 1995). In the expectation that the archaeological site would be destroyed by the reconstruction, Archaeological and Historical Services (AHS) at Eastern Washington University conducted a data recovery excavation in 1996 to mitigate the adverse effect of the construction. The area excavated by AHS was located along the west and south sides of the Carpenter Shop reconstruction project area.

All of the archaeological investigations accomplished by AHS and the qualifications of personnel assigned to the project met or exceeded federal laws or guidelines pertaining to archaeological data recovery. The investigation, including excavation and report preparation, was conducted by AHS personnel or consultants expert in specialized fields and followed guidelines for data recovery excavations set forth in 36 CFR Part 800.

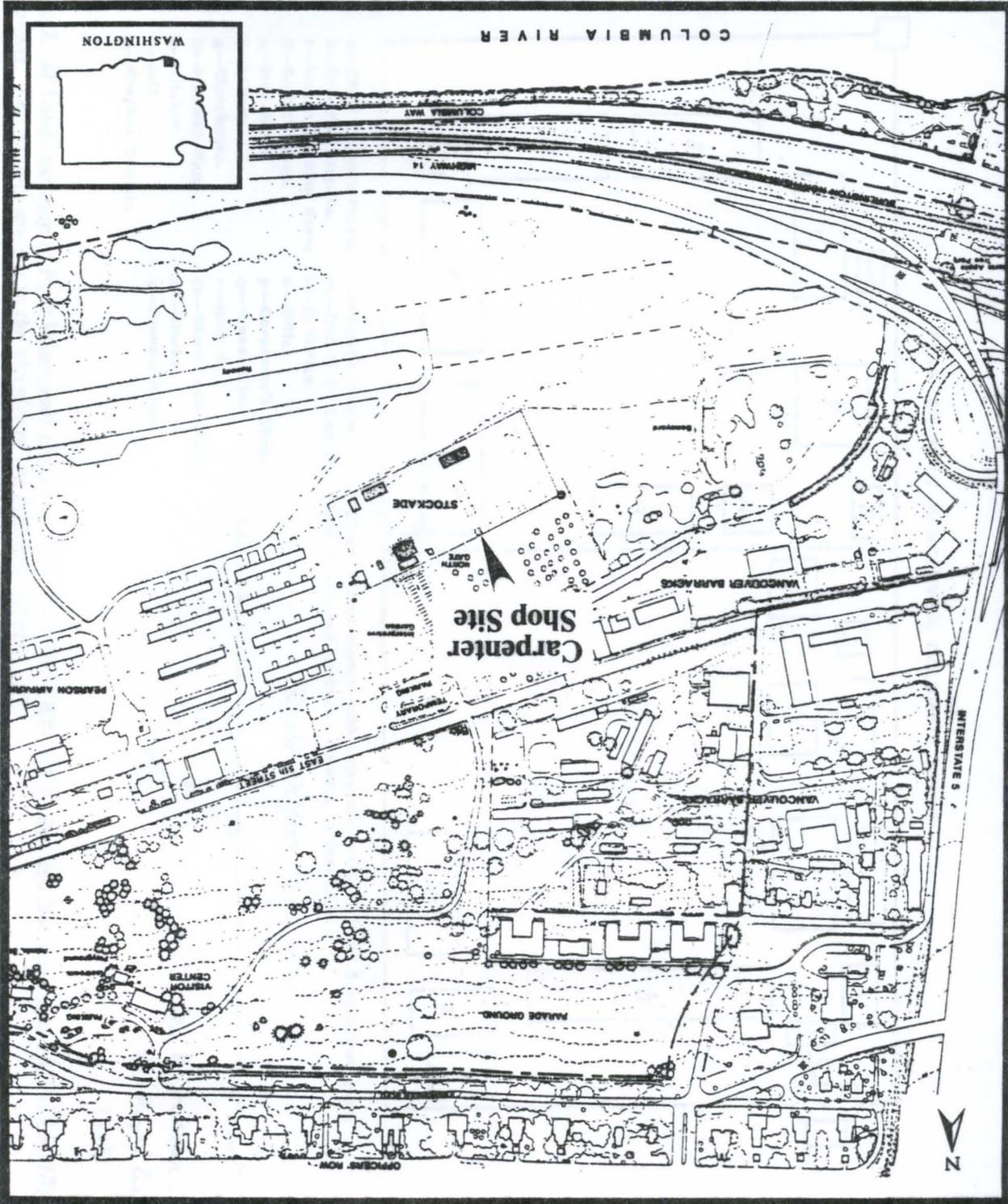
This report describes the AHS data recovery excavation in the Carpenter Shop reconstruction project area. Initial sections are an historical and archaeological overview of the site, followed by a statement of the research design. Descriptions of field and laboratory procedures used, including problems encountered during data collection and the resulting solutions, are presented. Site stratigraphy, as well as features and artifacts recovered are described. The report concludes with a summary of findings. Appendix 1 contains photographs of selected artifacts and Appendix 2 is a catalog of all artifacts recovered.

Site History

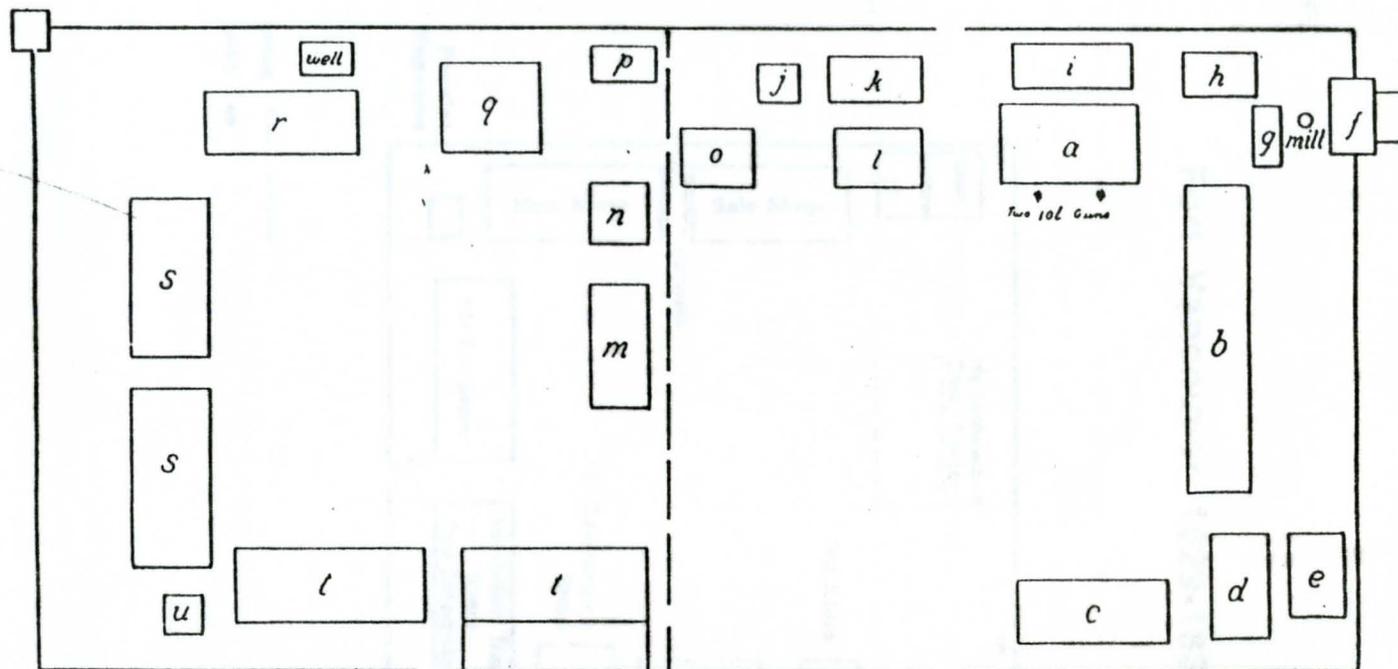
Fort Vancouver was the major fur-trading post and supply depot in western North America for the Hudson's Bay Company (HBC). The original fort was built in 1824 on a bluff above the Columbia River, but in 1828/1829 the Company moved to the present site on the flood plain and occupied this location until 1860. The 1829 HBC stockade initially was a 318 ft by 318 ft quadrangle (Figure 3). Beginning in 1834/1836 and continuing for about 20 years, the Company expanded the stockade walls until the fort reached its greatest size of approximately 328 ft north-south and 735 ft east-west. (See Ross [1976:18-20] for a summary of stockade building phases.) During this same time, the buildings within the fort were also in various stages of construction, repair, renovation, and dismantling as the fort expanded.

The project area is the site of the second Carpenter Shop. The first Carpenter Shop was located in the southeast corner of the 1829-1834/1836 stockade (see Figure 3). Its building outline is noted on an 1841 map, but by 1844 the building is no longer shown in that location

Figure 1. Map of Fort Vancouver showing location of proposed Carpenter Shop reconstruction (Erigeron 1992: Map 23, p. 351).



PLAN OF FORT VANCOUVER, COLUMBIA RIVER.



- | | | |
|-------------------------|----------------------|---|
| a—Chief Factor's House. | l—Priest's House. | Bastion 20 feet square with octagonal top containing 8 3-pd. Iron guns. |
| b—Dwelling Houses. | m—Old R. C. Church. | Built of squared timbers. Pickets 15 feet high. |
| c—Indian Trading Store. | n—D. Office. | |
| d—Smith's Shop. | o—Office. | |
| e—Iron Store. | p—Carpenter's Shop. | |
| f—Bakery. | q—Wheat Store. | |
| g—Warehouse. | r—Beef do. | |
| h—Harness Shop. | ss—Stores and Shops. | |
| i—Kitchen. | tt—Stores. | |
| j—Jail. | u—Powder Mag'n. | |
| k—Owyhee Church. | | |

Scale 100 feet to an inch



M. Vavasour
Lt. Royal Eng.
1845

Figure 2. M.Vavasour map of Fort Vancouver drawn in 1845 (Schafer 1909:100). Dashed line indicates 1829-1834/1836 Fort dimensions. The project area is in the vicinity of the building labeled "p".

Fort Vancouver 1829-1834-36

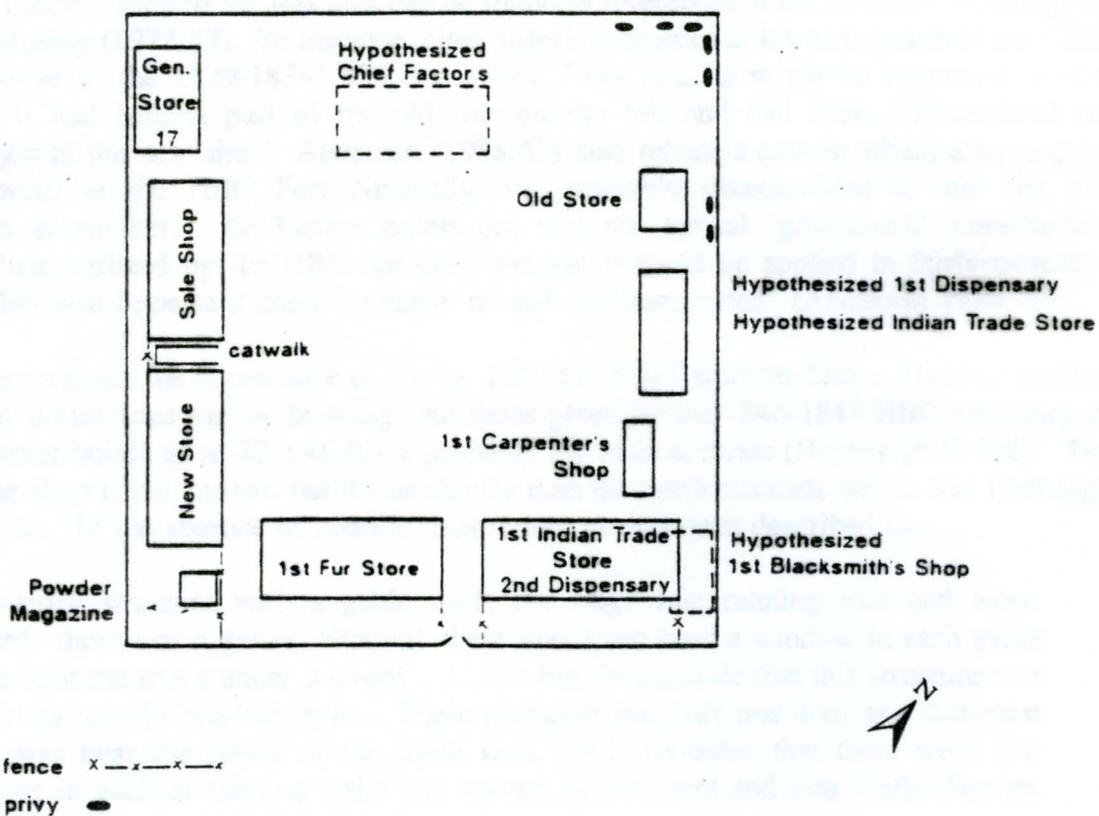


Figure 3. Map showing "Fort Vancouver Stockade 1829-1834/1836 . . ." (Erigero 1992:Map 2, p. 189). The project area is in the northeast corner. Building labeled "Old Store" should be labeled "Old Office".

(Hussey 1976:402). However, on the Vavasour map of 1845, a building identified as the Carpenter Shop appears along the north stockade wall (Figure 4). This location corresponds to the northeast corner of the earlier 1829-1834/1836 stockade, where the only structures known during that period were two privy/trash pits and a drain along the east wall and three privy/trash pits and a drain along the north wall (see Figure 3 [this report] and Caywood 1955:20-24). It has been hypothesized that the first Chief Factor's House was located west of the project area (Hussey 1972:88-93), but to date there is no archaeological evidence of that structure. The first building constructed near the project area, following the 1834/1836 stockade expansion and razing of the first Chief Factor's House, was the Wheat Store (or granary), dating from 1838/1839 to 1860 (Hussey 1976:338-342). By ca. 1844, the second Carpenter Shop was located east of the Wheat Store, replacing the earlier shop.

Louis Caywood, NPS Archaeologist, noted the similarity of size and shape of the two carpenter's shops and speculated that the second Carpenter Shop was the same building as the first one and had merely been moved to a new location along the north stockade (Caywood 1955:12). Indirect support for this idea can be found in references to the re-use of buildings by the HBC. Hussey (1972:89), for instance, cites historical sources in his description of the Chief Factor's House of the 1829-1834/1836 fort which "was not, as might be supposed, a new structure. It had been a part of the old fort on the hill and had been disassembled for reconstruction at the new site." Anderson (1988:67) also relates a case in which a large store (or warehouse) at the HBC Fort Nisqually was probably disassembled at one site and reassembled at another. He further points out that the typical "post-in-sill" construction technique "was utilized by the HBC not only because it could be applied in fairly primitive situations, but also because it could be easily reused and transported" (Anderson 1988:10).

Little is known about the appearance of the ca. 1844 to 1866 Carpenter Shop. Historic sources give various dimensions for the building, but those given on the 1846-1847 HBC inventory of Fort Vancouver buildings as 20 x 40 ft are probably the most accurate (Hussey 1976:406). The height of the shop is not known, but it was shorter than the north stockade which was 15 ft high (see Figure 2). In the absence of historic illustrations, it has been described as:

a one-story structure with a gable roof, the ridge line running east and west. Probably there was a garret, although there may have been a window in each gable end to light the space under the roof . . . it is highly probable that this structure was built in the usual Canadian style. There probably was only one door and that most likely was near the center of the south wall. It is probable that there were two windows in each of the end walls and several in the front and rear walls (Hussey 1976:406-407).

It is not clear that the shop interior was "lined," "ceiled," or if it had a wooden floor (Hussey 1976:407). However, a study of comparable HBC shops in Canada suggests a precedent of leaving such buildings unlined, unceiled, and having wooden plank floors (Morton 1995:10). The interior was probably a single room that contained, according to Hussey (1976:407), more than one workbench and an inventory of tools, paint, and window glass, as well as carpentry work in progress.

Fort Vancouver 1844-1846

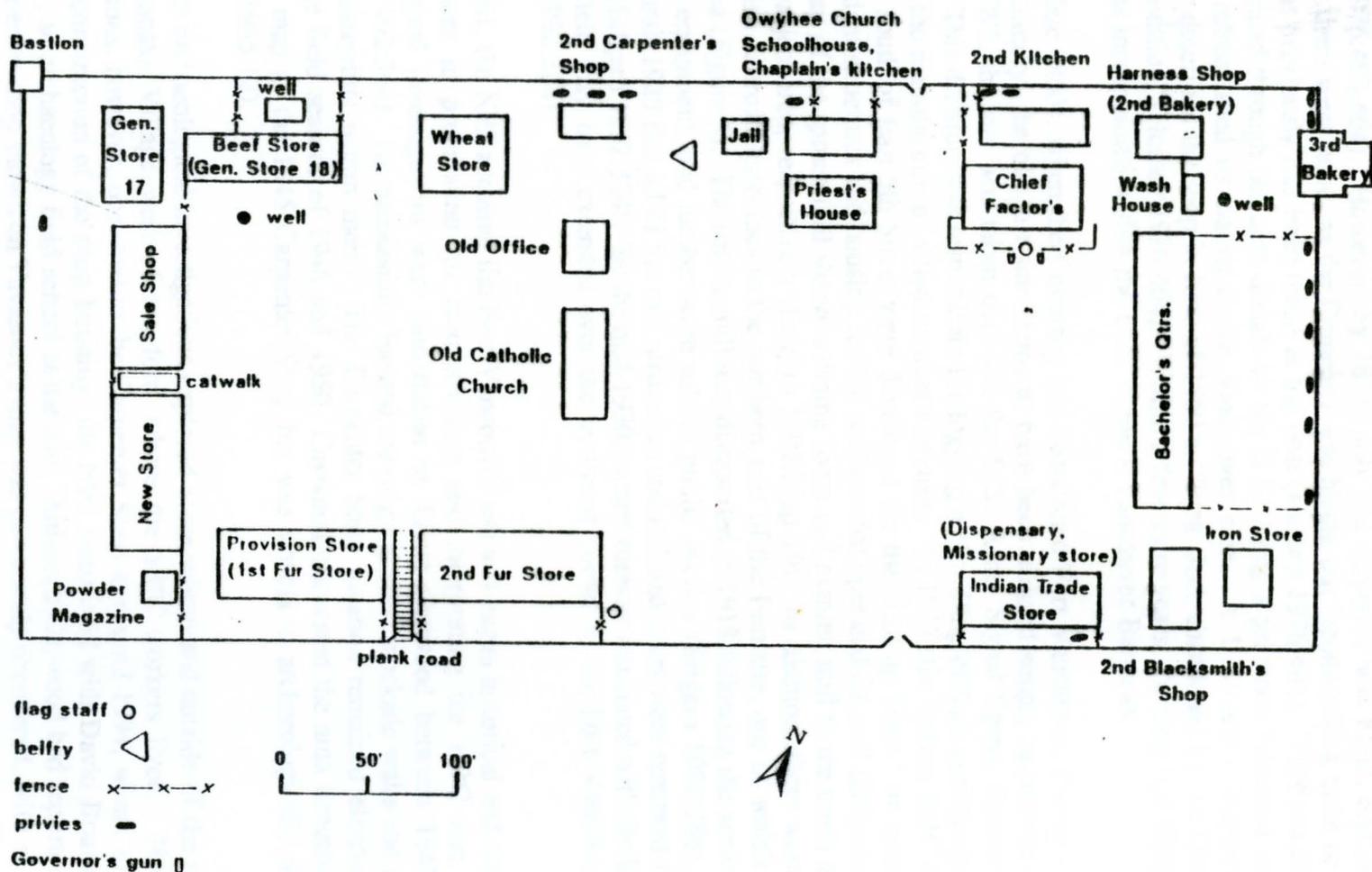


Figure 4. Map showing "Fort Vancouver Stockade 1844-46 . . ." (Erigero 1992:Map 3, p. 190). Note three privies near second Carpenter's Shop correlate with three of those on Figure 3.

