Table 7 shows the placement of the Williams Site in the classification system with respect to cryptocrystalline and cortex frequencies. The Williams Site falls in the grouping of sites with low cortex percentages and medium cryptocrystalline percentages. This placement reflects the availability of both primary cryptocrystalline materials and secondary cobbles in the site's vicinity. Similar patterns of lithic resource use were noted at sites in the Old Baltimore Pike survey area (Catts et al. 1989a:255-257).

RESULTS OF FIELD INVESTIGATIONS

INTRODUCTION

The data recovery excavations at 7NC-D-130 were conducted in three separate steps: 1) the plowzone sampling, using randomly excavated test units; 2) mechanical stripping of the remainder of the plowzone from the site area, and 3) the identification and excavation of subsurface features at the site. Each of these steps built on the outcome of the preceding ones, and the data recovery test plan and excavation procedures, particularly after the completion of the plowzone sampling scheme, were continuously modified according to the results of that scheme. All totaled, over 200 cultural and non-cultural features were identified at the Williams Site. Included in this number were the remains of two dwellings (Structures I and II), a brick-lined well (Feature 2), an outbuilding or shed (Feature 1), eight apparent privy pits, and several major fencelines. Each of the parts of the data recovery program utilized at the Williams Site will be presented below, beginning with the

plowzone sampling, the mechanical plowzone removal, and a description of the major feature groups.

PLOWZONE SAMPLING

The data recovery program for 7NC-D-130 called for the examination of diachronic patterns of spatial utilization and discard at the site. To accomplish this task, it was necessary to investigate large areas of the site. Therefore, the data recovery excavations began with the superimposition of a 100' x 100' grid over that portion of the Williams Site which the Phase I and II testing indicated had the highest artifact densities and contained the remains of the stone foundation. The grid was further divided into 10' x 10' squares, with the site datum point located at S0W0, the same datum point used by Lothrop et al. (1987) for the Phase II testing. Recently, historic archaeologists have begun to recognize the importance, for site interpretation and the identification of intra-site patterning, of adequate and systematic plowzone sampling and surface collections (Lewarch and O'Brien 1981; Moir and Jurney 1987; Riordan 1988; Pogue 1988; Shaffer et al. 1988; Hoseth et al. 1990). In order to sample the plowzone at the Williams Site, 5' x 5' test units were randomly selected from each of the larger 10' x 10' units and were excavated to the base of the plowzone. This sampling scheme consisted of a 25 percent stratified, systematic, unaligned sample (Plog 1976:136-144).

A total of 91 5' x 5' test units, or 2,275 square feet of area, were excavated in this manner (Figure 19, Plate 2), providing a plowzone sample which could be used in artifact