From ca. 1844 to 1850, the shop located along the north stockade appears to have been at the peak of its operation. There were as many as four carpenters on the employee roles at the Fort (Hussey 1976:403-404). However, by 1851, only one carpenter was listed, and, a year later, apparently there were none, as the Company was hiring out woodworking tasks or purchasing articles that previously had been made at the post (Hussey 1976:404). This practice seems to have continued through the next decade as the U.S. Army's presence increased and the HBC gradually relinquished its claims in the Vancouver area. A U.S. Army inspection of Fort Vancouver described the shop in June of 1860 as "long since abandoned by the Company--in a ruinous condition" (Hussey 1976:404). Within a few more years, the shop had disappeared and the site was incorporated within the U.S. Army's Vancouver Barracks.

From the late 1860s, when the Company had abandoned Fort Vancouver, through to the early twentieth century, the old fort site seems to have been utilized simply as pasture or gardens. During WWI, the site was taken over for the U.S. Army Signal Corps, Spruce Production Division. This division was responsible for logging and milling of high quality spruce lumber for use in the manufacture of allied combat airplanes. In 1917, the former HBC fort site and fifty acres south of East 5th Street were developed for the "Cut-up Plant," or spruce sawmill, with attendant structures and housing for the soldiers that operated the mill (Erigeron 1992:287). A 1918 map of the spruce mill shows a dining room and planing mill to the north and south of the shop project area, respectively (Erigeron 1992:Map 19). In addition, there were three east-west running railroad spur-lines in the northern area of the Fort site, one of which crossed the project area (Figure 5). The spruce mill was dismantled in 1918 following the armistice and the buildings, equipment, and lumber were sold at public auction (Erigeron 1992:288). However, it wasn't until 1925 that all of the mill structures and railroad spurs were removed from the old Fort area (Erigeron 1992:324). By the mid-1930s, a turf runway associated with the U.S. Army's Pearson Field may have extended over the northeast corner of the Fort Vancouver stockade (Erigeron 1992:324).

After WWII, the NPS acquired the Fort Vancouver site and began historical and archaeological investigations in preparation for reconstructing and interpreting the HBC fort. The first archaeological investigations were undertaken by Louis Caywood between 1947 and 1952 (Erigeron 1992:344). He successfully located the original HBC stockade walls and many of the building footprints within them. The Carpenter Shop location remained elusive, however. During the field seasons of 1948 and 1950, Caywood excavated the area denoted on the M. Vavasour map as the 1845 Carpenter Shop but was unable to archaeologically document its location (1955:12).

Subsequent archaeological investigations explored areas within and outside of the stockade and also at Kanaka Village west of the fort, where the HBC workers lived. None of these investigations, however, occurred in the Carpenter Shop area until 1994, when, in preparation for the reconstruction of the shop building, the NPS contracted with David Brauner and OSU to conduct an archaeology field school at the site. Although Caywood had reported, "The area of the carpenter shop shown on Vavasour's map was completely uncovered, with no trace of any building foundations" (1955:12), John Hussey (1976:412) pointed out that Caywood's own excavation maps displayed a series of trenches in the shop area and not a "completely

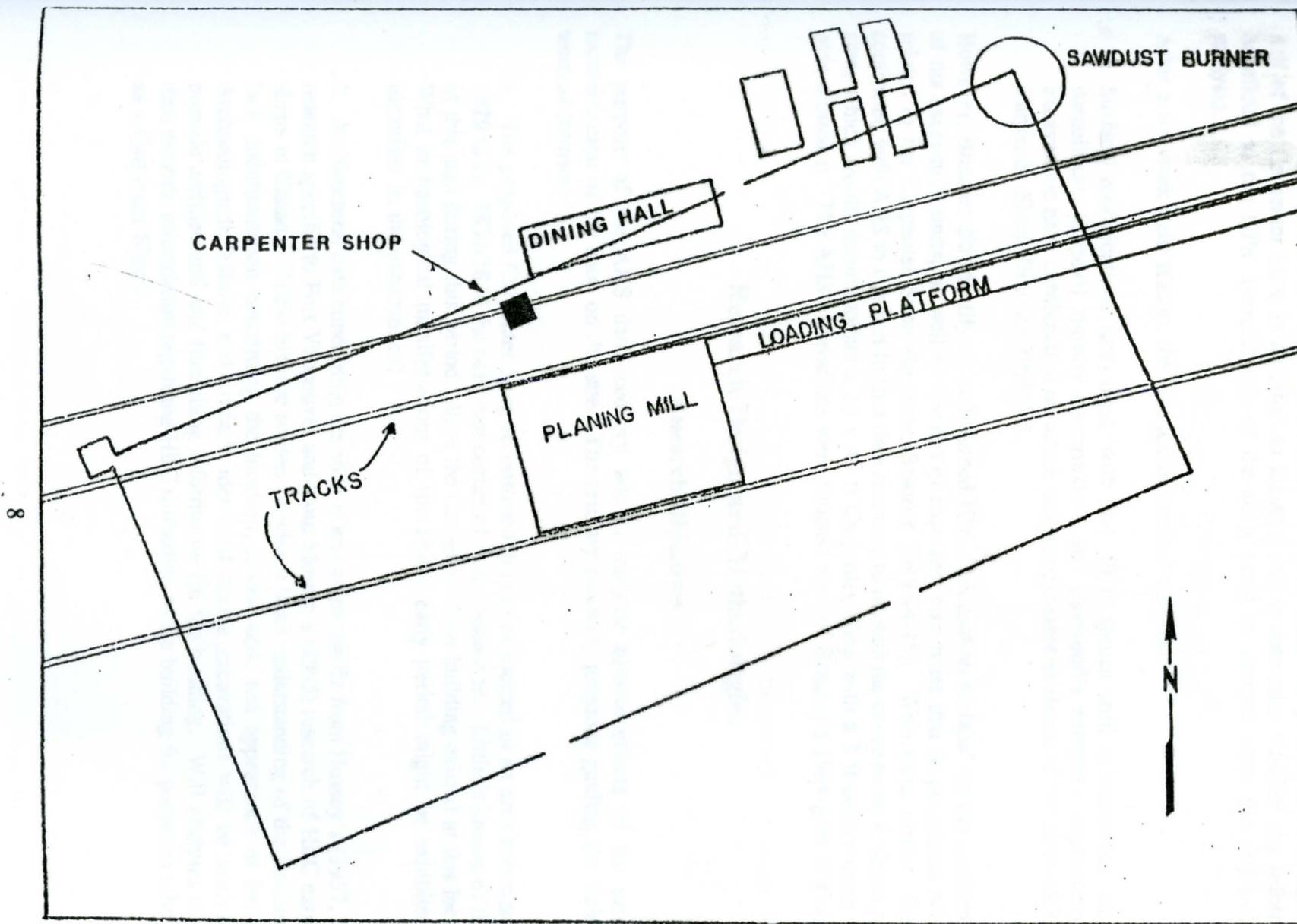


Figure 5. Map showing the 1918 spruce mill superimposed over Fort Vancouver stockade outline. Note railroad tracks running through the project area (Caywood 1955:5; Brauner 1995:9).

uncovered" area. With this in mind, Brauner excavated what was presumed to be the eastern half of the Carpenter Shop in an effort to locate it and to determine whether any information beneficial to the NPS interpretation of the shop could be derived from the archaeological analysis.

After a six week field season, the conclusion reached was that:

Surface modifications associated with the 1918 spruce mill construction and demolition, [airport] runway construction, and Caywood's extensive exploratory excavations have combined to eliminate any recognizable evidence of the 1844-1860 Carpenter Shop (Brauner 1995:44).

However, Brauner did identify an undisturbed HBC "occupation surface" on the southern edge of his excavation units, as well as a series of east-west post holes that he postulated might be related to the Carpenter Shop structure (Brauner 1995:44-45). With these results, the NPS contracted with AHS to conduct further data recovery to include the entire reconstruction project area, which would accommodate a 20 x 40 ft Carpenter Shop with a 3 ft construction buffer zone around it. The AHS excavations were situated west of Brauner's 1994 grid (Figure 6).

Research Design and Methodologies

Research Objectives

The purpose of the AHS data recovery was to mitigate adverse effects of the proposed reconstruction of the shop on the site. The primary research questions guiding the fieldwork were as follows:

1. The proposed Carpenter Shop reconstruction is to be located in an area that was from 1829 to ca. 1834/1836 the northeast corner of Fort Vancouver. Little is known of the use of this area during this period before the Carpenter Shop building existed at this location. What archaeological manifestations of the Fort's early period might be exhibited and identified in the excavations?
2. Architectural data concerning the shop is known primarily from Hussey's (1957, 1976) research specific to Fort Vancouver and from Morton's (1995) research of HBC carpenter shops in Canada. These historic studies provide a basic understanding of the building but lack documentation concerning the location, dimensions, and appearance of the shop. Archaeological features and artifacts identified during excavations will be analyzed to provide architectural and furnishing information for the building. Will analyses of these data provide information regarding HBC utilization of the building for purposes other than as a Carpenter Shop?

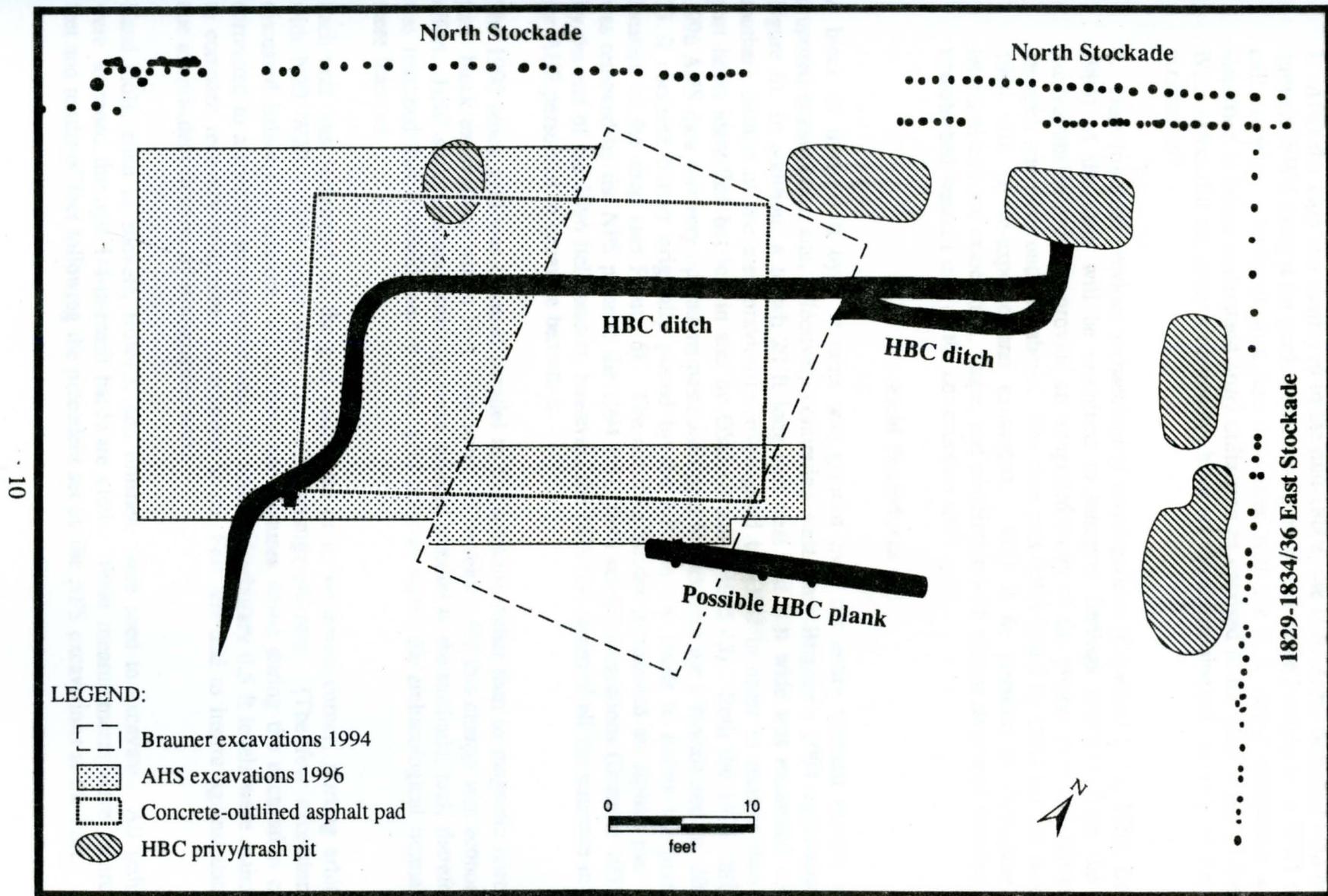


Figure 6. Map showing location of the 1996 AHS Carpenter Shop excavation area relative to 1994 OSU excavations and NPS concrete-outlined asphalt pad. NPS removed asphalt prior to 1994 excavations and concrete edging to facilitate 1996 excavations.

3. After the shop was destroyed in the mid-1860s, the U.S. Army occupied the Fort site through WWII using it for garden space and pasture and as the location for a WWI spruce mill complex. Archaeological data associated with the U.S. Army occupation will be identified to better understand army utilization as opposed to the HBC's use of the site. What effect did the army's occupation have on the archaeological integrity of the HBC occupation?

4. Data from the previous archaeological investigations (Caywood 1948, 1955; Brauner 1995) of the shop will be examined to interpret findings resulting from the AHS excavations in order to provide an integrated study of the project area and address the research questions outlined above. The nine post holes found by OSU but left in situ in 1994 will be re-exposed and excavated. Will it be possible to determine their temporal/cultural association, shape, and correlation with similar structural features in the undisturbed western side of the construction site?

Field Procedures

A block of thirty 5 ft by 5 ft units was gridded over the entire western section of the proposed construction site, effectively continuing west from Brauner's 1994 excavation (see Figure 6). In addition, a trench 20 ft long east-west and 5 ft wide was excavated into the southern section of the area previously investigated by OSU in order to recover data from post holes identified but left in situ by OSU (Brauner 1995:45). Both the 1994 OSU and 1996 AHS data recovery operations positioned grid blocks over the 1 ft-wide and ca. 20 ft by 35 ft concrete border originally placed by the NPS in the 1960s to define the presumed location of the shop (see Figure 6). The concrete border surrounded an asphalt pad which was removed by the NPS prior to the 1994 OSU field school excavations (Brauner 1995:15). By the end of the 1996 field season, however, the NPS had removed all the concrete in order for AHS personnel to excavate beneath it.

The 1996 block grid was oriented parallel to the stockade rather than to magnetic north like past block excavations within Fort Vancouver. The reason for this change was economy of effort. HBC structures and buildings were situated parallel to the stockade, and, therefore, it was reasoned that it would require fewer grid units to locate the archaeological remnants of these features.

Each unit was designated by the grid coordinate of its northwest corner, starting arbitrarily with N20 W20. Grid units were excavated stratigraphically. (The few exceptions are discussed below.) Therefore, all artifacts and features found during the excavation can be correlated to a specific stratigraphic unit. In addition, arbitrary 0.5 ft levels were maintained to compare recovery with other excavations at the Fort site and to insure against data loss due to mis-identification of stratigraphic units.

Hand tools, such as shovels, trowels, and brushes, were used to excavate. All sediments were screened through 1/4-in-mesh hardware cloth. Field measurements were recorded in feet and tenths of feet following the precedent set by the NPS excavations at the Fort.

Planview maps and drawings were completed in the field to illustrate the relative location and association of strata and features. Profiles were described following the format of the *Soil Survey Manual* (Soil Conservation Service 1952).

Excavation records were maintained for all aspects of the field work. The forms used were:

1. *Field notes*. The project archaeologist kept a notebook in which the daily events and work progress were recorded.
2. *Excavation level form*. This form was used to record observations of the excavators per stratum and level excavated. Provenience data on this form matched data on the field bags.
3. *Feature form*. This form is the NPS General Feature Form designed during previous excavations at the Fort. Portions of it were filled out during excavation and it was finished at the completion of a feature excavation. The form included a narrative page to describe the feature and grid paper on which the feature was drawn in plan and cross-section.
4. *Stratigraphic profiles*. Stratigraphic profiles were drawn of representative walls.
5. *Photographs*. Black-and-white photographs and color slides were taken during the excavations. Features, wall profiles, scenes of on-going work, and overall site photographs were taken. A photographic log was maintained documenting the photographs.

Artifacts were collected (with the few exceptions discussed below) in field bags on which was recorded the following information: site name, project name, unit provenience, feature number, stratum number, arbitrary level designation, excavator, and date. All field bags were kept until the artifacts and records were turned over to the NPS.

Excavation at the Carpenter Shop site began on August 14, 1996, and continued, albeit with interruptions, until October 19, 1996. The interruptions resulted from the discovery of live hand grenades in the project area. The first one was found on August 20th and collected as a pebble-encrusted metal object. It was not recognized as a hand grenade until the following day. It was immediately placed in a plastic bucket with dirt and removed to the outside of the stockade, where a bomb disposal unit from the Vancouver police retrieved it.

The grenade was found in unit N35 W35, 1.0-1.5 ft below surface, in what was believed to be a backfilled Caywood trench. It was thought that other Caywood backfilled excavation trenches might contain more explosives. Therefore, AHS and NPS personnel agreed that the AHS field crew would avoid Caywood excavated areas until the NPS could arrange for an ordnance disposal team to remove any other explosive material. In light of this find, the AHS field supervisor decided to super-impose the AHS grid units over a detailed, drawn-to-scale Caywood excavation map. As a result, the locations of the Caywood trenches were marked in the field with flagging tape. Excavation then continued around these flagged sections.

When most of the non-Caywood disturbed areas had been excavated, AHS made preparations for the unexploded ordnance removal team by: 1) outlining the Caywood trenches located in the excavation area with spray paint; and, 2) removing the iron grid pins and nails and replacing them with wooden dowels. From September 13th to September 27th, AHS shut down operations on the Carpenter Shop. During this time, the navy unexploded ordnance specialists, John Wilken, Jr. and Joe Vann, III, surveyed the area with a magnetometer and metal detector and reported no finding of explosive ordnance. Ray DePuydt and Shannon Welch, NPS archaeologists, monitored the ordnance survey, documented provenience of all recovered metal artifacts, and then excavated the remaining portions of the designated Caywood trenches.

On September 27th AHS began field investigations again. On October 8th the second grenade was found, this time in a septum left along the west side of unit N40 W45, 1.0-1.5 ft below surface, in a feature designated Feature 9. The grenade was left in situ and work ceased in Feature 9. The next day an emergency ordnance crew from Fort Lewis, Washington, arrived on site and denoted the grenade outside the stockade with plastic explosives, determining by secondary explosion and comparative charge that it was indeed live. AHS excavations again continued, this time avoiding Feature 9.

The FOVA Superintendent arranged for the navy ordnance disposal team to return to the site on October 13th to again conduct remote sensing for explosives. In removing the fill from Feature 9, another grenade was found, although this one was hollow and was described as a practice dummy. The navy team's explorations for metal ordnance and removal of metal objects in the shop site and, specifically, in Feature 9 created a "potholed" appearance to the remainder of the excavation area. AHS completed excavations on October 19, 1996.

Laboratory Procedures

All sorting, processing, initial analysis, and cataloging of recovered materials took place either on site in the archaeology prep room in the Fur Store at Fort Vancouver or at the AHS office in Vancouver. As artifacts were taken out of their field bags, they were brushed off or, in the case of glass and ceramics, washed to remove encrusted and loose dirt. All artifacts recovered from the same unit, same stratum, and same level were given the same lot number. They were then sorted by material type and object name and put into plastic bags with tags containing the FOVA accession number, object name, and AHS lot number while awaiting field cataloging. Like materials (e.g., tobacco pipe fragments) from the same lot were given the same field catalog number.

The AHS computer cataloging program was used to produce the field catalog for this project. This program (Fick 1986), written for AHS, facilitates the organization of site and artifact data using a relational database. Included in the computer catalog is the site number, project area, provenience information, a count of recovered artifacts, and descriptive information on individual artifacts, such as class of material (e.g., stone, metal, glass), object name, and functional category (following Sprague 1981).

Artifacts were assigned consecutive catalog numbers in lot number order and then field catalogued on an AHS computer. They were then sorted first by stratum and second by material type and object name and/or functional category to expedite analysis. A total of 2,574 field catalog numbers was assigned to a total of 6,923 objects.

Curation

The entire collection of artifacts recovered during the AHS 1996 excavation will be curated at FOVA by the NPS. The expectation is that diagnostic items will be placed in museum drawers. The rest will be put into plastic boxes or metal cans for lot storage.

Stratigraphy

The project area lies on the Columbia River flood plain and is associated with Sauvie silt loam soils (McGee 1972:3). These soils developed in alluvium and are located on flat 0-3 percent slopes, along natural terraces and bottomlands along the river. However, the soil sediments observed in the shop excavations have been modified by a number of cultural depositions and activities dating from the HBC-era to the present.

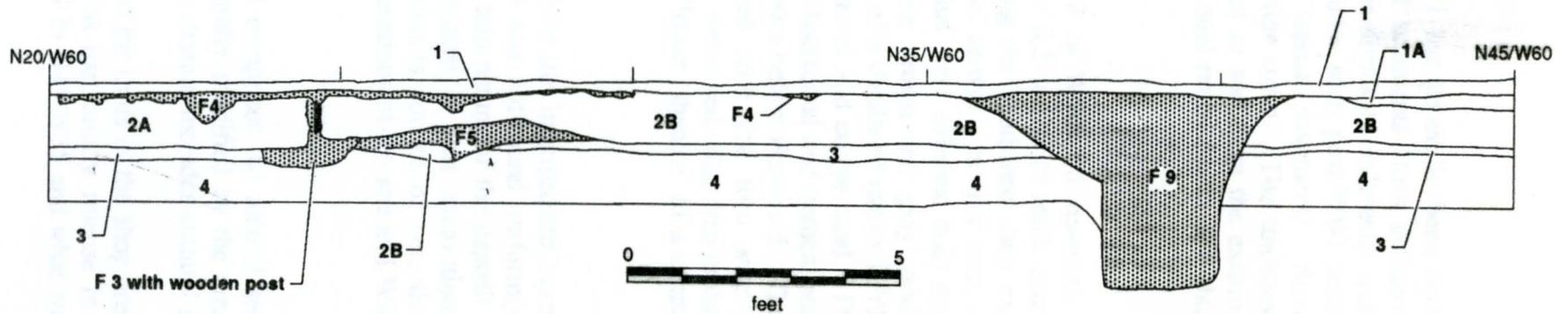
The four cultural strata observed in the project area are consistent with stratigraphic observations recorded elsewhere in Fort Vancouver (Thomas 1987:15-19). These strata are summarized in Table 1 and further described below.

Table 1. Typical Descriptions for Strata Observed in the Shop Excavations.

Stratum 1: "Post-WWI"; Dry, 10YR 4/2, dark grayish brown, silt loam, slightly gravelly. Includes existing grass/sod and root layer and displaced sediments associated with preexisting strata
Stratum 2: "WWI Fill Material"; Sediments on south side of Feature 3 were characterized as: Dry, 10YR 6/3, pale brown, gravel-rounded pebbles and coarse sand; Sediments on north side of Feature 3 were characterized as: Dry, 10YR 6/3, pale brown, coarse sand with 10YR 7/4, very pale brown, silt-clay inclusions
Stratum 3: "Late Nineteenth Century/Pre-WWI": Dry, 10YR 4/2, dark grayish brown, silt loam, slightly gravelly to gravelly, some iron oxide staining
Stratum 4: "HBC/Nineteenth Century"; Dry, 10 YR 3/3 dark brown gravelly silt loam near the top grading to 10 YR 4/3 light yellowish brown with increasing depth

These four strata are described in detail below. Figure 7 depicts the entire west wall of the AHS excavation block, and illustrates how the four strata are related.

West Wall Profile
N25-N45/W60



15

All Munsell soil colors were taken dry.

- Stratum 1: 10YR4/2 dark grayish brown silt loam, slightly gravelly, existing grass/sod root layer.
- Stratum 1A: 10YR5/2 grayish brown gravelly silt loam, small mixed washed/washed native gravel. NPS/post WWI backdirt.
- Stratum 2A: 10YR6/3 pale brown gravel, rounded pebble and coarse sand. Imported WWI fill material.
- Stratum 2B: 10YR6/3 pale brown coarse sand with 10YR7/4 very pale brown silt clay inclusions. Imported WWI fill material.
- Stratum 3: 10YR4/2 dark grayish brown silt loam, slightly gravelly native sediment that has been associated in past FOVA excavations with 1894 Columbia River flood.
- Stratum 4: 10YR3/3 dark brown gravelly silt loam, slightly more gravels near top of Stratum 4. The Stratum 4 sediments become increasingly lighter in color (dark yellowish brown) with depth. Native sediment with HBC occupation.

Figure 7. Stratigraphic profile of the west wall of the 1996 excavation area. See text for feature descriptions.

Stratum 1

Stratum 1 has generally been associated with NPS activities and has been used to identify displaced sediments from archaeological excavations or reconstruction projects at FOVA. The same displaced sediments were observed in the shop area. In addition, Stratum 1 here also includes such post-WWI features as Feature 9 (an east-west trench) and Feature 4 (a layer of asphalt pavement). Stratum 1 was often characterized by redeposited sediments from earlier strata. The thickness of the stratum varied across the project area. When manifested as sod from the existing park lawn, it was only ca. 0.2 ft thick. However, the stratum could range from 0.2 ft thick to 4.5 ft thick in post-WWI features.

Stratum 2

Stratum 2 is WWI fill material. Superficially, Stratum 2 was easy to identify by its distinctive 0.5 to 1.0 ft thick coarse gray sand or gravel sediments. However, in several units along the southwest shop excavation area, Stratum 2 was different from the typical description above. In this area, the sediments were deposited in contrasting ridges and troughs that were oriented both north-south and east-west. The troughs were filled with the coarse pale brown and gray sand fill usually associated with Stratum 2, but the ridges consisted of a displaced native 10YR 5/2, gray brown gravelly silt loam mixed with imported washed gravel and coarse sand. This stratigraphic unit was designated Feature 5 in order to record its horizontal and vertical attributes. In some places the Stratum 2 sand fill was found in thin layers below Feature 5. The bottom surface of the ridges and troughs was compacted and littered with 16d iron wire nails, a tobacco tin, and burned sediments. Brauner (1995:18) described what was probably Feature 5 in his excavations to the east and identified it as the "lower 'shadow' of a temporary railroad spur."

Stratum 3

Stratum 3 is the intermediate layer between late HBC/early U.S. Army and WWI strata. Stratum 3 was not found uniformly across the project area. This was due, in part, to the generally thin nature of the deposit but also to WWI-era and later intrusions. Stratum 3 has been associated in past excavations with the 1894 Columbia River flood. Whether this interpretation is correct or not, the stratum does date to the temporal period between the HBC occupations of the site and WWI.

Stratum 4

Stratum 4 comprises the natural sediments of the flood plain at Fort Vancouver that have been culturally modified by the nineteenth century HBC and U.S. Army occupations of the site. This stratum includes cultural surfaces and displaced sediments from this time period.

In many of the units in the shop area, Stratum 4 exhibited evidence of surface burning. The burning was particularly intense in two units along the north side of the excavation area, Feature 11 in N45 W35 and what was described simply as a burned area in N45 W55.

In units N25 W40, N30 W40, and N35 W40, Stratum 4 differed from the typical descriptions given for most units. Here it was characterized by a compact gray silt layer containing lenses of mixed gray silt and dark brown gravely loam with charcoal flecks and burned sediment inclusions. This layer was found at the Stratum 4 surface, which was about 1.0 to 1.3 ft below ground surface. Excavators observed that most of the Stratum 4 artifacts were collected from this thin, ca. 0.3 ft-thick, layer. In N35 W40 it was designated Stratum 4A. The moist brown gravely silt loam sediments below Stratum 4A were designated Stratum 4B and seemed to be typical of Stratum 4 elsewhere in the shop excavations.

One hundred and ninety-eight artifacts were collected from Strata 4A and 4B. Most of these artifacts, 89 percent, were recovered from Stratum 4A. Only 11 percent of the Stratum 4 artifacts were from Stratum 4B.

The function of Stratum 4A was not determined in the excavations. It certainly was associated with the HBC occupation of the site and more than likely with the Carpenter Shop building. It was an imported material mixed with native sediments, possibly a remnant of the shop floor, specifically, that section of floor located near a doorway.

Features

Sixteen cultural features were recorded in the shop area. They are listed in Table 2, along with their stratum and cultural affiliation.

Table 2. List of Features Found During 1996 Carpenter Shop Excavations.

Feature	Stratum	Unit(s)		Component	Feature Type
1	4	N40 W35 N35 W45 N30 W45 N25 W45	N35 W50 N25 W50 N25 W55 N20 W55	HBC	trench
2	4	N40 W35		HBC	post hole
3	2	N20 W25 N25 W25 N25 W30 N25 W35 N25 W40	N25 W45 N25 W50 N25 W55 N25 W60	WWI	post holes/wooden rail
4	1	N25 W60		post-WWI	asphalt paving
5	2	N30 W60	N35 W60	WWI	railroad feature
6	1	N30 W55		post-WWI	Caywood excavation trench
7	2	N25 W35		WWI	post hole(?)

Table 2, continued.

Feature	Stratum	Unit(s)		Component	Feature Type
8	2	N20 W40		WWI	post hole
9	1	N40 W35 N40 W40 N40 W45	N40 W50 N40 W55 N40 W60	post-WWI	trench
10	1	N45 W35	N45 W40	post-WWI	Caywood excavation Trash Pit 11
11	4	N45 W35		HBC	fire area
12	1	N35 W55		post-WWI	post hole
13	1	N45 W55		post-WWI	post hole
14	1	N45 W55	N45 W60	post-WWI	pit
15	4	N45 W55		HBC	animal burial
16	1	N35 W40		post-WWI	post hole

Stratum 1 Features

Of the eight Stratum 1 features, three were associated with U.S. Army activities, three were unidentified and two resulted from NPS occupation. Features 12, 13, and 16 were post holes associated with the U.S. Army. Unidentified features included Feature 4, 9, and 14. Features 6 and 10 were associated with Caywood's NPS investigation of the shop site. Figure 8 illustrates the horizontal distribution of these Stratum 1 features.

Feature 9 appeared to be the oldest of the Stratum 1 features. It was an east-west-oriented trench located at the northern end of the shop excavation. The feature was located in three units, N40 W60, N40 W50, and N40 W45, and excavated by hand. The rest of the feature was removed by the ordnance specialists looking for explosives. The differences between the two excavation techniques complicated interpretation of the feature. Stratigraphically, Feature 9 pre-dated Caywood's investigation in the shop area. One of his excavation units intruded into the trench sidewall in unit N40 W50. However, Feature 9 post-dated WWI activities, since the trench bisected the Stratum 2 fill deposits and the trench backfill contained Stratum 2 sand and gravel sediments. The total length of Feature 9 was not determined during the 1996 field work. The eastern end seemed to have been located in N40 W35, but this was difficult to determine since this portion was removed by the ordnance specialist. Brauner (1995) did not report the trench in the shop area east of this unit. The feature extended westward for 29 ft and continued beyond the AHS grid toward the Wheat Store area. The cross section shape of the trench suggests that it was dug at least twice. The upper 1.5 ft of the trench was wide, ca. 5.5 ft. Below 1.5 ft, the trench narrowed to ca. 2.0 ft and was U-shaped in cross section. The overall depth was ca. 3.0 ft. Artifacts

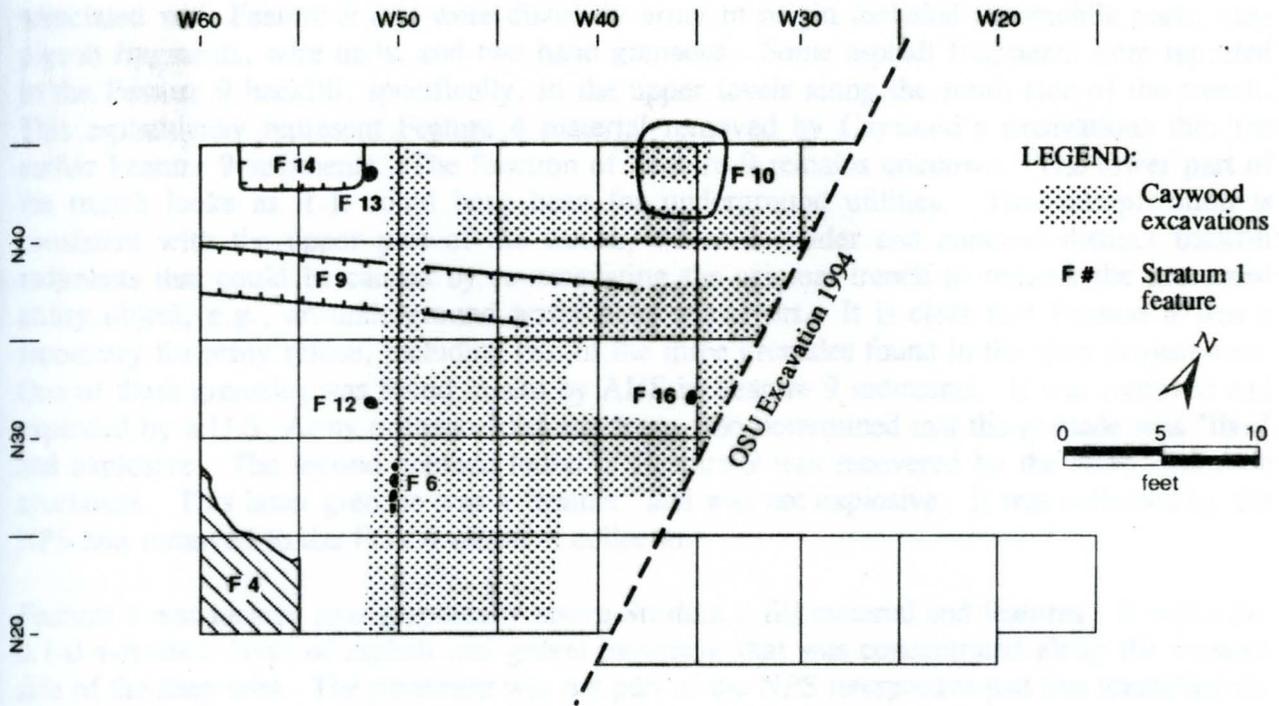


Figure 8. Distribution of Caywood excavation units and Stratum 1 features.

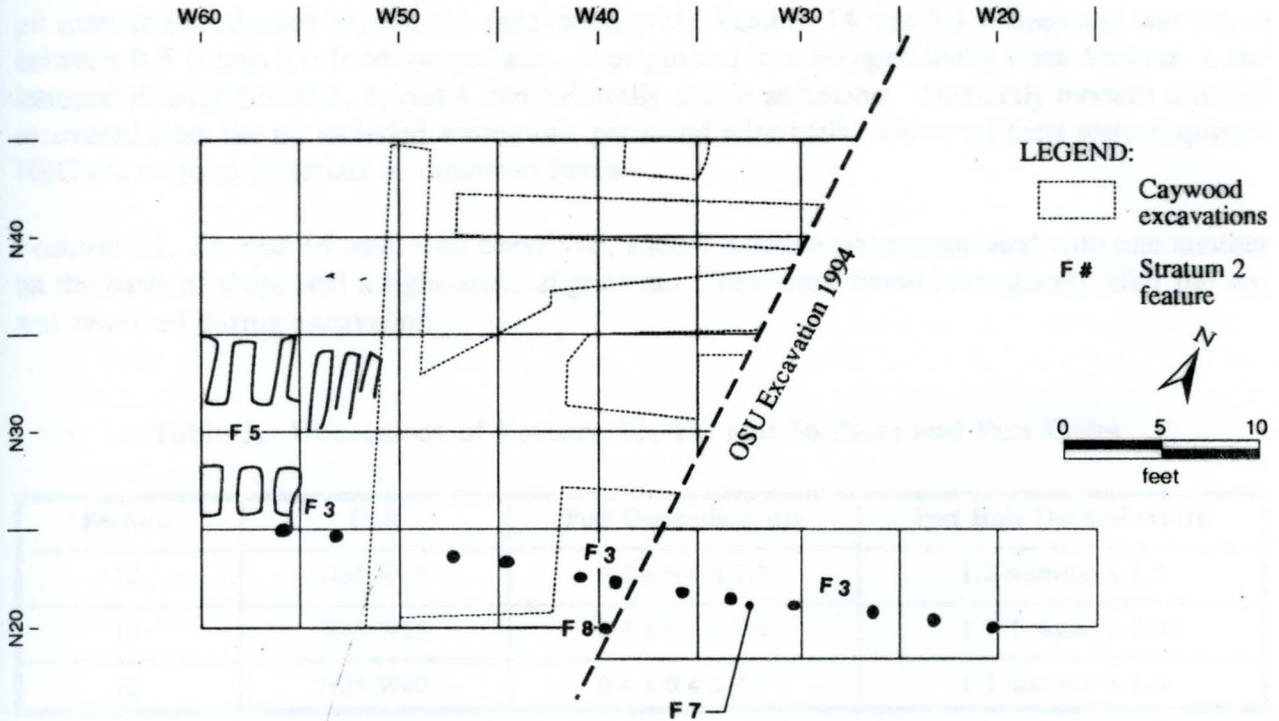


Figure 9. Distribution of Stratum 2 features.

associated with Feature 9 that were distinctly army in origin included automobile parts, clay pigeon fragments, wire nails, and two hand grenades. Some asphalt fragments were reported in the Feature 9 backfill, specifically, in the upper levels along the south side of the trench. This asphalt may represent Feature 4 material removed by Caywood's excavations into the earlier Feature 9 sediments. The function of Feature 9 remains unknown. The lower part of the trench looks as if it could have been for underground utilities. This interpretation is consistent with the upper part of the trench, which is wider and contains distinct backfill sediments that could be caused by re-excavating the original trench to remove the presumed utility object; e.g., an underground water pipe or culvert. It is clear that Feature 9 was a repository for army refuse, including two of the three grenades found in the shop project area. One of these grenades was found in situ by AHS in Feature 9 sediments. It was removed and exploded by a U.S. Army ordnance disposal team who determined that the grenade was "live" and explosive. The second grenade found in Feature 9 was recovered by the Navy ordnance specialists. This latter grenade was a "trainer" and was not explosive. It was collected by the NPS and removed to the FOVA museum collection.

Feature 4 was located stratigraphically above Stratum 2 fill material and features. It was a ca. 0.1-0.4-ft-thick layer of asphalt and gravel pavement that was concentrated along the western side of the shop area. The pavement was not part of the NPS interpretive pad that identified the Carpenter Shop site and was more likely associated with an unidentified post-WWI U.S. Army paving event.

Feature 14 was an unidentified pit found in the northwestern part of the shop area in N45 W55 and N45 W60. Its overall length was 6.5 ft east-west and its width was 2 ft minimally. The pit extended northward beyond the excavation grid. Feature 14 was 3.1 ft deep and was found between 0.5 ft and 3.6 ft below surface. It originated in a comparatively thick Stratum 1 and intruded through Strata 2, 3, and 4 into culturally sterile sediments. Distinctly modern artifacts recovered from the pit included automobile parts and wire nails. Other artifacts were displaced HBC-era cultural materials or unknown items.

Features 12, 13, and 16 were well preserved, square wooden posts associated with one another on the basis of shape and a right-angle alignment. They were found immediately after the sod was removed during excavation.

Table 3. Dimensions of Feature 12, 13, and 16 Posts and Post Holes.

Feature	Unit	Post Dimensions (ft)	Post Hole Dimensions (ft)
12	N35 W55	0.4 x 0.4 x 1.1	1.2 diameter x 1.7
13	N45 W55	0.4 x 0.4 x 2.0	1.3 diameter x 2.0
16	N35 W40	0.4 x 0.4 x 2.0	1.2 diameter x 2.0

These posts and post holes were similar in size. The distance between Features 12 and 13 was 12 ft in a north-south alignment. Features 12 and 16 were aligned east-west and spaced 15 ft apart. The right-angle association, similarity in size, and wood preservation suggest these posts were part of an unidentified NPS structure.

Feature 6 was a section of a north-south trench excavated by Caywood along the east side of N30 W55. Normally, AHS did not record Caywood's excavation units as features. This one was given a feature designation as the bottom of the feature contained imported river washed cobbles like those recorded in field notes from the 1950 excavation in the shop (Gerald 1950:7-9). These cobbles were found above and post-dating a trench (Feature 1) found by Caywood and relocated by AHS. Upon excavation and after a review of Gerald's (1950) field notes, it was determined that the cobbles located in N30 W55 were not in situ but had been moved in 1950.