FIGURE 19

Plowzone Testing Map

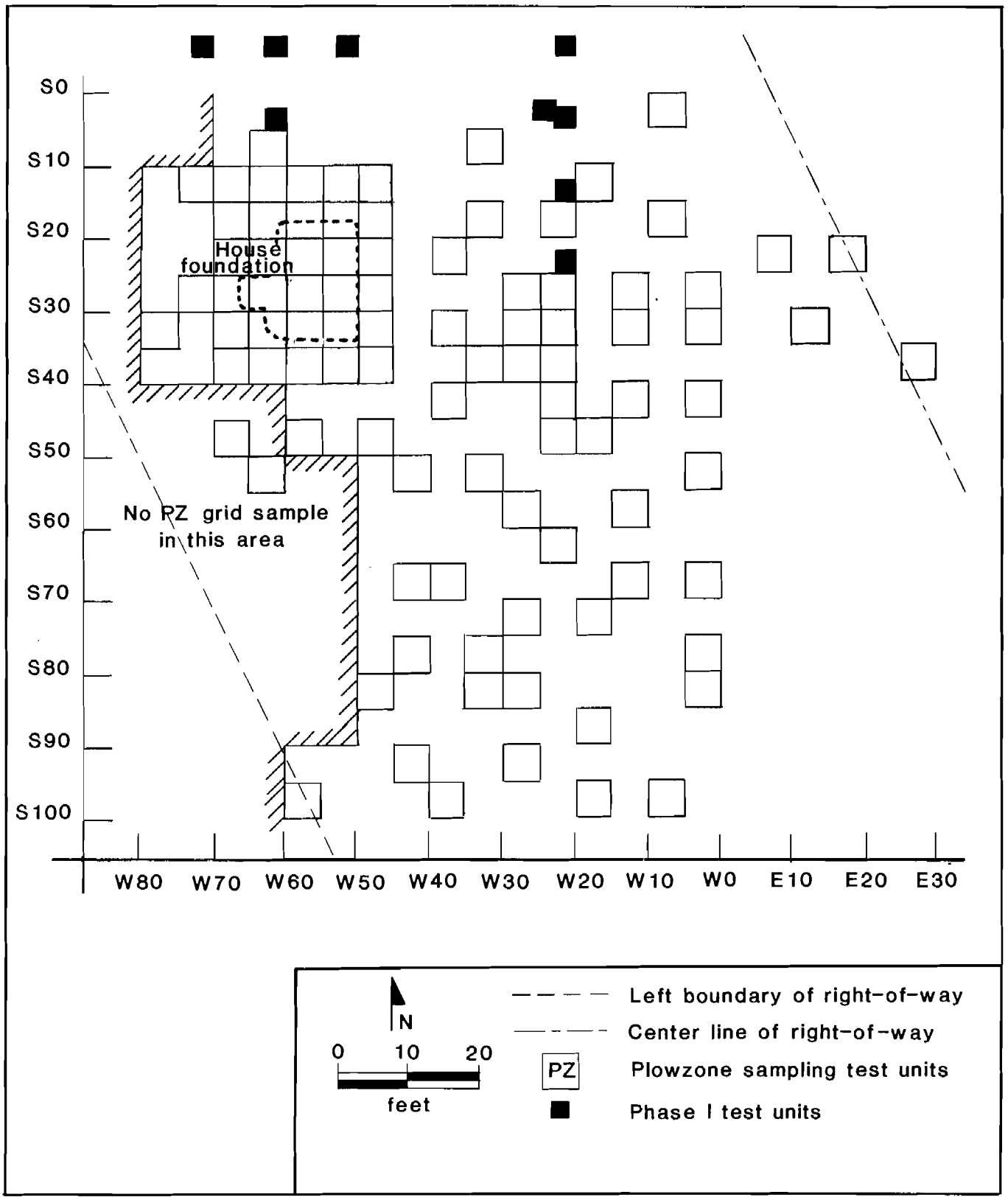


PLATE 2

Plowzone Sampling

distribution and soil chemical analyses. For the majority of the site, the plowzone consisted of a medium brown sandy loam, and the subsoil varied from an orange sandy clay to an orange sand with pebbles and gravels. This subsoil was not present in the area examined by seven test units on the eastern side of the site, where the subsoil was a light brown silt loam with more evidence of organics present. This subsoil was apparent in Test Units S20W5, S30W0, S30W10, S35W0, S35W10, and S44W0. It was also evident that this same organic subsoil lens extended beyond the eastern limits of the site grid, so four test units were excavated to the east of the 0 line in order to test for the presence of the soil. It was encountered in all of the Test Units, S25E10, S25E20, S35E15, and S40E30. Two preliminary interpretations of this organic subsoil were considered: there was a slight swale along the eastern boundary of the site, suggesting that the processes of erosion and deposition had over time served to partially fill in this swale, or that it could represent a livestock area or some other activity area associated with the Williams Site.

The total number of excavated test units also included thirty-two 5' x 5' units that were dug from the areas around the largest features encountered, Features 12 and 17, so that these features would not be impacted by the mechanical stripping of the plowzone (Plates 3 and 4). Of the potential 10,000 square feet of area that was slated to be sampled by the plowzone testing, 6500 square feet were examined. The remaining 3500 square feet were located along the western side of the site, from roughly the W60 transect and beyond, and were not sampled

PLATE 3

Aerial View of Feature 12 – Structure I, After Plowzone Was Removed

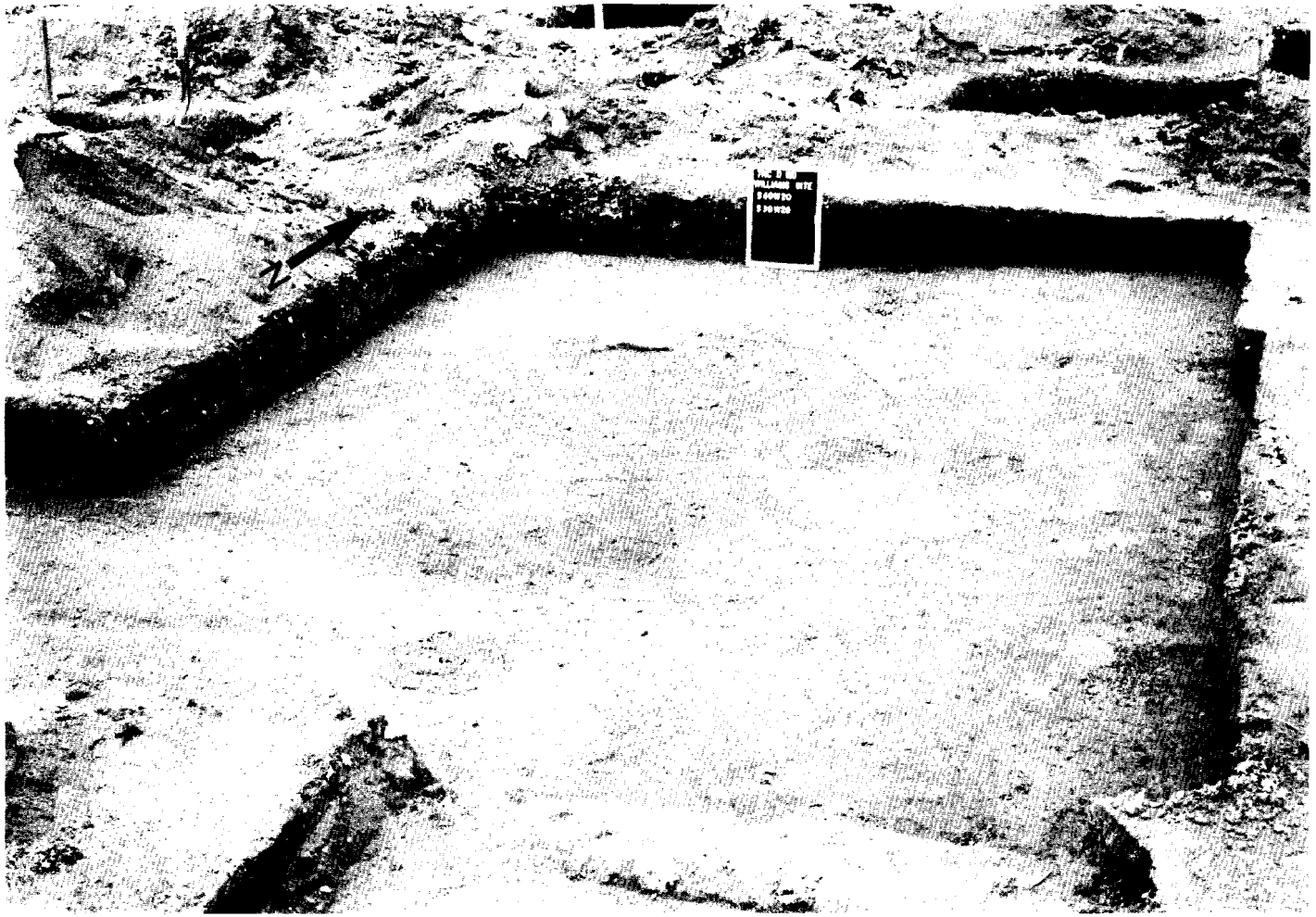


PLATE 4

Aerial View of Feature 17 – Structure II, After Plowzone Was Removed

due to the topography of the site, which in this area sloped sharply westward towards a small stream. These units were subjected to controlled surface collections, however, as were all of the 10' x 10' units which were sampled.

Following the excavation of the plowzone test units, a DelDOT grade-all was employed to carefully remove the remaining plowzone from the site area. The grade-all procedure was monitored by UDCAR archaeologists, and any features were identified and marked. The use of a grade-all for this stripping procedure instead of a backhoe resulted in better control of the site investigation and feature location, and did less site damage than a backhoe (for the use of a backhoe, see Hoseth et al. 1990).

FEATURE EXCAVATION

With the Phase I and II investigations and the data recovery excavations of the Williams Site combined, over 200 features have been identified and excavated (Figure 20). The examination of these features and the results of the testing suggests that there were two chronologically separate and distinct structures present at the site. The archaeological remains of both of these buildings were comprised of several distinct features, and these will be discussed below under the headings of Structure I and Structure II. Other identified features included a dry-laid brick-lined well (Feature 2), two outbuildings, eight possible privy pits (Features 46, 97, 98, 100, 101, 111, 112, and 113), and several major fencelines, identified by both postholes and postmolds. Besides these