Feature 10 is the designation for Caywood's excavation of a privy/trash pit, Trash Pit No. 11, found by AHS at the northeast corner (N45 W40 and N45 W35) of the shop. It was a 5.0-ft-square x 4.5-ft-deep pit filled with Caywood's backdirt (Stratum 1) and artifacts displaced by that excavation. Included was the North West Company token found in N45 W35, Stratum 1, at 3.5 to 4.0 ft below surface. The only part of Feature 10 that was not disturbed by Caywood's excavation was a thin, 0.4 ft rind of Stratum 4 sediment situated along the bottom of the pit. No artifacts were recovered from the undisturbed area, but a soil sample was collected by AHS.

Stratum 2 Features

Four Stratum 2, or WWI, features were recorded. All but one of these were post holes. The exception was Feature 5, a construction surface discussed above (see also below). Figure 9 shows the locations of Stratum 2 features on the excavation grid.

Feature 3 is an east-west alignment of 12 post holes (10 with posts) found along the southern part of the shop excavation (Figure 10). Brauner (1995:21-23, 45) exposed the six easternmost post holes (Posts 1, 4, 6, 7, 8, and 9) of this series and tentatively identified them as HBC features. However, the finding of a wooden rail attached to some of the posts, associated iron wire nails, a shared east-west alignment, and Stratum 2 sand found in the post holes suggested that these posts were, instead, part of the WWI spruce mill complex. Hoffman and Ross (1973:5,10) noted the same post, post hole, and wooden rail alignment in an excavation to the east and identified it as a "ballast divider of a 1918 R.R. spur." This interpretation is supported by historic maps that illustrate the location of the WWI railroad spur line in this area of the Fort (Erigero 1992:Map 19; Caywood 1955:Figure 1; see Figure 5, this report). The Feature 3 post holes found in the shop area were spaced 3 ft apart (± 0.38 ft). The post preservation varied, but when found, the wood or post molds were square in cross section. The post holes were circular in cross section and straight sided (Table 4). The wooden rail was 0.1 ft thick and 0.6 ft wide. It was attached to the south side of three posts with 16d iron wire nails.



Figure 10. View toward the northeast of Feature 3 postholes (front to back) and Feature 1 ditch (center, left to right). Chief Factor's house and temporary NPS contact station in background.

Table 4. Dimensions of Feature 3 Posts and Post Holes.

Unit	Post Dimensions (ft)	Post Hole Dimensions (ft)
N20 W25	0.4 x 0.4 x 0.5	1.0 diameter x 0.6
N20 W25	0.4 x 0.4 x 0.4	1.1 x 0.9 x 0.8
N25 W30	0.5 x 0.5 x 0.7	1.6 x 1.4 x 0.9
N25 W35	0.5 x ? x 1.2	1.0 diameter x 1.2
N25 W35	none	1.2 diameter x 1.5
N25 W40	0.5 x 0.5 x 1.3	1.1 diameter x 1.3
N25 W40	0.4 x 0.4 x 1.5	0.8 diameter x 1.6
N25 W45	0.4 x 0.4 x 1.0	1.1 diameter x 1.0
N25 W45	0.5 x 0.5 x 0.5	1.0 diameter x 0.5
N25 W50	none	0.9 diameter x 0.5
N25 W55	0.5 x 0.5 x 2.7	1.0 diameter x 2.7
N25 W60	0.4 x 0.4 x 2.6	1.2 diameter x 2.1

Feature 5 was present in three units, N30 W60, N35 W55, and N35 W60, along the west side of the excavation area. It has tentatively been identified as a railroad feature and is consistent with Brauner's (1995:18-21) interpretation. Feature 5 consists of a series of north-south-oriented ridges situated in an east-west alignment across the site. They were found between 0.6 and 1.2 ft below the surface and are characterized by brown gravelly silt loam sediments mixed with imported coarse gray sand and gravel. When first observed, the ridges were irregularly shaped, being 0.3 to 1.6 ft wide; however, with depth they became rectangular in shape and were ca. 2.5 ft long x 1.2 wide x 0.6 ft deep. The ridges were separated from one another by 0.8-ft-wide troughs filled with coarse gray sand. The sand fill was designated Stratum 2 and found as an undisturbed 0.4-0.8-ft-thick deposit above the ridges and, in some instances, as thin layers below the ridges. The bottoms of the troughs were flat and compacted as would be expected if railroad ties had been placed between the ridges. The only artifacts clearly contemporary with Feature 5 were seven 16d iron wire nails, an electrical wire fragment, and a tobacco can. Otherwise, Feature 5 artifacts were displaced nineteenth century items. Despite this mixture of artifact assemblages and in contrast to Brauner's (1995:18-21) observations, there were intact Strata 3 and 4 sediments located below Feature 5.

Feature 7 was the AHS designation for OSU Post Hole 5 (Brauner 1995:23) on the south side of the shop area. This feature was too small and in the wrong location to be associated with the Feature 3 series of posts described above. Excavation indicated it was simply a 0.5-ft-diameter x 0.3-ft-deep pocket of Stratum 2 coarse gray sand that contrasted with native sediments. There was no evidence of a wooden post or that the hole was even a deliberate construction.

Feature 8 designated Brauner's (1995:23) Post Hole 3. It consisted of a squared (0.6 x 0.4 x 1.9 ft) wooden post in a 1.4-ft-diameter post hole. Feature 8 was located ca. 2.5 ft south of the Feature 3 post alignment, but it is not known if a structural association existed between these post holes. Feature 8 was associated with Stratum 2 on the basis of imported rounded and angular gravel in the post hole fill.

Stratum 4 Features

There were a considerable number of twentieth century intrusive features cut into Stratum 4 as noted in the Strata 1 and 2 discussions above. The effect of this disturbance on the horizontally intact Stratum 4 sediments is quantified below (Table 5).

Table 5 . Percentage of Undisturbed Stratum 4 Surface in the Carpenter Shop Excavation Units.

Unit	Undisturbed Area (square ft)	Percentage	Unit	Undisturbed Area (square ft)	Percentage
N25 W40	6.5	26	N35 W60	17.5	70
N25 W45	11.0	44	N40 W35	5.0	20
N25 W50	4.0	16	N40 W40	10.0	40
N25 W55	14.0	56	N40 W45	10.0	40
N25 W60	24.0	96	N40 W50	10.0	40
N30 W40	6.0	24	N40 W55	5.0	20
N30 W45	4.0	16	N40 W60	5.0	20
N30 W50	0.0	0	N45 W30	7.0	28
N30 W55	15.0	60	N45 W35	14.0	56
N30 W60	19.0	76	N45 W40	7.0	28
N35 W35	2.0	8	N45 W45	15.0	60
N35 W40	21.5	86	N45 W50	13.5	54
N35 W45	6.0	24	N45 W55	15.0	60
N35 W50	3.0	12	N45 W60	19.0	76
N35 W55	14.0	56			

In spite of disturbances to the site, four HBC-era features were identified during the 1996 data recovery excavations (Figure 11). None of these, however, could be associated with the Carpenter Shop architecture.

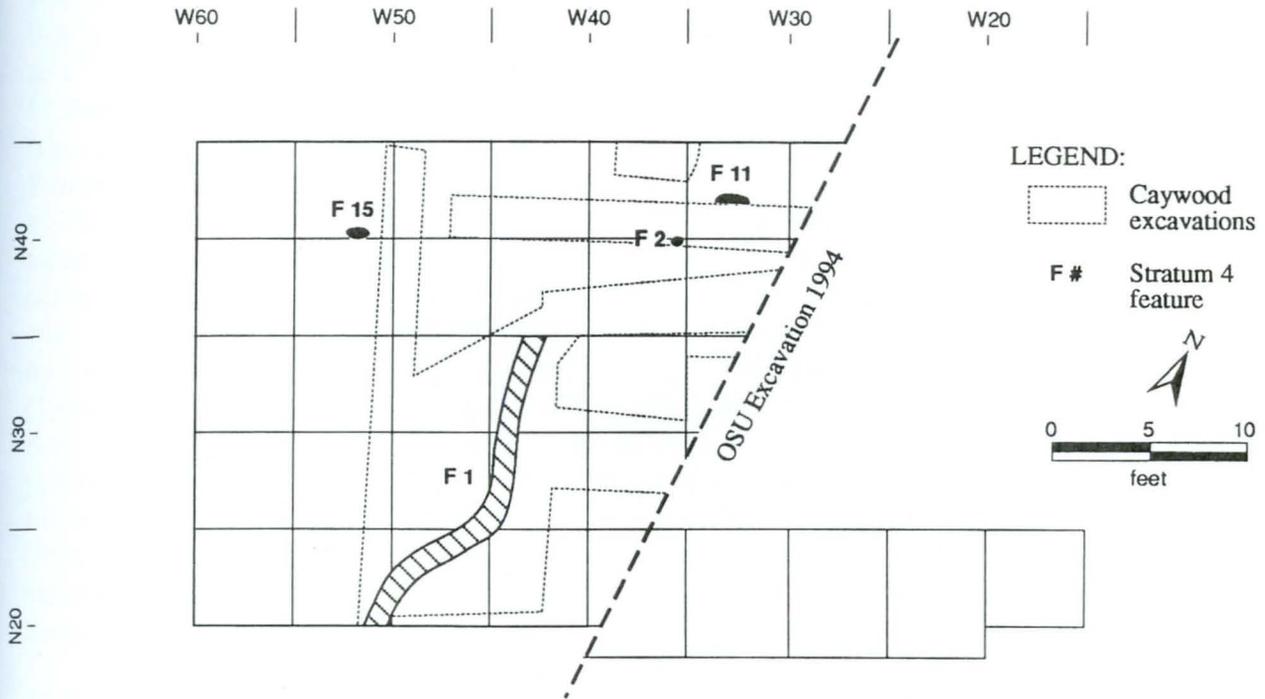


Figure 11. Distribution of Stratum 4 features.



Figure 12. View of intersection of Features 1 and 3 showing one of the Feature 3 postholes intruding into Feature 1. Rectangular unit was a Caywood cross-sectional analysis of Feature 1. Feature 9 is at top, running left to right.

Feature 1 was a ditch that ran east-west and north-south across the excavation area. The same feature was found by Caywood (1948:9) during the 1948 field season and was described simply as a "trench or ditch which led to a second plank covered trash pit" (Trash Pit No. 2). In his final report, Caywood (1955:12) described the ditch as "a long narrow trench dug out which led from Trash Pit No. 2 toward the granary." The Caywood investigation field notes described the feature as a ditch and, in a June 23, 1950 entry, tentatively identified it as a WWI spruce mill or later feature (Gerald 1950). However, three cross-sections of the feature, recorded on the same date, clearly locate the ditch below "gravel" or WWI fill material and 8 to 13 in below surface in native "brown soil" sediments. The ditch is depicted as being a U-shaped, 13-15-in-wide trench filled with "brown" sediments, sometimes with "gray clay inclusions" and covered by "white ash" and "gray clay" (Gerald 1950). This same ditch was identified by Ross (1976:24, 40) as a "drain" associated with a privy and dating from "ca. 1829 to ca. 1860." Brauner (1995:22, 44-45) excavated the ditch in the east side of the shop and agreed with Ross's (1976) interpretation that it was a "drainage ditch" but suggested its purpose was to "divert surface water around the Carpenter Shop." Evidence to support the interpretation of this ditch being used for drainage was recorded on July 20, 1950 during Caywood's investigation, when vertical elevation measurements along the ditch flowline showed a south to north gradient toward the privy Trash Pit No. 2 (Gerald 1950).

AHS personnel excavated a 20-ft-long, S-shaped section of the Feature 1 ditch in units N25 W55, N25 W50, N25 W45, N30 W45, and N35 W45. The feature was also observed in N40 W35. However, the northern part of Feature 1 was removed when ordnance specialists excavated Feature 9, the area where hand grenades were found. Because of this, the temporal relationship of Feature 1 ditch to Feature 9 is not stratigraphically documented (Figures 12 and 13). It was noted, however, that a Feature 3 post was dug into the Feature 1 ditch (see Figure 12), thereby establishing the ditch as a pre-WWI phenomenon. The artifacts associated with Feature 1 were HBC items (2 unidentified objects, 1 square iron nail, 6 mammal bone fragments, 1 cottage ware sherd, 1 tobacco pipe sherd, and 1 English brick fragment) but were recovered in low numbers and are temporally and functionally nondescript. However, three Feature 1 strata observed during the AHS excavation offer clues to the temporal and functional identity of the ditch. The ca. 0.4-ft-thick top layer was a compact gravelly silt loam. This covered the next layer, which was a 0.3-ft-thick deposit of fine silt. This silt usually filled the bottom of the ditch, except in the southern part where it covered another thin, ca. 0.2-ft-thick, layer of very compact gravelly silt loam. This stratigraphic sequence is consistent with an interpretation as a drainage ditch. The silt sediments, in particular, could have been water deposited. The compacted sediments above this could have been compressed by traffic use after the ditch was abandoned.

Feature 2 was a post hole observed in profile in the northwest corner of the excavation area (N40 W35). It is one of two post holes found by Caywood on the south side of Trash Pit No. 11, or Feature 10 (see above), and is believed to be part of the privy superstructure (Caywood 1955:24). Only the 0.9-ft-diameter by 1.7-ft-deep post hole was found. The post located by Caywood to the west of Feature 2 was not found by AHS and may have been destroyed by the ordnance specialists excavating in Feature 9.

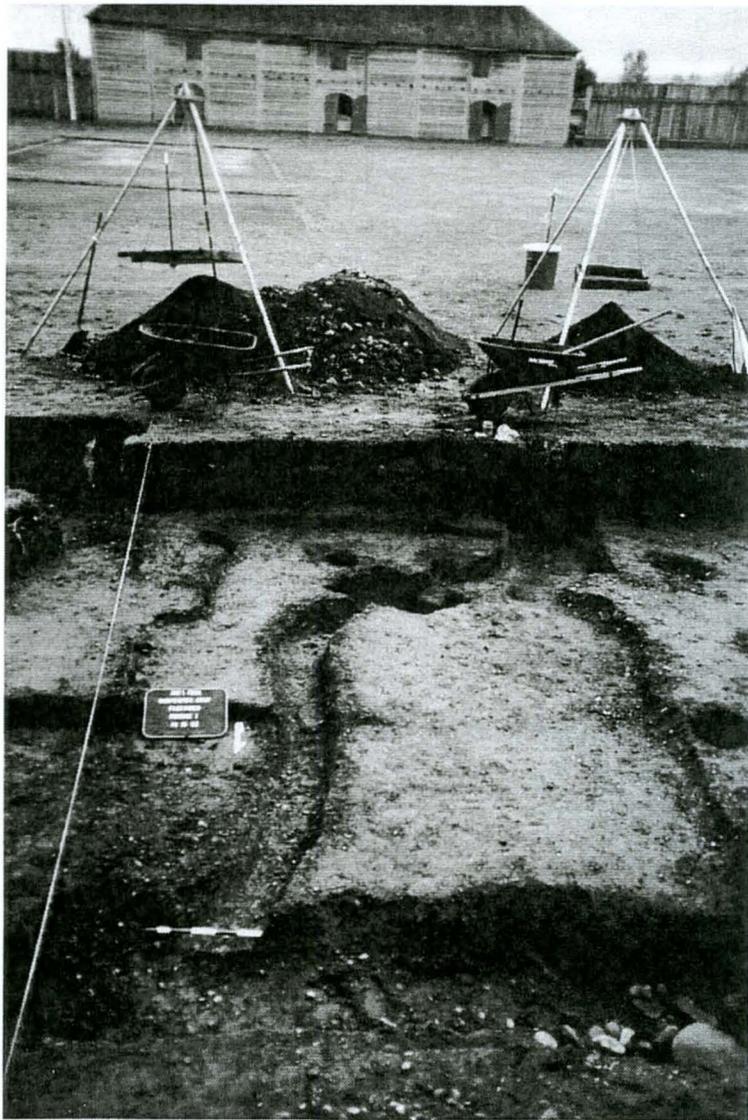


Figure 13. View toward south showing how Feature 9 (east-west trench in foreground) truncates Feature 1. Fur Store in background. Rocks in lower right of photo are not in situ.

Feature 11 was a fire area in the east center of N45 W35. It appeared to be a low heat surface burn about 1.6 ft long east-west and 0.2 ft deep. The southern side of Feature 11 had been destroyed by a Caywood excavation trench. The function of Feature 11 remains unknown, but some burnt bone fragments and nails suggest refuse disposal.

Feature 15 was a circular pit, located in the southeast corner of N45 W55, containing an articulated canid skeleton, probably a dog. Identification was made on the basis of the mandible and teeth. The burial pit boundary was difficult to delineate and the south side was truncated by the intrusive Feature 9. The pit dimensions were 1.5 ft east-west by 0.4 ft deep. Although bone preservation in general was poor, vertebrae and complete teeth in sections of mandible were collected. The remaining bone material was removed along with the surrounding soil matrix as a soil and bone sample.

Artifacts

A total of 6,923 artifacts was recovered during the 1996 AHS excavations. Most of these artifacts were found in Stratum 1 and Stratum 4. The relatively high number of artifacts associated with Stratum 1 reflects the NPS and other post-WWI activities that have disturbed the nineteenth century components of the site. In contrast, the high artifact recovery from Stratum 4 documents the undisturbed HBC site. Stratum 2, or the WWI sediments, have been interpreted largely as fill material and, as expected, exhibits a low artifact recovery. The low artifact recovery from Stratum 3 is probably due to the relative thinness of this layer and, probably as importantly, the relative lack of activity in the project area during its formation.

Table 6. Distribution of All Artifacts by Stratum.

Stratum	Description	Quantity	Percentage
1	post-WWI	3,419	49
2	WWI	408	6
3	late 19th century/pre-WWI	75	1
4	19th century/HBC	3,021	44
Total		6,923	100

The remainder of this artifact section presents descriptions of recovered artifacts and the functional distributions of those artifacts by stratum. Artifact analysis emphasized the HBC artifacts associated with Stratum 4. Functional categories are generally based on Sprague's (1981) classification scheme.

Stratum 1, Post-World War I Artifacts

A total of 3,419 artifacts was recovered from Stratum 1. The group service and modern artifacts are the only items clearly associated with post-WWI activities. The others, as noted, were artifacts that had been displaced by NPS and U.S. Army activities.

Table 7. Functional Distribution of Stratum 1 Artifacts.

Functional Category	Quantity	Percentage
Personal	176	5
Domestic	283	8
Architectural	1,542	45
Personal/Domestic Transportation	2	<1
Commerce/Industry	28	1
Group Services	210	6
Personal/Domestic Miscellaneous	547	16
Modern	24	1
Unknown	607	18
Total	3,419	100

Twenty-eight percent of the group service artifacts were automobile parts. These were scattered in relatively low numbers in 22 excavation units but seemed to be concentrated in the east and northeast part of the excavations in units N30 W45, N35 W40, N40 W35, N45 W30, N45 W35, and N45 W45. Only 12 of these automotive artifacts were found in Stratum 1 features (10 with Feature 9; 2 in Feature 14); otherwise, they were recovered from Stratum 1 unit levels. Brauner reported finding 276 automotive parts in his 1994 Carpenter Shop excavation and provides a comprehensive listing of them (Brauner 1995:42-43).

The modern artifacts include eight glass beads and 11 modern reproductions of machine cut square nails that are part of the NPS interpretive program at Fort Vancouver. These objects are used and sold at Fort Vancouver to simulate the artifacts utilized by the HBC at the Fort.

One notable artifact found with Stratum 1 was a North West Company token recovered from the base of Caywood's backfill in the privy trash pit (Trash Pit No. 11 - AHS Feature 10) at a depth of 3.5 to 4.0 ft below surface. The token was recognized upon discovery and due to its rare nature was immediately turned over to NPS personnel for safe keeping and conservation. It appears to be a copper token with the bust of an embossed figure (either George III or George IV), with "TOKEN" above, and "1820" below on the obverse face. The reverse face has an

embossed beaver with "NORTH WEST" above and "COMPANY" below. The upper edge is perforated with a single hole. Although the North West Company, which later merged with the HBC, introduced the tokens as a fur trade currency with the Indians, the tokens were usually pierced and worn decoratively by Indian people. An example of a North West token is illustrated by Yeoman (1965:48). It is assumed that this token was a component of the Trash Pit No. 11 fill material and was simply not observed during the earlier excavation.