FIGURE 20

Williams Site Feature Location Map

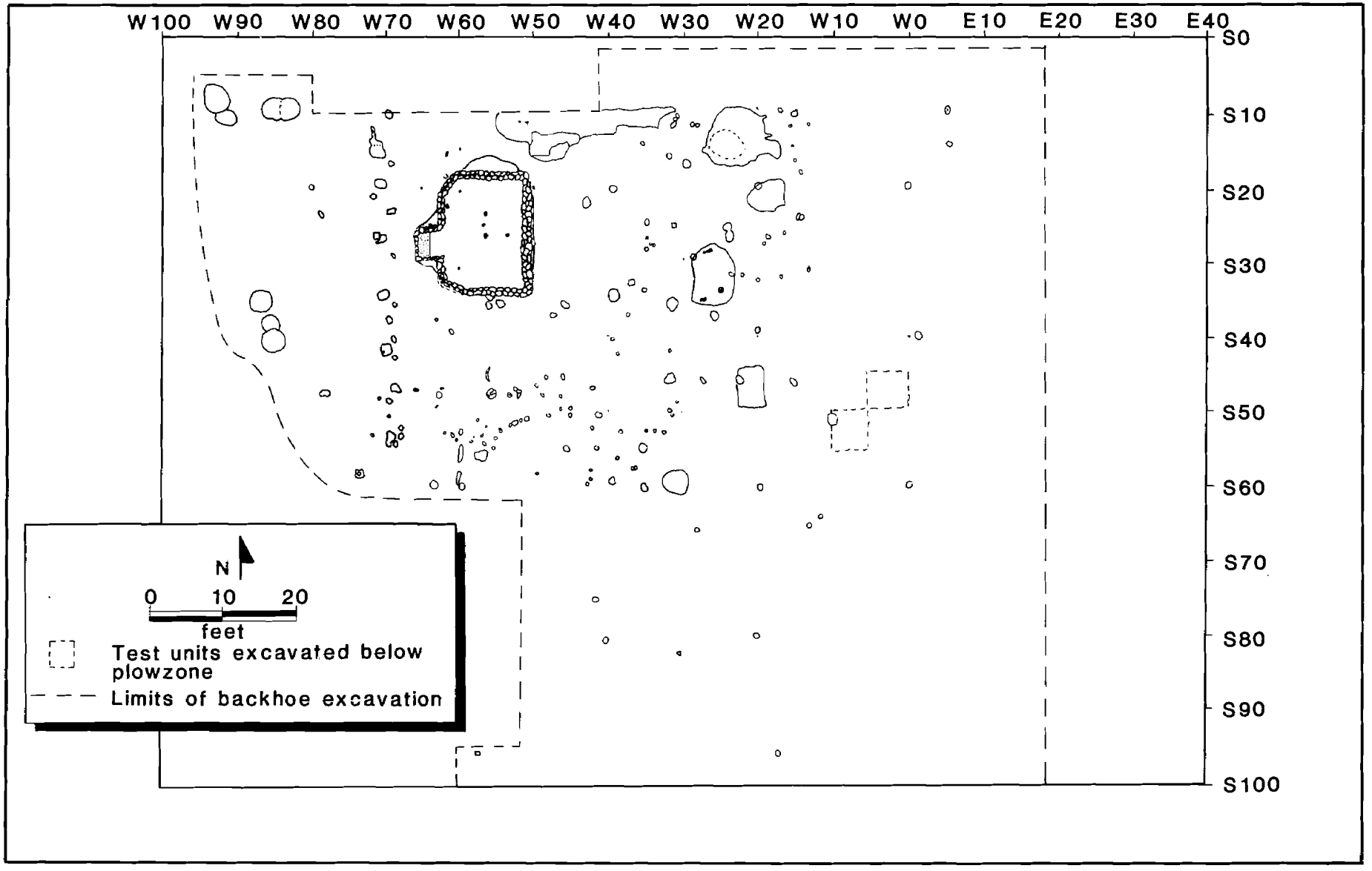


FIGURE 20B

Williams Site Feature Location Map (Cultural Features)