Stratum 2, World War I Artifacts

Four hundred and eight artifacts were recovered from Stratum 2. Most of these items (ca. 56 percent) were HBC and nineteenth century artifacts that had been disturbed by WWI activities. The 23 percent of total artifacts that were clearly associated with WWI consisted of 85 iron wire nails, most of which were 16d size. Most of these nails were found in the southern and western part of the shop project area and associated with WWI Features 3 and 5.

Table 8. Functional Distribution of Stratum 2 Artifacts.

Functional Category	Quantity	Percentage
Personal	19	5
Domestic	38	9
Architectural	180	44
Group Service	13	3
Unknown	76	19
Personal/Domestic Miscellaneous	82	20
Total	408	100

Stratum 3, Late Nineteenth Century/Pre-World War I Artifacts

A total of 75 artifacts was found in Stratum 3. The artifacts were concentrated in four units (N25 W55, n=15; N35 W40, n=18; N45 W35, n=10; and N45 W60, n=14). Ninety-one percent of these items were probably HBC items. These consisted primarily of domestic ceramic sherds, bottle glass, square nails, tobacco pipe fragments, English brick fragments, and window glass. Due to inclement weather conditions during excavations and the thinness and unevenness of Stratum 3, the artifact assemblage associated with it may actually represent a mixed assemblage recovered from both Stratum 3 and Stratum 4.

Table 9. Functional Distribution of Stratum 3 Artifacts.

Functional Category	Quantity	Percentage
Personal	4	5
Domestic	16	21
Architectural	30	40
Commerce/Industry	1	1
Unknown	5	7
Personal/Domestic Miscellaneous	19	25
Total	75	100

The one commerce and industry artifact found was an American nickel found at 0.7 ft below surface in N35 W45 in Stratum 3 sediments. The nickel was in poor condition but the bust of an American Indian on the obverse face and a bison on the reverse face were clearly evident. The date was not visible. These nickels, "Indian Head" or "Buffalo Type," were first issued in 1913 and continued to be minted through 1938 (Yeoman 1965:94-96). The location of this nickel in Stratum 3 sediments suggests an early twentieth century date for the stratum, although it is conceivable that the nickel could have become imbedded in Stratum 3. There is still not enough archaeological evidence to say conclusively whether Stratum 3 represents an 1894 flood deposit or represents a later but pre-WWI event.

Stratum 4, Nineteenth Century/Hudson's Bay Company Artifacts

Given the amount of disturbance to the Stratum 4 sediments (see Table 5), there was a surprisingly high recovery of HBC artifacts. These artifacts are listed in Table 10 by functional category.

Table 10. Functional Distribution of Stratum 4 Artifacts.

Functional Category	Quantity	Percentage
Personal	555	18
Domestic	600	20
Architectural	1,470	49
Commerce/Industry	32	1
Group Services	8	<1
Group Ritual	2	<1

Table 10, continued.

Functional Category	Quantity	Percentage
Unknown	221	7
Personal/Domestic Miscellaneous	129	4
Indian Manufacture	4	<1
Total	3,021	100

Personal Items, Stratum 4: Personal items have been classified as indulgences, adornment, clothing, medicinal objects, recreation items, and a pocket tool. Five hundred and fifty-five artifacts were in this category. Their functional sub-categories are presented in Table 11 and horizontal distribution information is presented below.

Table 11. Personal Objects from Stratum 4.

Function	Object Name	Quantity
Indulgences	liquor bottle	373
	tobacco pipes	152
Adornments	beads	19
Clothing	button	3
	clasp	1
Medicinal	vial	3
	drug bottle	1
Recreation	mouth harp	2
Pocket tool	strike-a-light	1
Total		555

The largest group of personal indulgences consisted of liquor bottle fragments: body sherds (n=367), collars (n=4), and bases (n=2). These were identified by their "black" and olive-green colors. "Black" was the most common color, representing 63 percent of the liquor bottle sherds. Four areas in the shop excavation exhibited high numbers (i.e., >2 sherds per square ft) of liquor bottle fragments. These were situated in the south center (N25 W40, N25 W50, N30 W40, and N30 W45), the southeast side (N25 W20), the west center (N35 W55 and N35 W60), and the north side (N45 W55) (Figure 14).

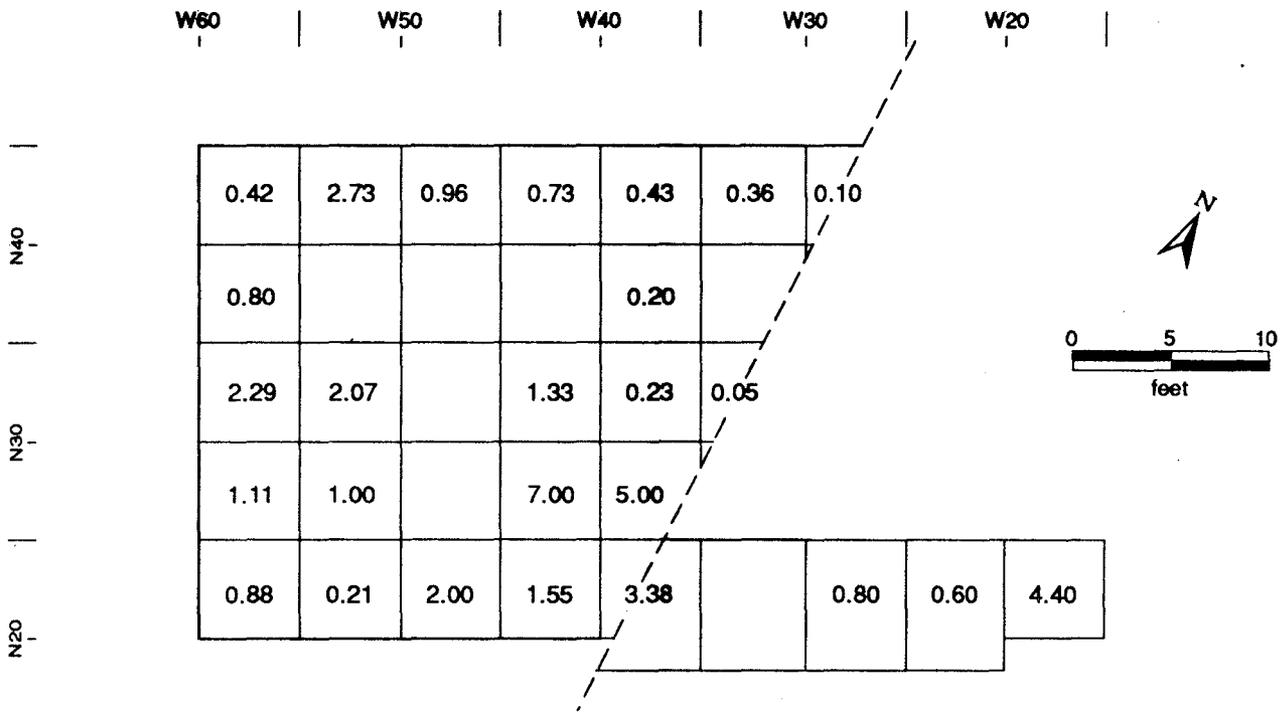


Figure 14. Distribution of Stratum 4 liquor bottle fragments per square ft.

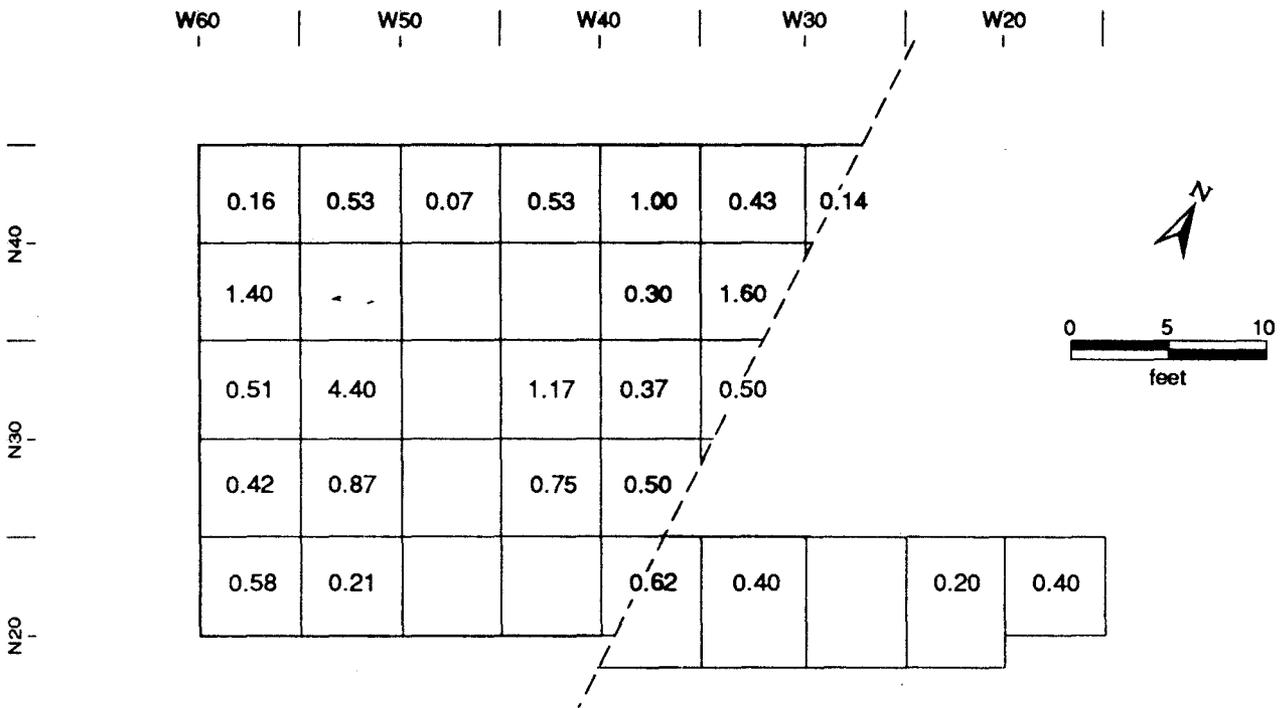


Figure 15. Distribution of Stratum 4 tobacco pipe fragments per square ft.

The second largest group of indulgences were tobacco pipe stem and bowl fragments. These were concentrated (i.e., >1 pipe fragment per square ft) across the center of the shop excavation in units N35 W45, N35 W55, and N40 W60 (Figure 15). Another high recovery area was situated in units N40 W35 and N45 W40 and may be explained by its proximity to the privy/trash pit, Feature 10.

The third largest category of personal artifacts was represented by 19 glass beads. It could be that these were adornment items worn by shop personnel.

Table 12. Stratum 4 Bead Type and Color Distribution.

Bead Type	Color				Total
	Blue	White	Yellow	Red	
Hot Tumbled Tube	6	8		1	15
Wire Wound	3		1		4
Total	9	8	1	1	19

The remaining personal artifact categories consisted of clothing buttons and a clasp, medicinal vial fragments, mouth harps, and a pocket tool, called a strike-a-light, for fire lighting. These objects and the beads were scattered lightly throughout the shop area (Figure 16). The highest number were found in the south center (N25 W40), the southwest corner (N25 W60) and most importantly, near the privy/trash pit, Feature 10 (N45 W35).

Domestic Items, Stratum 4: Six hundred artifacts were classified as domestic. They can be categorized as tableware items (96 percent) and food remains (4 percent). The presence of these artifacts in the shop area suggests a domestic aspect to the area as well as the historically documented carpentry function of the site.

Of the tableware items, the 337 transfer printed earthenware sherds comprised the largest part of the domestic collection. Blue was the common color found on the sherds (n=317; 4 = flow blue), followed by green (n=6), and red (n=6). Four transfer printed sherds were burned to the point that color could not be recognized. Although most of the ceramic wares were too small to identify as to pattern or vessel type, ten transfer printed patterns were identifiable (Table 13).

The Camilla pattern, followed by British Flowers and Lily, was clearly the preferred pattern associated with the shop area from ca. 1833 to 1860. The remaining unidentified transfer printed sherds exhibited floral decoration motifs that could have been components of several of the above patterns.

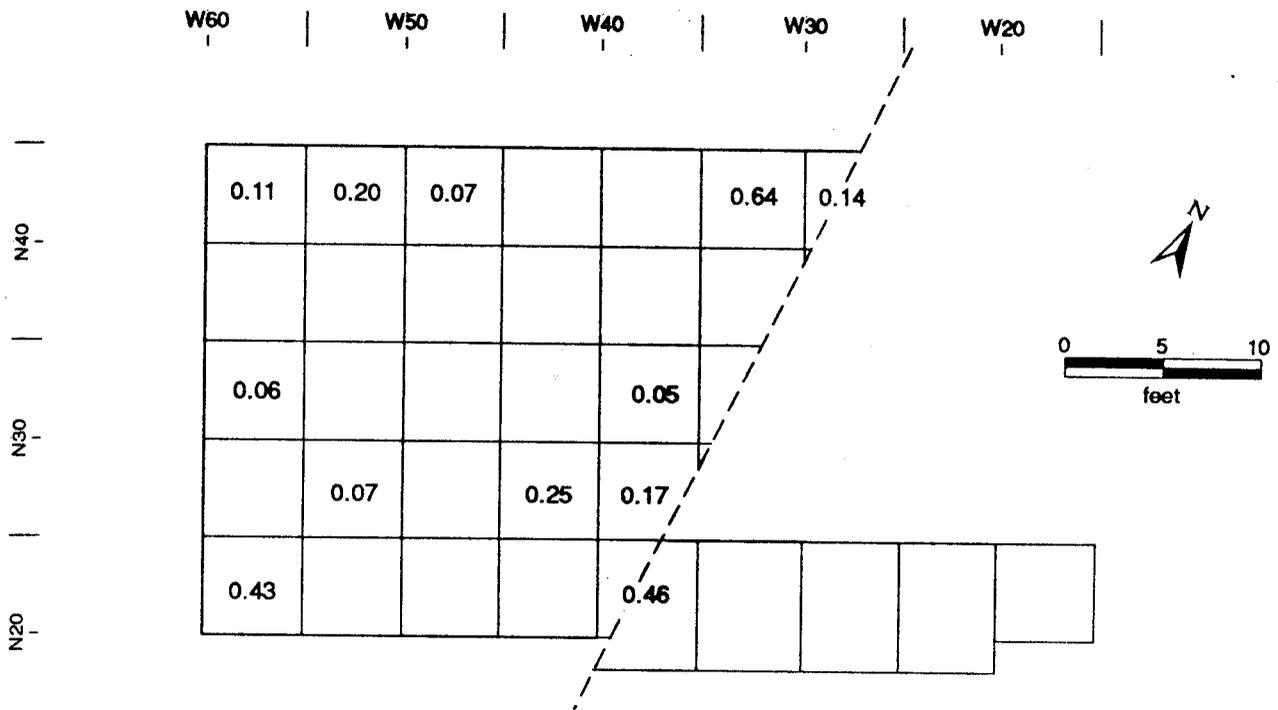


Figure 16. Distribution of Stratum 4 adornment items, clothing items, medicine vials, a recreation item, and a pocket tool per square ft.

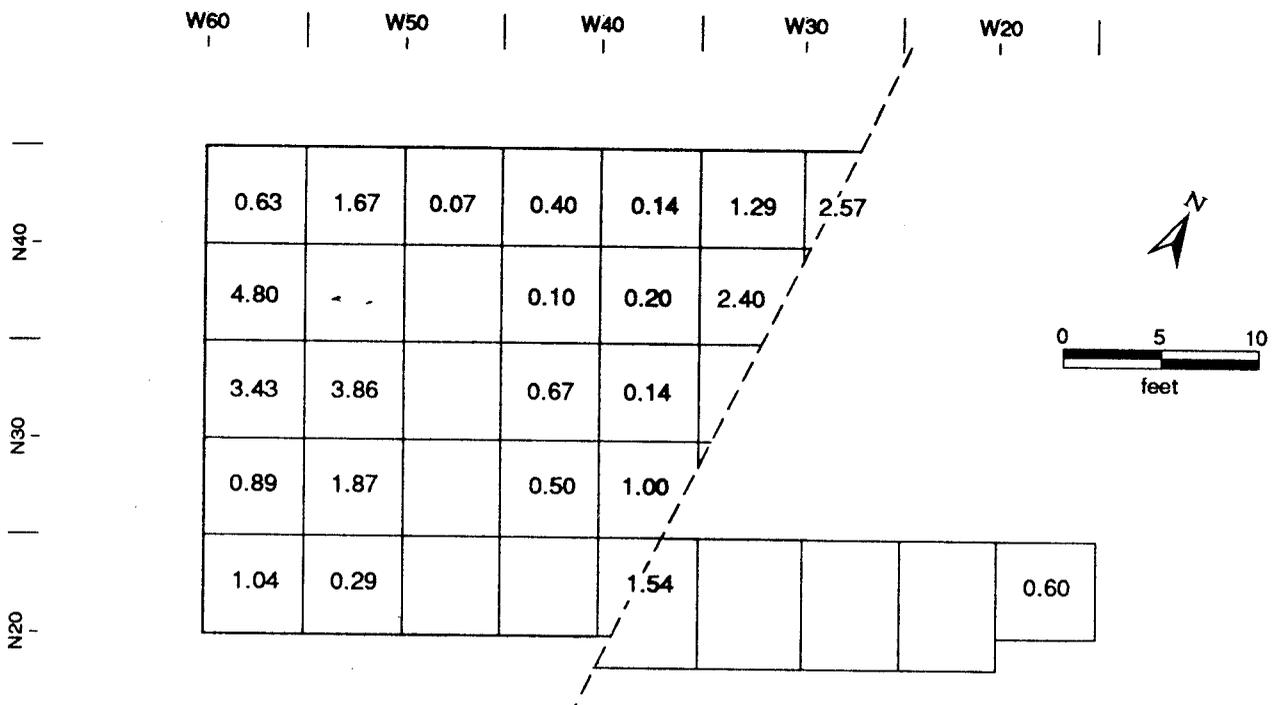


Figure 17. Distribution of Stratum 4 transfer printed sherds per square ft.

Table 13. Transfer Printed Patterns^a from Stratum 4.

Pattern	Date	Vessel Type	Sherds (Quantity)
Aesop's Fables	1830-post 1879	plate rim	2
British Flowers	ca. 1829-1874	flatware rim/center	10
Byron Groups/Views	post 1833; ca. 1833-1868	brim	(red) 1
Camilla	ca. 1833-20th century	plate rim/brim	61
Claremont	ca. 1822-1836	rim sherd	1
Lily	ca. 1837-20th century	cup and saucer rim/brim	(blue) 8 (red) 2
Macaw/Pagoda	ca. 1838-post 1872	flatware brim	2
Waterloo	ca. 1820-?	flatware brim	3
Watteau	pre 1847-post 1861	brim	1
Willow	1780-20th century	plate brim	3
Total			94

^a Chapman 1993; Sussman 1979; Ross 1976:453

The transfer printed sherds were found in three concentrations (i.e., > 1 sherd per square ft): one in the excavation units at the west side in N25 W60, N30 W55, N35 W55, N35 W60, N40 W60 and N45 W55; another along the southeast side in N25 W40; and last, on the northeast side of the excavation in N45 W30 and N45 W35 (Figure 17). The latter concentration is probably associated with the privy/trash pit, Feature 10.

A review of the horizontal distribution of all other domestic ceramic wares (banded ware, cottage ware, decalcomania, unidentified earthenware, redware, stoneware, whiteware, and yellow ware) indicates the same concentrations on the west side of the shop (N35 W55, N35 W60, and N40 W60) and near the privy/trash pit, Feature 10 (N45 W30 and N45 W35). The glassware artifacts were concentrated in the southwest part of the shop (N35 W60) and near the privy/trash pit (N45 W30).

The food remains associated with the shop consisted of mammal bone and teeth fragments. These were recovered from the west side (N30 W55 and N35 W60) and in the northeast corner (N45 W30). This distribution was the same as the ceramic tableware items, above. However, there was another concentration of bone located in the south center shop area in N30 W45.

Personal/Domestic Artifacts, Stratum 4: This functional category has been created to include those items that are not clearly either personal or domestic. The only category of items here is

bottle fragments (n= 131) of aqua, clear (or colorless), green, and blue colored glass. These colors are not obviously correlated with a particular functional use as is the "black" and olive green glass; they may be personal liquor, cosmetic, or medicinal bottles.