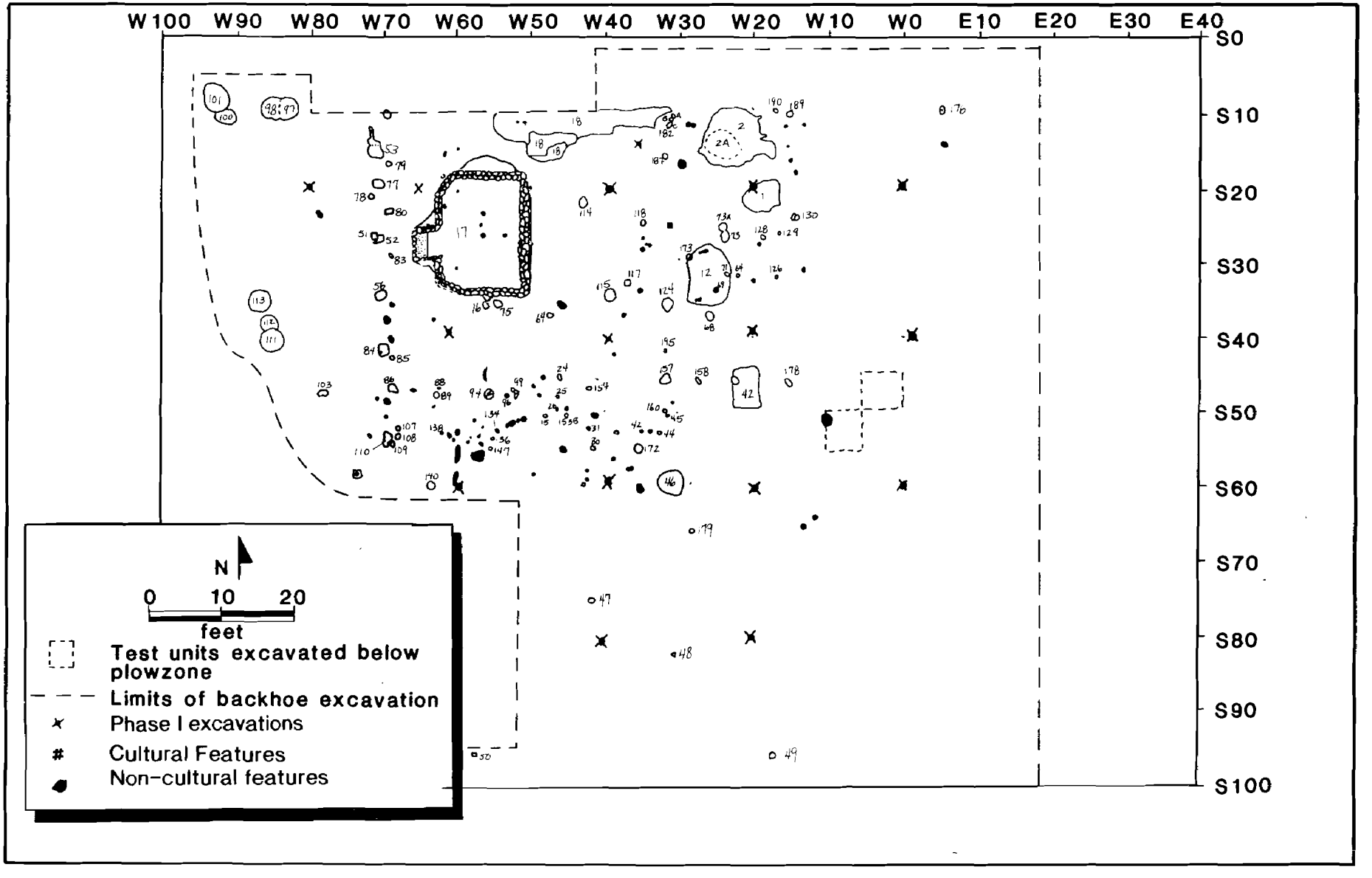
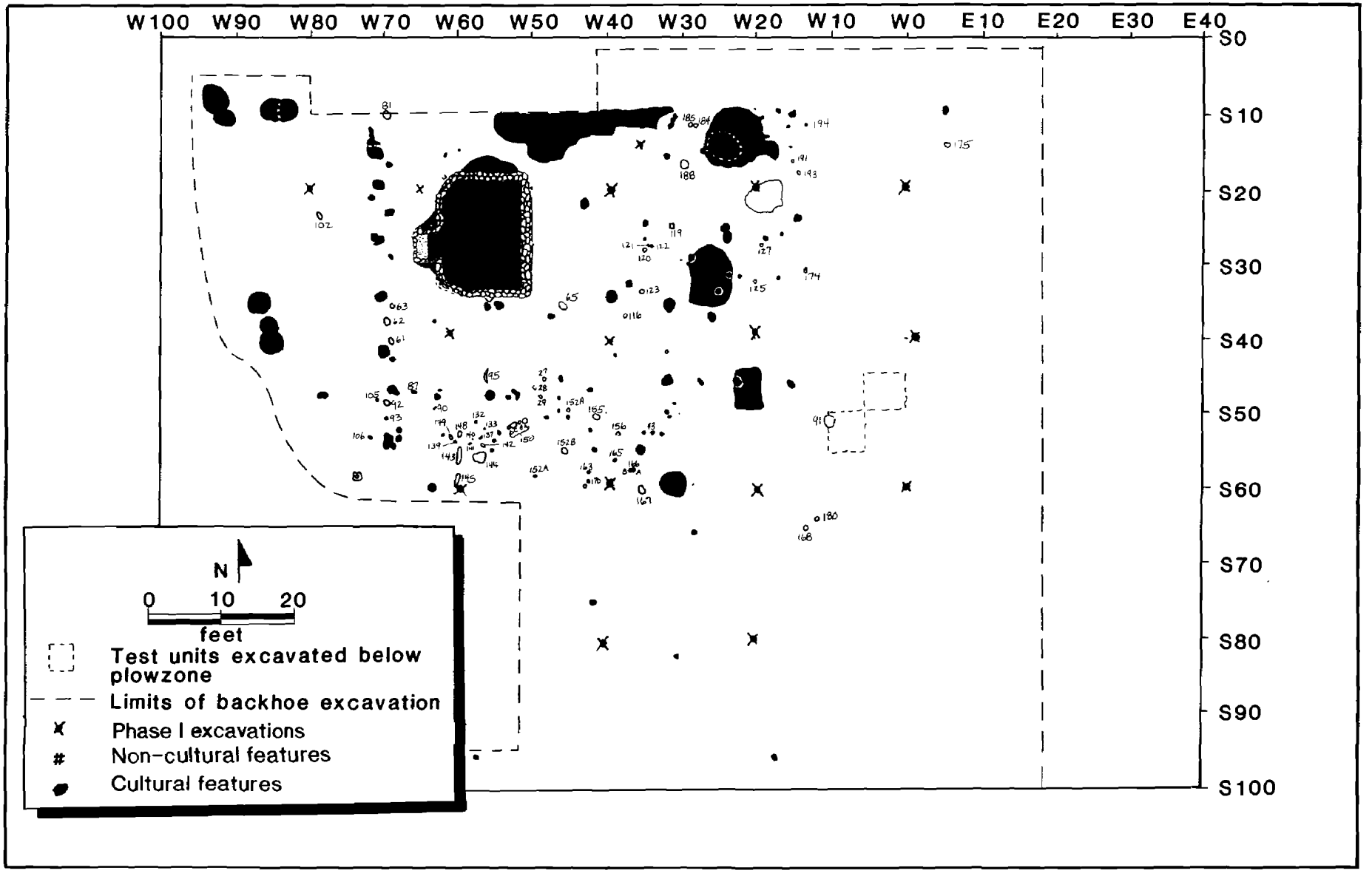