Table 14. Personal/Domestic Bottle Fragments from Stratum 4, by Color.

Bottle Color	Quantity	Percentage
Aqua	38	29
Amber	2	2
Clear	87	66
Blue	3	2
Green	1	1
Total	131	100

Architectural Items, Stratum 4: The total of 1,470 architectural artifacts have been grouped as masonry items (6 percent), fasteners (53 percent), window glass (42 percent), and other (< 1 percent).

The masonry items consisted of English and American brick, brick (or clay) tile, and coral mortar (Table 15). Fifty-nine percent of the brick was English and 20 percent was of American manufacture (see Ross [1976:1,066-1,068] for type descriptions). The remaining brick fragments were too small for further identification.

Table 15. Architectural Items from Stratum 4.

Artifact Type	Object Name	Quantity
Masonry	brick, English	33
	brick, American	11
	brick, unidentified	12
	tile	29
	coral mortar	3
Fasteners	nail	768
	screw, wood	1
	staple, wrought	1

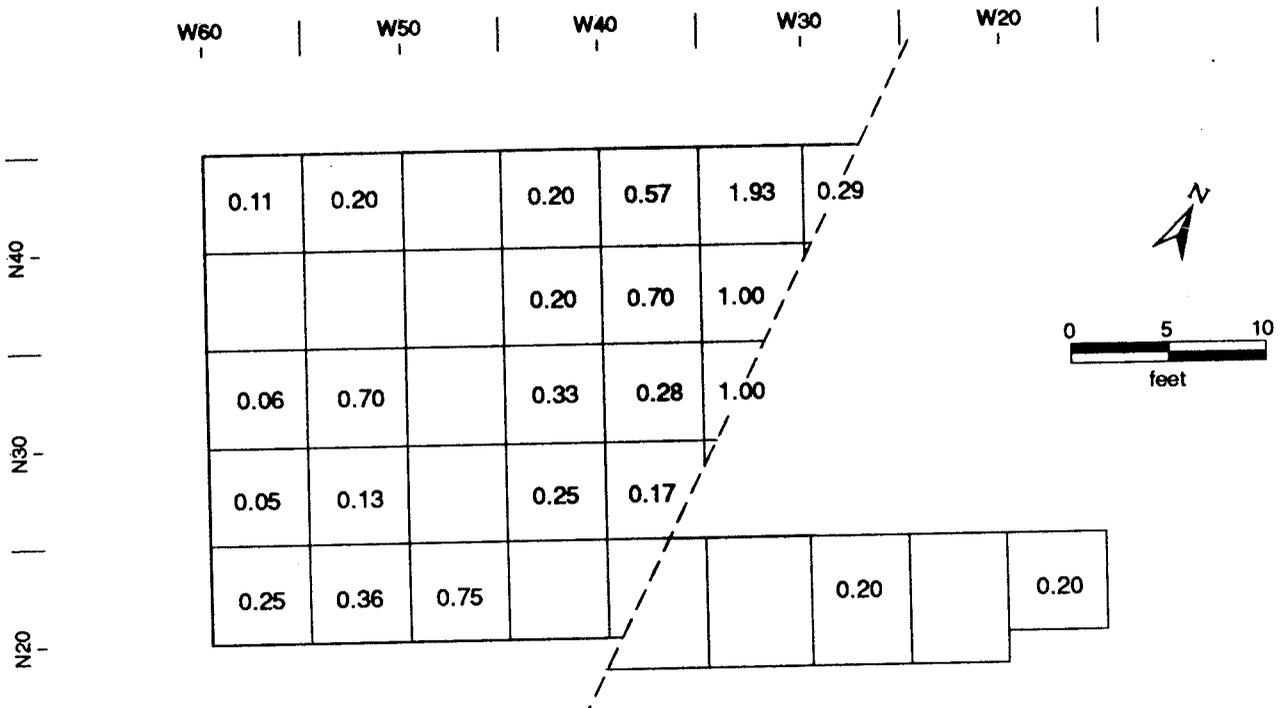


Figure 18. Distribution of all Stratum 4 masonry artifacts per square ft.

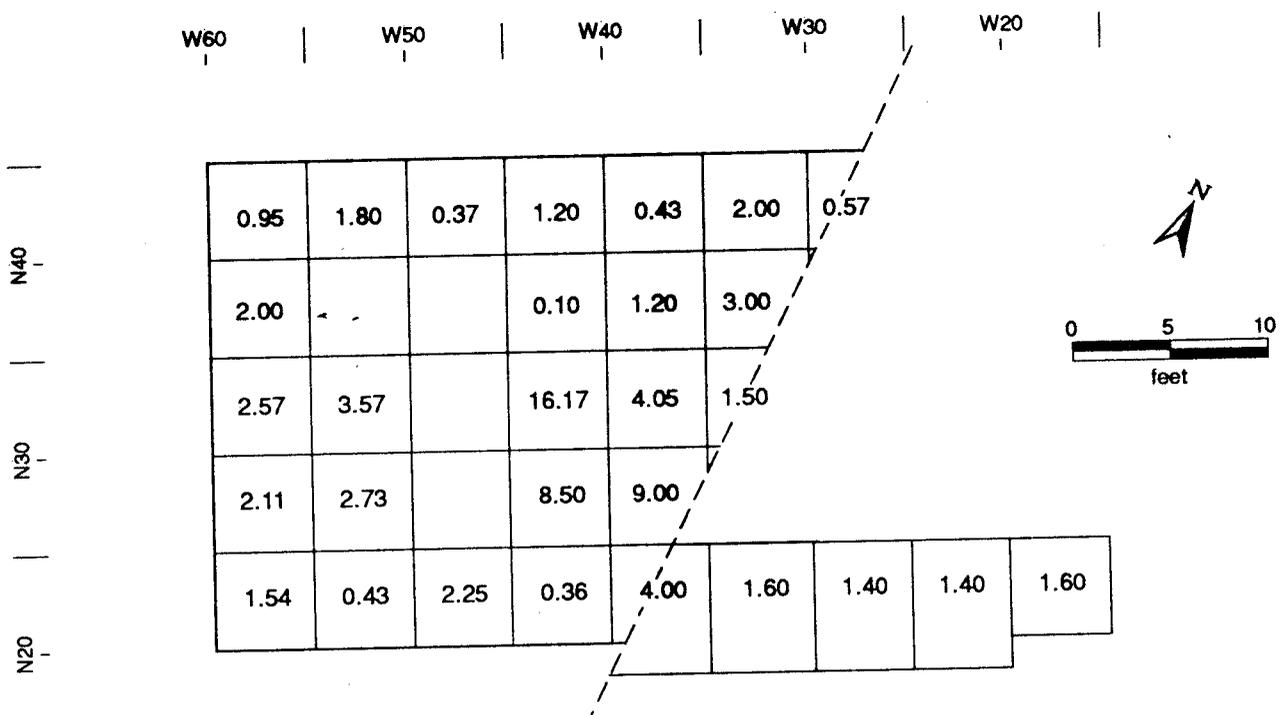


Figure 19. Distribution of all nails (excluding wire) from Stratum 4 per square ft.

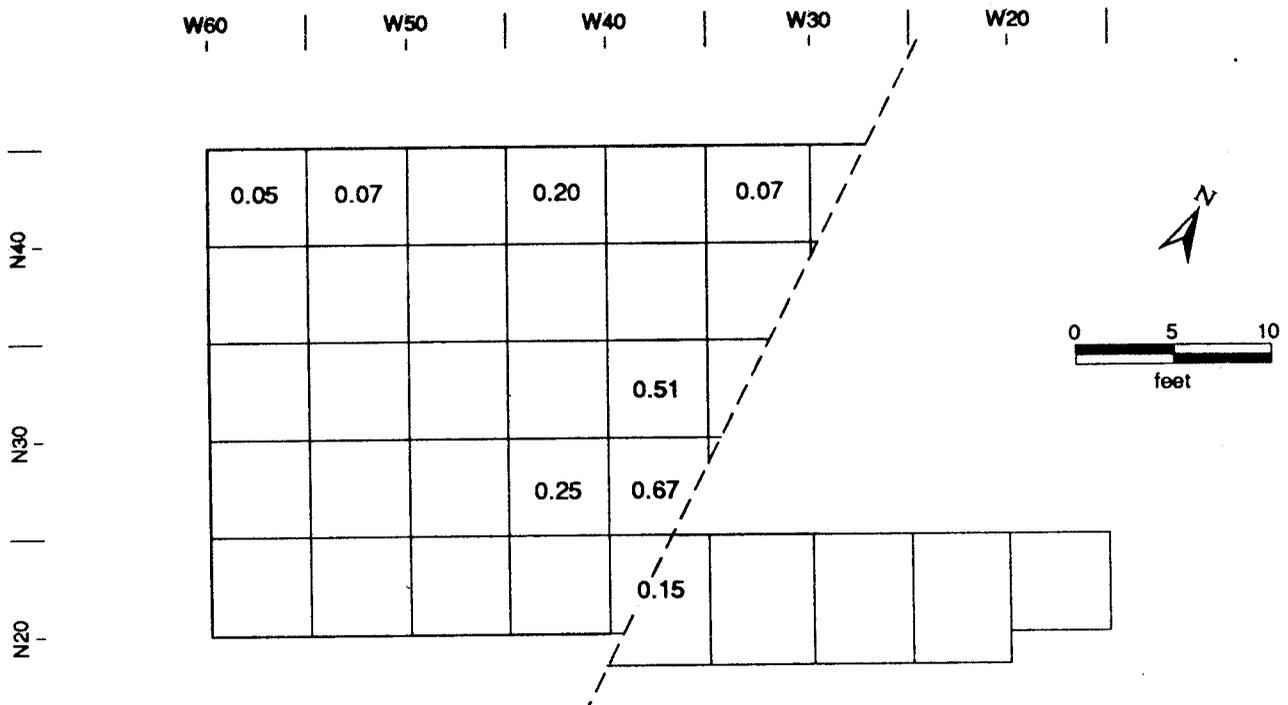


Figure 20. Distribution of clenched wrought nails in Stratum 4 per square ft.

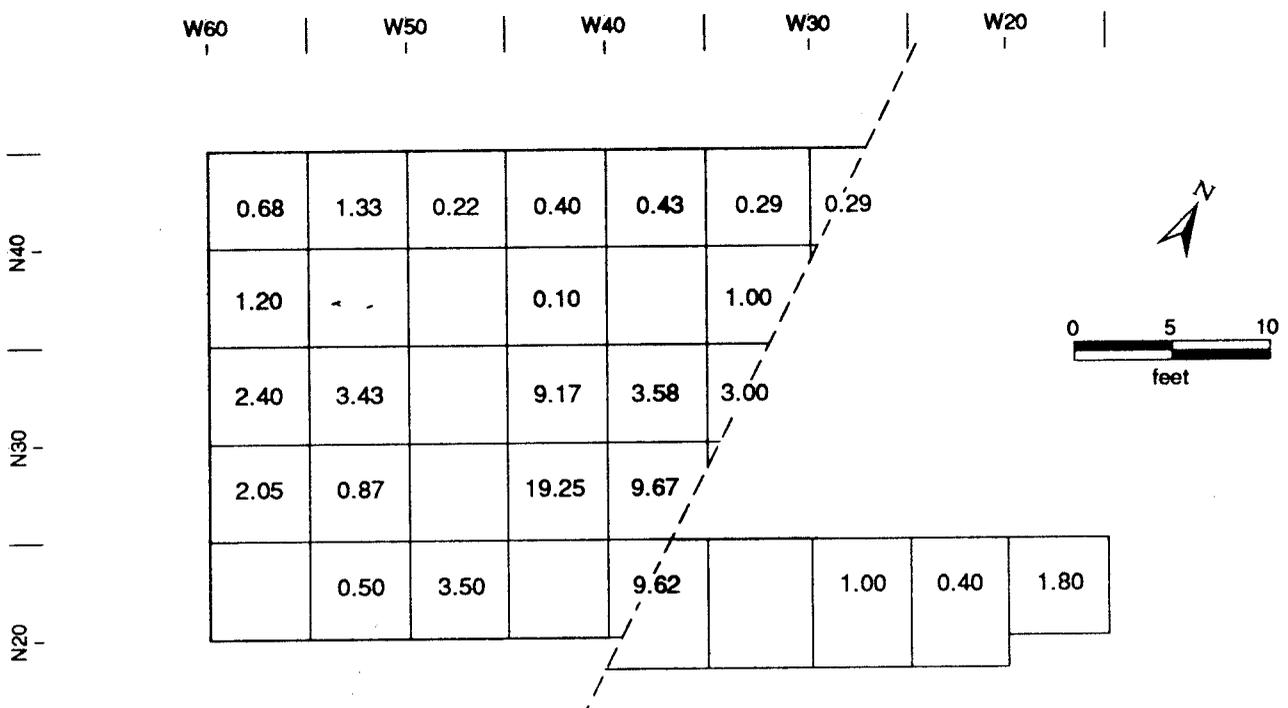


Figure 21. Distribution of Stratum 4 window glass per square ft.

glass found in the Carpenter Shop was measured following Roenke (1982:128-140). Table 17 presents the frequency distribution results for the 611 sherds. The primary mode was 0.055 with a strong secondary mode of 0.065. Together they account for 70 percent of all the sherds found. From either side of these peaks, frequency falls off sharply.

The suggested time periods for specific primary modes of glass are as follows (from Chance and Chance 1976): 1830 - 1840, 0.045 in; 1834 - 1845, 0.055 in; 1840 - 1850, 0.065 in; 1850 - 1860, 0.075 in; 1855 - 1885, 0.085 in; 1870 - 1900, 0.095 in.

The primary modes of 0.055-in-thick and 0.065-in-thick fall into the time range of 1834-1850, which fits with the period when this site was used as a carpenter shop.

Table 17. Frequency Distribution of Stratum 4 Window Glass Thickness.

Glass Thickness ^a (in)	Quantity	Relative Frequency (Percentage)
0.035	8	1
0.045	65	11
0.055	234	38
0.065	195	32
0.075	63	10
0.085	25	4
0.095	15	2
0.105	3	<1
0.115	1	<1
0.125	2	<1
Total	611	100

^a measured at midpoint of sherd

Most sherds were quite small; the largest glass sherd was only 1.75 square inches (roughly 1 in by 2 in). The total area of all 611 window sherds came to approximately 132 square inches, equivalent to two 7 in by 9 in HBC window panes.

Figure 21 shows the greatest concentrations of window glass (>3 sherds per square ft) to be in five units in the center east part of the shop (N25 W40, N30 W40, N30 W45, N35 W40, and N35 W45). Smaller numbers were found in units along the north, west, and south edges of the excavation. These glass fragments may have been part of the building structure or they may

represent debris from the normal work of the shop, such as building and repairing window sashes. The glass concentration in the east center of the excavation area may represent a work/construction area while glass concentrations on the west end could have come from the building's windows when the shop eventually deteriorated.

Commerce/Industry Items, Stratum 4: The thirty-two commerce and industry artifacts have been grouped into four categories, including fuel, manufacturing discard, tools, and weaponry. All of these are presumed to have been associated with the shop. The fuel category consisted simply of 6 coal samples. The manufacturing discards include clinker samples (n=6), chain links (n=2), barrel strap (n=2 iron, n=1 cupreous), and round iron stock (n=1). Weaponry items were lead shot (n=4) and a gunflint.

Six tools in this category were recovered: four were for woodworking, one for metal working, and one was an iron wedge of unidentified function (see Appendix 1). The woodworking tools were an ax, a plane blade, a wedge, and a chisel.

The ax had the trade-ax shape and was broken near the cleft at the hafted end (Ross 1976:1,197). No manufacture's mark was evident on the blade. One of the iron wedges (AHS Catalog Number 2210) exhibited a hammer distorted head, a rectangular shank that tapers on two sides to a flat beveled bit. Ross (1976:1,229-1,231) identified these tools as wood working wedges "for splitting and securing wood." The plane blade was a piece of flat iron sheet metal with rounded distal corners and a chisel bit. The bit was separated in the middle by a square cutout thereby creating two keen edges, presumably for specialized planing. Both ends of the wood chisel were broken, the distal end at the hilt and the body near the bit. This chisel was probably hafted by a squared or triangular tang to a wooden handle.

The single metal working tool was the hafted end of a triangular file. The body was broken and the tooth pattern could not be identified. This file was probably utilized in the shop to sharpen woodworking tools. The unidentified tool was a wedge-shaped fragment which, according to Ross (1976:1,152-1,155, 1,229-1,231), could be used for wood or metal working. This tool fragment was characterized by a rectangular shank that tapered on four sides to a flat beveled bit. The distribution of these tools is shown in Figure 22.

Group Service Artifacts, Stratum 4: Eight artifacts from this functional category were identified (Table 18). All of these artifacts were late nineteenth century or WWI U.S. Army artifacts and had no association with utilization of the HBC shop.

Group Ritual Artifacts, Stratum 4: The only artifacts associated with this category were bone and soil remnants from the HBC period animal burial, Feature 15, discussed above.

Unidentified Artifacts and Samples, Stratum 4: This category included artifacts either functionally ambiguous (e.g., iron nuts) or too fragmentary to classify into another functional category and various collected samples (Table 19).

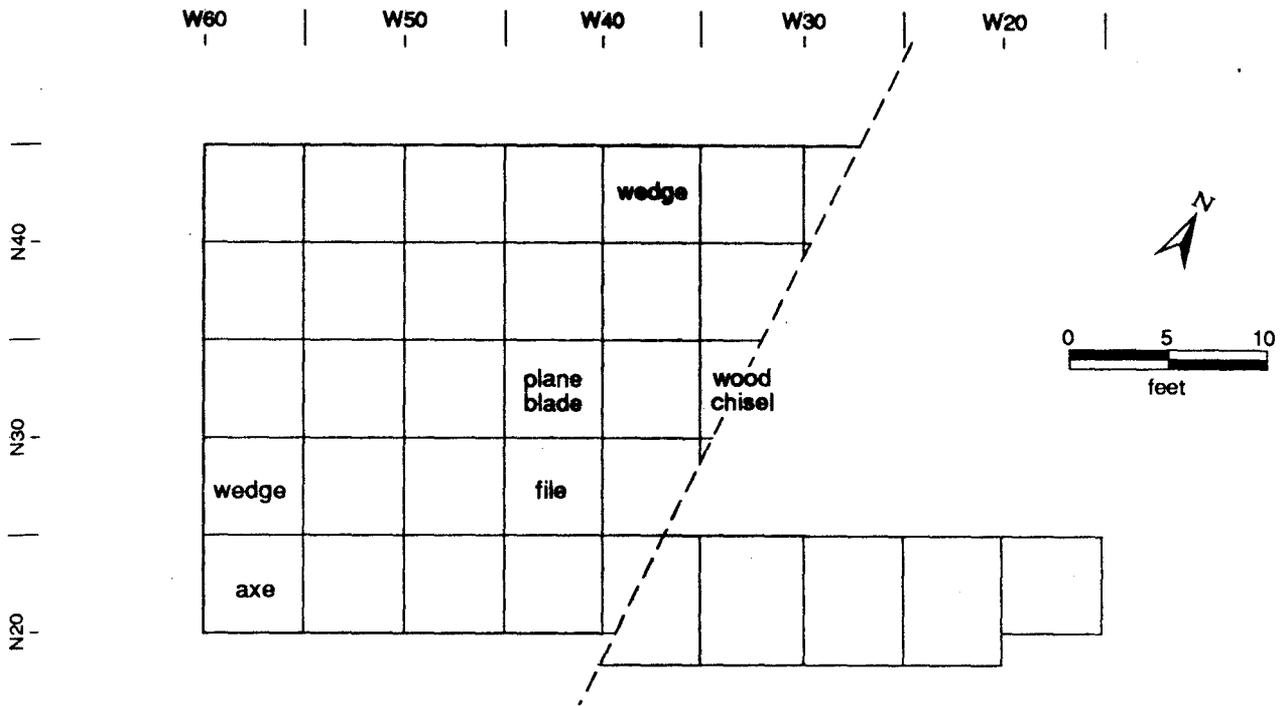


Figure 22. Distribution of Stratum 4 HBC tools.

Table 18. Distribution of Group Service Artifacts from Stratum 4.

Coordinate	Object Name	Quantity
N25 W55	cartridge, rim fire	1
N30 W40	sample, concrete mortar	1
	bullet, lead	1
N30 W55	stud, clothing	1
N35 W35	automotive, window glass	1
N35 W45	cartridge, center-fire	1
N35 W55	crayon, marking	1
N45 W55	muleshoe	1
Total		8

Table 19 . Unidentified Function Artifact Types and Quantities from Stratum 4.

Object Name	Quantity
Bail, lug	1
Fastener, countersunk head	1
Foil, wrapper	3
Glass, unidentified	37
Iron fragments	27
Nuts, square and wrought	2
Nutshell, unidentified	1
Object, unidentified	49
Ochre	1
Rivet, iron	1
Samples: bone, burnt clay, charcoal, rock, root, soil, unidentified material, mortar, and wood	27
Screw, unidentified	2
Sheet metal; cupreous and iron	10
Spring, unidentified	2
Strap, iron	46
Tool, knife blade fragment	1
Washer	1
Wire, cupreous and iron	9
Total	221

Artifacts of Indian Manufacture, Stratum 4: Four artifacts were classified under the functional category of Indian manufacture: a projectile point, a scraper, an unidentified tool fragment, and a piece of debitage. All four artifacts were made of cryptocrystalline silica (ccs). The projectile point was a small, corner-notched point with a parallel stem and was made from a flake. It was 2.8 cm (1 1/8 in) long, 1.5 cm (9/16 in) at its widest, and 0.3 cm (1/8 in) thick. The neck width was 0.5 cm (3/16 in). The scraper is unifacially flaked on only one of the five sides. It may have been heat-treated. The tool fragment is a triangularly shaped artifact with two flaked edges. The third edge exhibits a step fracture. Its greatest width (along the broken edge) is 1.3 cm (1/2 in). The one debitage object was a small lithic flake (0.8 cm [5/16 in] wide) with an obvious bulb of percussion.

The distribution of these items shows no pattern. The projectile point was recovered from the northeast excavation area (N45 W30), the scraper directly south of that (N25 W30), and the debitage pieces from N30 W40 and N45 W55.

Modern Artifacts, Stratum 4: There were no modern artifacts found in Stratum 4.

Conclusions

The AHS data recovery excavations of the Carpenter Shop area at FOVA were conducted in the summer and autumn of 1996. Twenty-four complete and eight partial 5 x 5 ft excavation units were dug by hand and screened through ¼-in-mesh hardware cloth. These units were situated west of the excavation area opened by OSU in 1994 (Brauner 1995; see also Figure 6, this report). Together the AHS and OSU excavations provided the NPS with sufficient space to reconstruct the proposed 40 ft (east-west) by 20 ft (north-south) shop building plus an attendant construction buffer zone around the building footprint.

The primary objective of this excavation was to mitigate the effects of the proposed NPS reconstruction of the Carpenter Shop. The hope was to find structural evidence of the foundation to clear up inconsistencies in the available literature describing its location. As Hussey (1976:412) summarized in his recommendation to the NPS:

. . . a fresh excavation of the entire area between the Wheat Store and the Jail is recommended. If evidence of even one or two footings could be found, it would be possible to speak with much more assurance concerning the physical structure of the Carpenter Shop.

At the start of the AHS field season, the two extant hypotheses based on archaeological data were Caywood's (1955:12) deduction that the Carpenter Shop never had a subsurface foundation and Brauner's (1995:44) conclusion that possible post-HBC land leveling had scraped away the HBC Carpenter Shop occupation surface, leaving no architectural clues. The possibility remained that both were inadequate explanations. A review of Caywood's writings revealed inconsistencies. In his 1948 north to south trench, he encountered, in succession, a trash pit (the north central privy on Figure 6, this report), an east-west trench (Feature 1, this report), "an area of burned earth . . . as well as three posts and a plank measuring nineteen feet in length" (1948:9; see Figure 6, this report, for location of plank). What is puzzling is that he remarked that the plank "could have been the footing for a building" (Caywood 1948:9) and yet dismissed it as such because it was not parallel to the north stockade wall. He dismissed the idea even though he noted two other trash pits (north center and north right on Figure 6) also were not aligned parallel to the stockade but were parallel to each other. After his last field season, he asserted, "The construction [of the Carpenter Shop] must have been of such a nature that no evidence remained below the surface of the ground."

Brauner (1995) reported severe post-HBC disturbances in his excavation area, especially those caused by the U.S. Army during WWI and by Caywood's investigations. Small remnants of

undisturbed HBC surfaces were found in the northeast, where he excavated part of the ditch/trench discovered by Caywood (Feature 1, this report), and the southeast corner of his excavation, which apparently lay in the vicinity of the 19-ft-long plank uncovered by Caywood. Working under the assumption that the NPS-installed asphalt pad had delineated the correct location of the shop, Brauner postulated that this undisturbed HBC area was on the exterior of the building. The third feature he found was an east-west alignment of seven post holes approximately 10 ft north of the undisturbed area. He covered them over and suggested they be further analyzed in case they "relate to the Carpenter Shop" (1995:45).

By the completion of the 1996 investigations, AHS personnel had documented four major strata, one of which appears to be the HBC cultural stratum. It covered a total area of approximately 300 square ft, which meant there existed an intact HBC surface over nearly 43 percent of the AHS excavation area. The total number of artifacts recovered was 6,923. Of these 44 percent (3,021) were associated with the HBC occupation stratum. Of the 16 features identified, four were associated with HBC activities on the site. None, however, were structural in nature. Furthermore, the series of post holes first reported by Brauner (1995) were completely excavated by AHS and were found to be part of a longer series of posts and post holes associated with WWI spruce mill railroad construction, designated Feature 3 in this report.

Consistent with the findings of Caywood and Brauner, no structural evidence of the Carpenter Shop was identified during the 1996 AHS excavations. The four HBC-associated features were a ditch leading to a privy, a post hole associated with another privy/trash pit, a burn area (possibly refuse disposal) just to the east of the post hole, and a canid (probably dog) burial. It is likely all these features were outside the building footprint. Assuming the ditch functioned as a drain and was contemporary with the Carpenter Shop, it is reasonable to conclude the shop was not built over it, and also that the shop would be standing far enough away from the privies to allow entry to and exit from them. This would put the shop south of the ditch, which is consistent with Hussey's (1976:403) observation that the Vavasour map illustrated the shop standing "about fifteen or sixteen feet south of the north palisade."

Artifact concentrations in the units south and east of the ditch support the idea that carpentry activities occurred here. These are the units that lie in the east central part of the AHS excavation area. Here were found the wood chisel, plane blade, and file fragment, as well as the densest concentrations of window glass and clenched nails, and all of the square nails. Window glass and nails have often been cited as archaeological indications of the location of a building's windows and walls. In this case, the fact that carpenters on site were building window frames and sashes, and constructing doors and gates, and other architectural items confuses the picture.

Based on the evidence of features and artifacts recorded, this area is probably within what was the shop building footprint. The rest of the building most likely lay to the east. The plank found by Caywood (see Figure 6) may have been related to the shop building, but it has not been re-examined. Brauner (1996, personal communication) reported encountering wood, although in poor condition and unremarkable, in the area where it is indicated on Caywood's map. The NPS decision to site the reconstruction where it is presently proposed obviates the

need to investigate the plank further at this time, however any future investigations in that area of the Fort could raise the issue again.

Brauner was correct in his assessment that post-HBC activities had destroyed much of the HBC cultural sediment. Certainly, AHS found this situation in the western end of the reconstruction project area. Most of the features date to either the WWI spruce mill complex or Caywood's exploratory trenching and intrude into the HBC sediments. However, as already noted, 43 percent of the AHS excavation block contained intact HBC cultural surfaces, including a five-unit cluster that reflects either carpentry activities or the shop building perimeter. The conclusion reached is that Caywood was also correct in his assessment that there is no Carpenter Shop foundation to be found (ignoring for the moment the possible HBC-era plank). It is entirely possible that it indeed was the first, pre-1844, carpenter shop (see Figure 3) moved to the present location and set up on surface footings, as suggested by Caywood (1955:12).

No clear evidence indicating activities associated with the 1829-1834/1836 stockade were found. The only two pre-1836 artifacts recovered were the North West token, dated 1820, and a Claremont transfer printed ceramic sherd, produced between 1822 and 1836. Certainly, both could have been associated with activities after 1836.

Recommendations

At the close of data recovery excavations, no further cultural resources were located in the area of proposed reconstruction of the FOVA Carpenter Shop. The recommendation made by AHS at that time was to proceed with the project as proposed. The area was then machine-excavated and the concrete foundation for the reconstructed shop poured. Reconstruction of the wooden superstructure is scheduled to begin in the spring or summer of 1997.

It is also recommended that Feature 9 be avoided in future ground altering activity. Two live grenades and one practice dummy were found during the 1996 field season. It was fortunate that no one was injured. The grenade found in N35 W35 (about 5 ft south of Feature 9) was in a backfilled Caywood trench. Given the grenade's rock-accreted physical appearance and Caywood's excavation techniques, it is conceivable it originated in Feature 9, was not recognized at the time, and then redeposited in a slightly different location. The Feature 9 trench, containing two of the three grenades, was not observed to the east during Brauner's 1994 excavations. It did extend westward, however, beyond the AHS excavation area (see Figure 7) and poses a potential threat to the future safety of personnel, whether they be archaeologists or maintenance/construction workers.

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Artifact Photographs

Appendix I

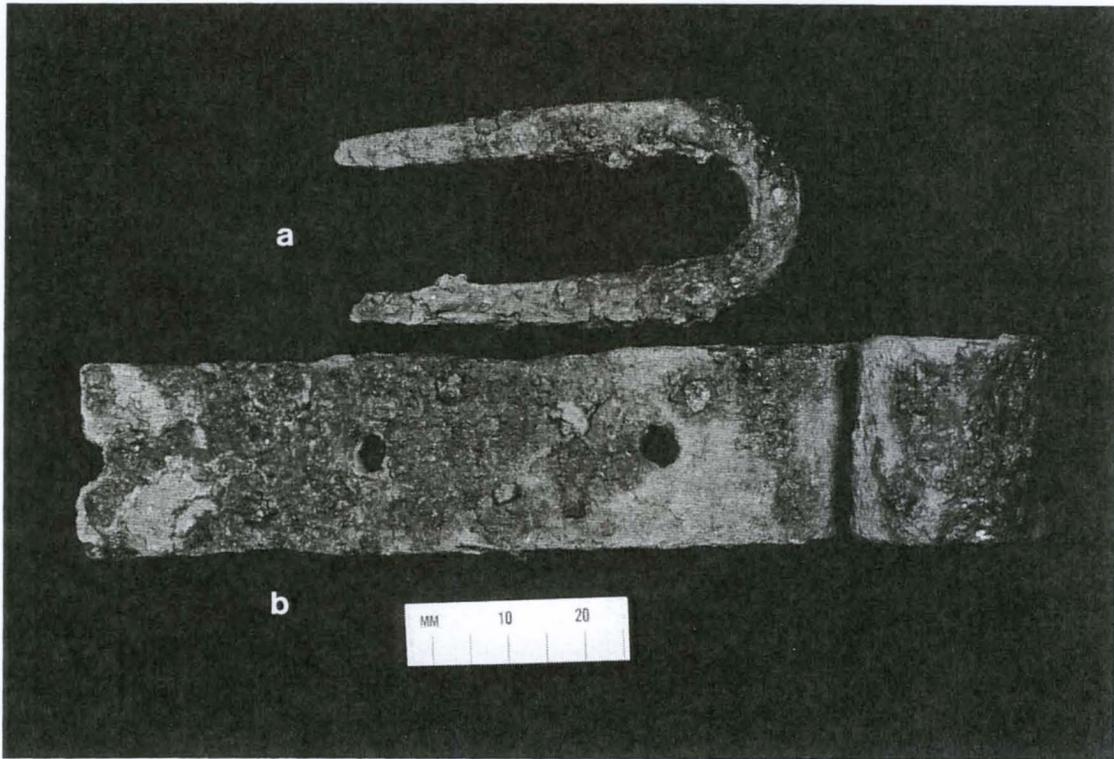


Figure A1.1. Selected artifacts: a. wrought staple AHS 2282; b. strap hinge AHS 1383.

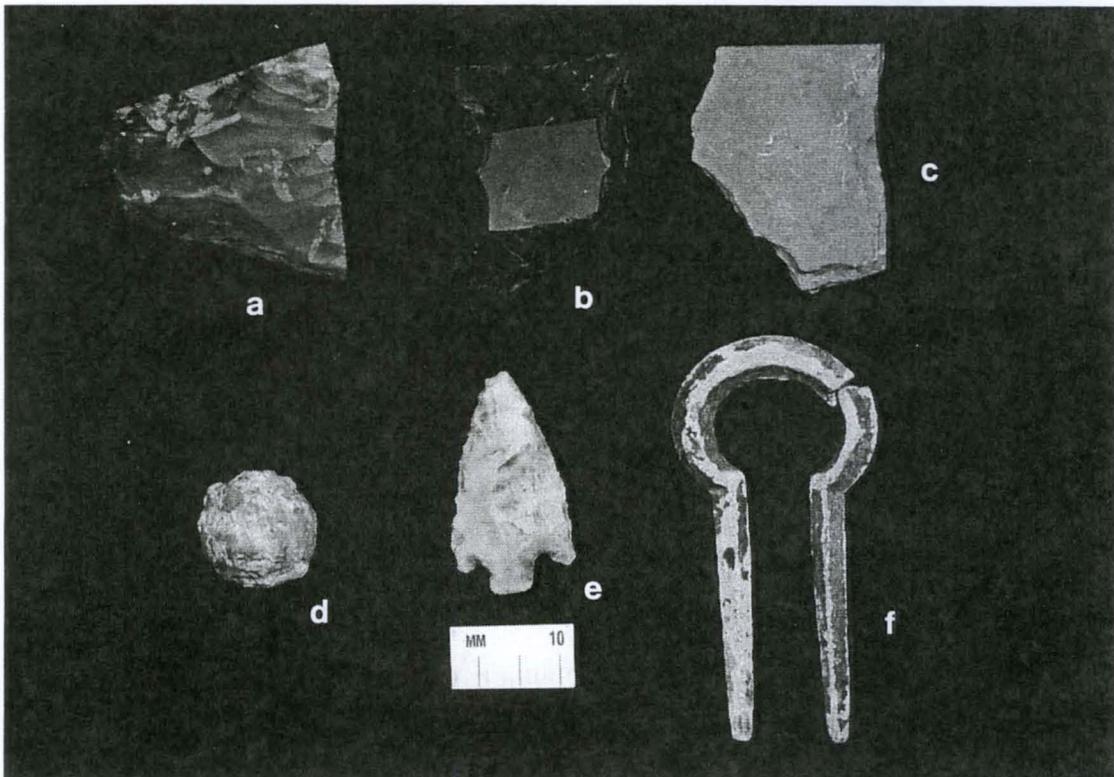


Figure A1.2. Selected artifacts: a. stone scraper AHS 161; b. gunflint AHS 1782; c. slate tablet AHS 2206; d. lead shot AHS 1589; e. projectile point AHS 1875; and f. mouth harp AHS 1388.

Figure A1.3. Selected artifact: a. axe blade AHS 511.

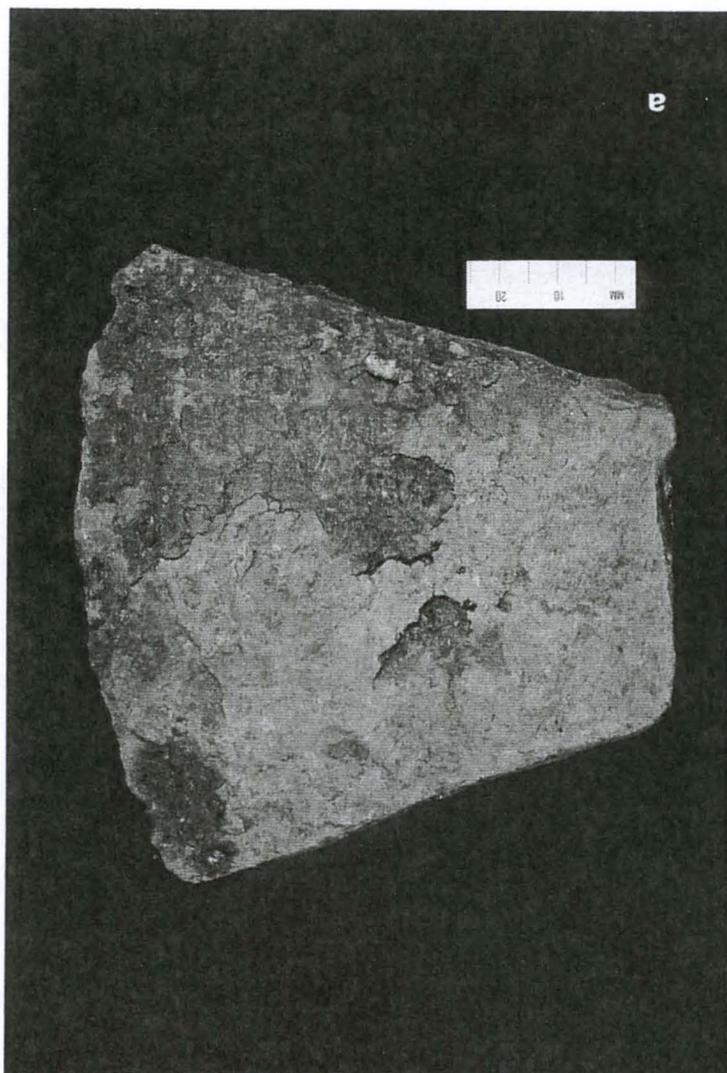




Figure A1.6. Selected artifacts: a. wedge AHS 934; b. wedge AHS 2210.

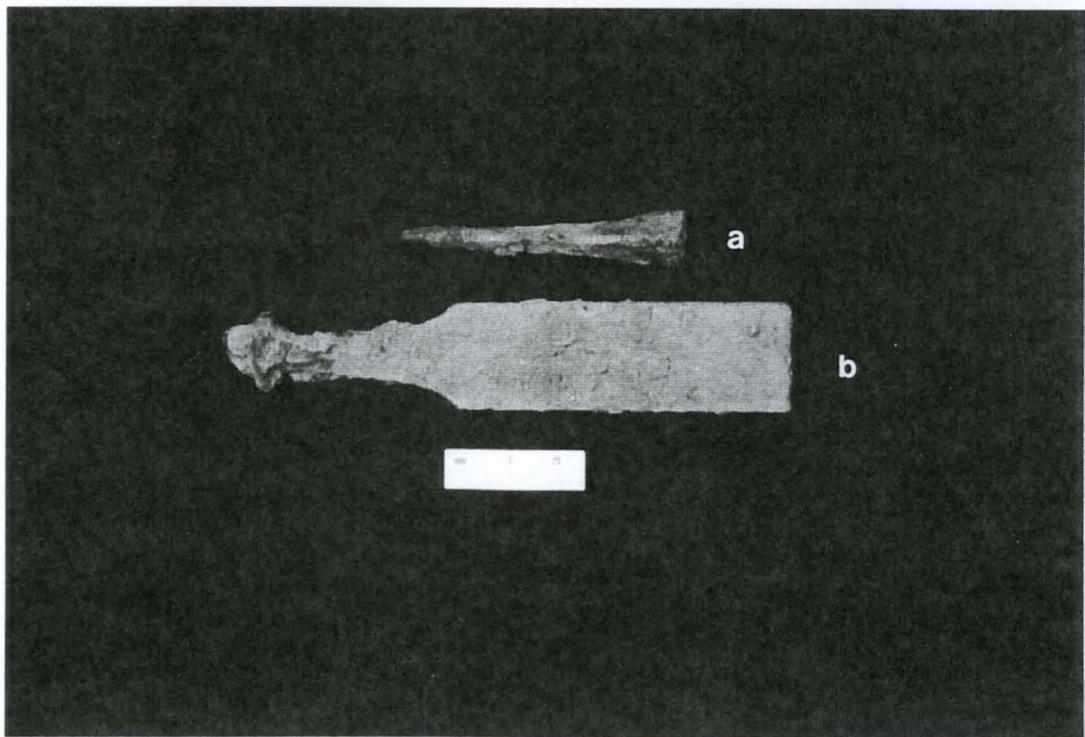
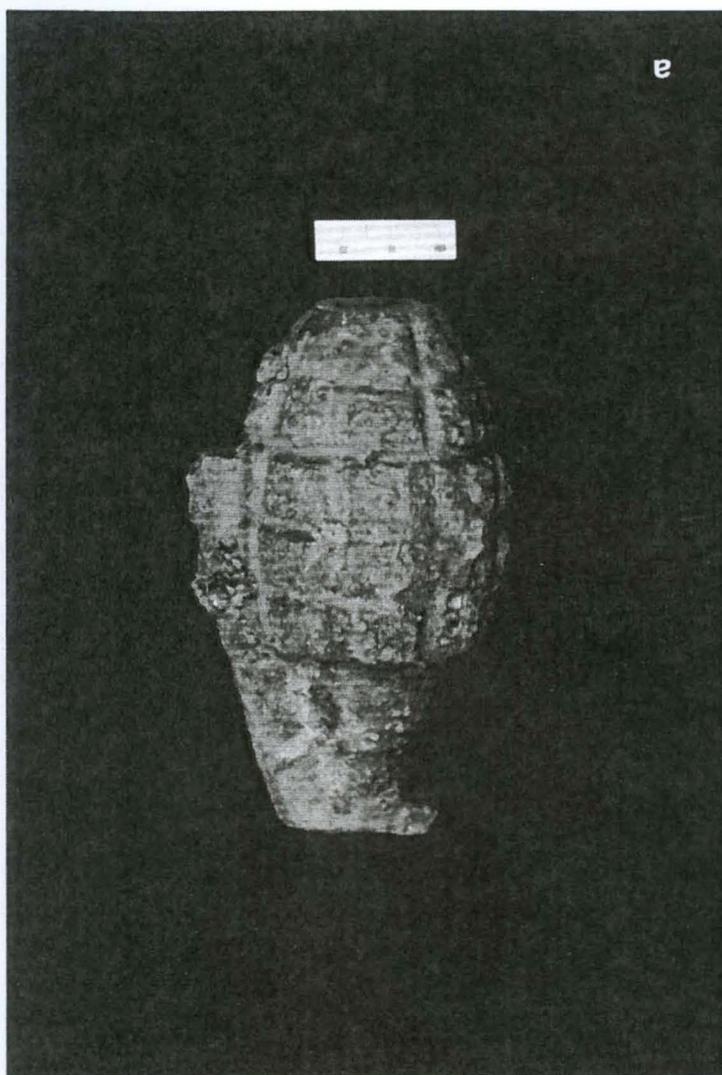


Figure A1.7. Selected artifacts: a. triangular file AHS 714; b. wood chisel AHS 1061.

Figure A1.8. Selected artifact: a. grenade AHS 2574.



Appendix 2

FOVA Carpenter Shop Artifacts (1996)

Feature designations used in field catalog:

Grenade = artifacts excavated by Unexploded Ordnance team

Backfill, B = artifacts recovered from OSU 1994 backfill

Cayw. Tpit = artifacts from Caywood test unit cross-sectioning Feature 1

POVA Carpenter Shop Artifact Catalog
45CL300

COORDINATE	FEATURE	STRATUM	DEPTH	CAT. NO.	QUANTITY	OBJECT NAME
** ---						
---	"GRENADE"	1		1713	1	WHITEWARE
---	"GRENADE"	1		1714	4	SHEET METAL, IRON
---	BACKFILL,B	1		2568	1	BEAD, HOT TUMBLED
---	BACKFILL,B	1		2569	1	BEAD, HOT TUMBLED
---	BACKFILL,B	1		2570	1	BEAD, WIRE WOUND
---	BACKFILL,B	1		2571	2	NAIL, WIRE
---	BACKFILL,B	1		2572	1	OBJECT, UNIDENTIFIED
---	9, GRENADE	1		2574	1	GRENADE, PRACTICE DUMMY
** N20 W25						
N20 W25	3, POST #9	2	2.0-2.5' BS	2557	1	SAMPLE, WOODEN POST
** N20 W30						
N20 W30	3, POST #7	2		2558	1	BOTTLE, FRAGMENT
N20 W30	3, POST #7	2		2559	1	NAIL, UNIDENTIFIED
N20 W30	3, POST #7	2		2560	1	TEXTILE, FRAGMENT
** N20 W40						
N20 W40	8	2	1.5-2.0' BS	2566	1	SAMPLE, ASPHALT
N20 W40	8	2	1.5-2.0' BS	2567	1	SAMPLE, WOODEN POST
** N20 W45						
N20 W45	"GRENADE"	1		2563	1	SAMPLE, ROCK
** N25 W20						
N25 W20		1	0.0-0.5' BS	85	1	NAIL, SQUARE
N25 W20		1	0.0-0.5' BS	86	1	SCREW, WOOD
N25 W20		1	0.0-0.5' BS	87	1	SHEET METAL, IRON
N25 W20		2	0.0-0.5' BS	88	2	BOTTLE, FRAGMENT
N25 W20		2	0.0-0.5' BS	89	2	WINDOW GLASS
N25 W20		2	0.0-0.5' BS	90	1	NAIL, SQUARE
N25 W20		2	0.0-0.5' BS	91	1	OBJECT, UNIDENTIFIED
N25 W20		2	0.0-0.5' BS	92	2	BRICK, AMERICAN
N25 W20		4	0.5-1.0' BS	93	1	TRANSFERPRINT, BLUE
N25 W20		4	0.5-1.0' BS	94	9	BOTTLE, FRAGMENT
N25 W20		4	0.5-1.0' BS	95	3	BOTTLE, FRAGMENT
N25 W20		4	0.5-1.0' BS	96	1	BOTTLE, FRAGMENT
N25 W20		4	0.5-1.0' BS	97	1	BOTTLE, FRAGMENT
N25 W20		4	0.5-1.0' BS	98	3	WINDOW GLASS
N25 W20		4	0.5-1.0' BS	99	1	NAIL, MACHINE CUT AMERICAN
N25 W20		4	0.5-1.0' BS	100	1	NAIL, SQUARE
N25 W20		4	1.0-1.5' BS	101	1	PORCELAIN, UNDECORATED
N25 W20		4	1.0-1.5' BS	102	2	TRANSFERPRINT, BLUE
N25 W20		4	1.0-1.5' BS	103	3	WHITEWARE
N25 W20		4	1.0-1.5' BS	104	2	TOBACCO PIPE
N25 W20		4	1.0-1.5' BS	105	7	BOTTLE, FRAGMENT
N25 W20		4	1.0-1.5' BS	106	3	BOTTLE, FRAGMENT
N25 W20		4	1.0-1.5' BS	107	1	BOTTLE, FRAGMENT
N25 W20		4	1.0-1.5' BS	108	1	BOTTLE, FRAGMENT

FOVA Carpenter Shop Artifact Catalog
45CL300

COORDINATE	FEATURE	STRATUM	DEPTH	CAT. NO.	QUANTITY	OBJECT NAME
N45 W40		1	2.5-3.0' BS	2166	1	WHITEWARE
N45 W40		1	2.5-3.0' BS	2167	3	TOBACCO PIPE
N45 W40		1	2.5-3.0' BS	2168	2	BOTTLE, FRAGMENT
N45 W40		1	2.5-3.0' BS	2169	1	BOTTLE, FRAGMENT
N45 W40		1	2.5-3.0' BS	2170	3	BOTTLE, FRAGMENT
N45 W40		1	2.5-3.0' BS	2171	3	WINDOW GLASS
N45 W40		1	2.5-3.0' BS	2172	4	NAIL, SQUARE
N45 W40		1	2.5-3.0' BS	2173	1	NAIL, WIRE
N45 W40		1	2.5-3.0' BS	2174	1	ELECTRICAL, WIRE
N45 W40		1	2.5-3.0' BS	2175	1	OBJECT, UNIDENTIFIED
N45 W40		1	2.5-3.0' BS	2176	1	BOLT, SQUARE HEAD
N45 W40		1	2.5-3.0' BS	2177	3	BRICK, AMERICAN
N45 W40		1	2.5-3.0' BS	2178	1	BRICK, ENGLISH
N45 W40		1	3.0-3.5' BS	2179	2	TRANSFERPRINT, BLUE
N45 W40		1	3.0-3.5' BS	2180	2	TOBACCO PIPE
N45 W40		1	3.0-3.5' BS	2181	3	WINDOW GLASS
N45 W40		1	3.0-3.5' BS	2182	1	MIRROR GLASS
N45 W40		1	3.0-3.5' BS	2183	6	BRICK, AMERICAN
N45 W40		1	3.0-3.5' BS	2184	1	OBJECT, UNIDENTIFIED
N45 W40		1	3.5-4.0' BS	2185	1	STRAP, IRON
N45 W40		1	3.5-4.0' BS	2186	2	TRANSFERPRINT, BLUE
N45 W40		1	3.5-4.0' BS	2187	2	WHITEWARE
N45 W40		1	3.5-4.0' BS	2188	3	TOBACCO PIPE
N45 W40		1	3.5-4.0' BS	2189	1	BOTTLE, FRAGMENT
N45 W40		1	3.5-4.0' BS	2190	1	WINDOW GLASS
N45 W40		1	3.5-4.0' BS	2191	1	NAIL, WROUGHT
N45 W40		1	3.5-4.0' BS	2192	1	NAIL, SQUARE
N45 W40		1	3.5-4.0' BS	2193	2	NAIL, WIRE
N45 W40		2	0.5-1.0' BS	2194	2	BOTTLE, FRAGMENT
N45 W40		2	0.5-1.0' BS	2195	1	WASHER, ROUND
N45 W40		4	0.5-1.0' BS	2196	1	BRICK, ENGLISH
N45 W40		4	0.5-1.0' BS	2197	1	TOBACCO PIPE
N45 W40		4	0.5-1.0' BS	2198	1	BOTTLE, FRAGMENT
N45 W40		4	0.5-1.0' BS	2199	1	BOTTLE, FRAGMENT
N45 W40		4	0.5-1.0' BS	2200	1	NAIL, SQUARE
N45 W40		4	1.0-1.5' BS	2201	1	TRANSFERPRINT, BLUE
N45 W40		4	1.0-1.5' BS	2202	6	TOBACCO PIPE
N45 W40		4	1.0-1.5' BS	2203	1	BOTTLE, FRAGMENT
N45 W40		4	1.0-1.5' BS	2204	2	BOTTLE, FRAGMENT
N45 W40		4	1.0-1.5' BS	2205	3	WINDOW GLASS
N45 W40		4	1.0-1.5' BS	2206	1	SLATE, TABLET
N45 W40		4	1.0-1.5' BS	2207	1	NAIL, MACHINE CUT BRITISH
N45 W40		4	1.0-1.5' BS	2208	1	NAIL, SQUARE
N45 W40		4	1.0-1.5' BS	2209	1	WIRE, IRON
N45 W40		4	1.0-1.5' BS	2210	1	TOOL, WEDGE
N45 W40		4	1.0-1.5' BS	2211	1	BRICK, ENGLISH
N45 W40		4	1.0-1.5' BS	2212	2	BRICK, AMERICAN
N45 W40	10	1	4.0-4.5' BS	2213	2	NAIL, SQUARE
N45 W40	"GRENADE"	1	0.0-1.0' BS	2214	1	AUTOMOTIVE, MIRROR
N45 W40	"GRENADE"	1	0.0-1.0' BS	2215	1	AUTOMOTIVE, PISTON RING

FOVA Carpenter Shop Artifact Catalog
45CL300

COORDINATE	FEATURE	STRATUM	DEPTH	CAT. NO.	QUANTITY	OBJECT NAME
N45 W45		2	0.5-1.0' BS	2264	1	TRANSFERPRINT, BLUE
N45 W45		2	0.5-1.0' BS	2265	3	NAIL, WIRE
N45 W45		3	0.5-1.0' BS	2266	2	BOTTLE, FRAGMENT
N45 W45		3	0.5-1.0' BS	2267	3	BOTTLE, FRAGMENT
N45 W45		3	0.5-1.0' BS	2268	1	NAIL, WIRE
N45 W45		4	1.0-1.5' BS	2269	6	TRANSFERPRINT, BLUE
N45 W45		4	1.0-1.5' BS	2270	6	WHITEWARE
N45 W45		4	1.0-1.5' BS	2271	2	EARTHENWARE, UNIDENTIFIED
N45 W45		4	1.0-1.5' BS	2272	8	TOBACCO PIPE
N45 W45		4	1.0-1.5' BS	2273	9	BOTTLE, FRAGMENT
N45 W45		4	1.0-1.5' BS	2274	2	BOTTLE, FRAGMENT
N45 W45		4	1.0-1.5' BS	2275	1	BOTTLE, FRAGMENT
N45 W45		4	1.0-1.5' BS	2276	12	BOTTLE, FRAGMENT
N45 W45		4	1.0-1.5' BS	2277	5	WINDOW GLASS
N45 W45		4	1.0-1.5' BS	2278	10	NAIL, WROUGHT
N45 W45		4	1.0-1.5' BS	2279	3	NAIL, MACHINE CUT BRITISH
N45 W45		4	1.0-1.5' BS	2280	2	NAIL, MACHINE CUT AMERICAN
N45 W45		4	1.0-1.5' BS	2281	2	NAIL, SQUARE
N45 W45		4	1.0-1.5' BS	2282	1	STAPLE, WROUGHT
N45 W45		4	1.0-1.5' BS	2283	3	STRAP, IRON
N45 W45		4	1.0-1.5' BS	2284	1	OBJECT, UNIDENTIFIED
N45 W45		4	1.0-1.5' BS	2285	1	OBJECT, UNIDENTIFIED
N45 W45		4	1.0-1.5' BS	2286	1	SAMPLE, COAL
N45 W45		4	1.0-1.5' BS	2287	1	SAMPLE, CHARCOAL
N45 W45		4	1.0-1.5' BS	2288	3	BRICK, AMERICAN
N45 W45		4	1.5-2.0' BS	2289	1	WINDOW GLASS
N45 W45		4	1.5-2.0' BS	2290	1	NAIL, MACHINE CUT AMERICAN
N45 W45	"GRENADE"	1		2291	1	OBJECT, UNIDENTIFIED
** N45 W50						
N45 W50		1	0.0-0.5' BS	2292	1	ELECTRICAL, UNIDENTIFIED
N45 W50		1	0.0-0.5' BS	2293	1	BOTTLE, FRAGMENT
N45 W50		1	0.0-0.5' BS	2294	1	BOTTLE, FRAGMENT
N45 W50		1	0.0-0.5' BS	2295	2	BOTTLE, FRAGMENT
N45 W50		1	0.0-0.5' BS	2296	2	BOTTLE, FRAGMENT
N45 W50		1	0.0-0.5' BS	2297	5	BOTTLE, FRAGMENT
N45 W50		1	0.0-0.5' BS	2298	1	MIRROR GLASS
N45 W50		1	0.0-0.5' BS	2299	1	NAIL, MACHINE CUT AMERICAN
N45 W50		1	0.0-0.5' BS	2300	8	NAIL, WIRE
N45 W50		1	0.0-0.5' BS	2301	1	BOLT, CARRIAGE
N45 W50		1	0.0-0.5' BS	2302	1	COTTER PIN
N45 W50		1	0.0-0.5' BS	2303	1	WASHER, LOCK
N45 W50		1	0.0-0.5' BS	2304	1	OBJECT, UNIDENTIFIED
N45 W50		1	0.5-1.0' BS	2305	2	TRANSFERPRINT, BLUE
N45 W50		1	0.5-1.0' BS	2306	1	TOBACCO PIPE
N45 W50		1	0.5-1.0' BS	2307	1	BOTTLE, FRAGMENT
N45 W50		1	0.5-1.0' BS	2308	1	BOTTLE, FRAGMENT
N45 W50		1	0.5-1.0' BS	2309	6	WINDOW GLASS
N45 W50		1	0.5-1.0' BS	2310	1	MIRROR GLASS
N45 W50		1	0.5-1.0' BS	2311	1	NAIL, WROUGHT

FOVA Carpenter Shop Artifact Catalog
45CL300

COORDINATE	FEATURE	STRATUM	DEPTH	CAT. NO.	QUANTITY	OBJECT NAME
N45 W50		1	0.5-1.0' BS	2312	2	NAIL, WIRE
N45 W50		1	0.5-1.0' BS	2313	1	BOLT, CARRIAGE
N45 W50		1	0.5-1.0' BS	2314	1	FURNITURE, BED SPRING
N45 W50		1	0.5-1.0' BS	2315	1	SAMPLE, WOOD
N45 W50		1	1.0-1.5' BS	2316	2	TRANSFERPRINT, BLUE
N45 W50		1	1.0-1.5' BS	2317	2	WHITEWARE
N45 W50		1	1.0-1.5' BS	2318	2	TOBACCO PIPE
N45 W50		1	1.0-1.5' BS	2319	4	BOTTLE, FRAGMENT
N45 W50		1	1.0-1.5' BS	2320	2	BOTTLE, FRAGMENT
N45 W50		1	1.0-1.5' BS	2321	4	WINDOW GLASS
N45 W50		1	1.0-1.5' BS	2322	2	NAIL, WROUGHT
N45 W50		1	1.0-1.5' BS	2323	2	NAIL, MACHINE CUT BRITISH
N45 W50		1	1.5-2.0' BS	2324	1	TRANSFERPRINT, BLUE
N45 W50		1	1.5-2.0' BS	2325	2	TOBACCO PIPE
N45 W50		1	1.5-2.0' BS	2326	1	BOTTLE, FRAGMENT
N45 W50		1	1.5-2.0' BS	2327	1	BOTTLE, FRAGMENT
N45 W50		1	1.5-2.0' BS	2328	1	BOTTLE, FRAGMENT
N45 W50		1	1.5-2.0' BS	2329	10	WINDOW GLASS
N45 W50		1	1.5-2.0' BS	2330	2	NAIL, WROUGHT
N45 W50		1	1.5-2.0' BS	2331	1	NAIL, WROUGHT
N45 W50		1	1.5-2.0' BS	2332	1	NAIL, MACHINE CUT BRITISH
N45 W50		1	1.5-2.0' BS	2333	1	NAIL, MACHINE CUT AMERICAN
N45 W50		1	1.5-2.0' BS	2334	2	NAIL, WIRE
N45 W50		1	1.5-2.0' BS	2335	1	SLATE, TABLET
N45 W50		1	1.5-2.0' BS	2336	1	SAMPLE, CLINKER
N45 W50		3	0.5-1.0' BS	2337	1	BOTTLE, FRAGMENT
N45 W50		3	0.5-1.0' BS	2338	1	BOTTLE, FRAGMENT
N45 W50		3	0.5-1.0' BS	2339	1	OBJECT, UNIDENTIFIED
N45 W50		4	1.0-1.5' BS	2340	1	TRANSFERPRINT, BLUE
N45 W50		4	1.0-1.5' BS	2341	1	TOBACCO PIPE
N45 W50		4	1.0-1.5' BS	2342	1	BEAD, NOT TUMBLED
N45 W50		4	1.0-1.5' BS	2343	8	BOTTLE, FRAGMENT
N45 W50		4	1.0-1.5' BS	2344	5	BOTTLE, FRAGMENT
N45 W50		4	1.0-1.5' BS	2345	1	BOTTLE, FRAGMENT
N45 W50		4	1.0-1.5' BS	2346	3	WINDOW GLASS
N45 W50		4	1.0-1.5' BS	2347	4	NAIL, WROUGHT
N45 W50		4	1.0-1.5' BS	2348	1	NAIL, SQUARE
N45 W50		4	1.0-1.5' BS	2349	1	STRAP, IRON
N45 W50		4	1.0-1.5' BS	2350	3	OBJECT, UNIDENTIFIED
N45 W50		4	1.0-1.5' BS	2351	1	OBJECT, UNIDENTIFIED
** N45 W55						
N45 W55		1	0.0-0.5' BS	2352	2	TRANSFERPRINT, BLUE
N45 W55		1	0.0-0.5' BS	2353	3	WHITEWARE
N45 W55		1	0.0-0.5' BS	2354	1	PORCELAIN, POLYCHROME
N45 W55		1	0.0-0.5' BS	2355	1	BANDEDWARE
N45 W55		1	0.0-0.5' BS	2356	1	TOBACCO PIPE
N45 W55		1	0.0-0.5' BS	2357	2	FLOWER POT
N45 W55		1	0.0-0.5' BS	2358	1	ELECTRICAL, INSULATOR
N45 W55		1	0.0-0.5' BS	2359	3	BOTTLE, FRAGMENT