FIGURE 20C

Williams Site Feature Location Map (Non-Cultural Features)



features, non-cultural features, in particular evidence of tree roots, were located. The groups listed above comprised the major archaeological evidence present at the Williams Site and will be discussed in detail below.

Upon initial examination, the majority of the features identified looked to be fence posts or postholes of some type. Many of these features were irregular, circular, oblong, or oval stains of dark brown sandy loam feature fill that upon excavation were found to be highly irregular in shape, depth, and size. The majority of these features are interpreted as non-cultural root stains, deep plowscars, or rodent burrows. In general, meandering pockets of feature fill and profiles of deep, narrow, and ill-defined subsoil intrusions are thought to be indicative of non-cultural disturbances at the site (Features 102, 120, 121, 122, 195, 38, 22, 182, 184, 185).

Structure I

The archaeological evidence for the remains of Structure I consisted of four features: Features 12, 42, and 124, and 173 (Figures 20 and 21). Feature 12 was first identified during the plowzone excavations (Plate 3). It was found to be located at a depth of 2.12' below datum. The feature was a partially stone-lined root cellar, approximately 3.5' wide by 7.2' long (Figure 22). The cellar ranged from 1.7' to about 2.0' in depth, with a slight "dirt step" located in the southern end of the feature. The dry-laid stone lining was present on the north and south walls, and had partially collapsed into the cellar interior from the east wall. There was no evidence for a stone lining on the west wall, and this side had probably been wood-lined, since

FIGURE 21

Structure I – Associated Features and Outline

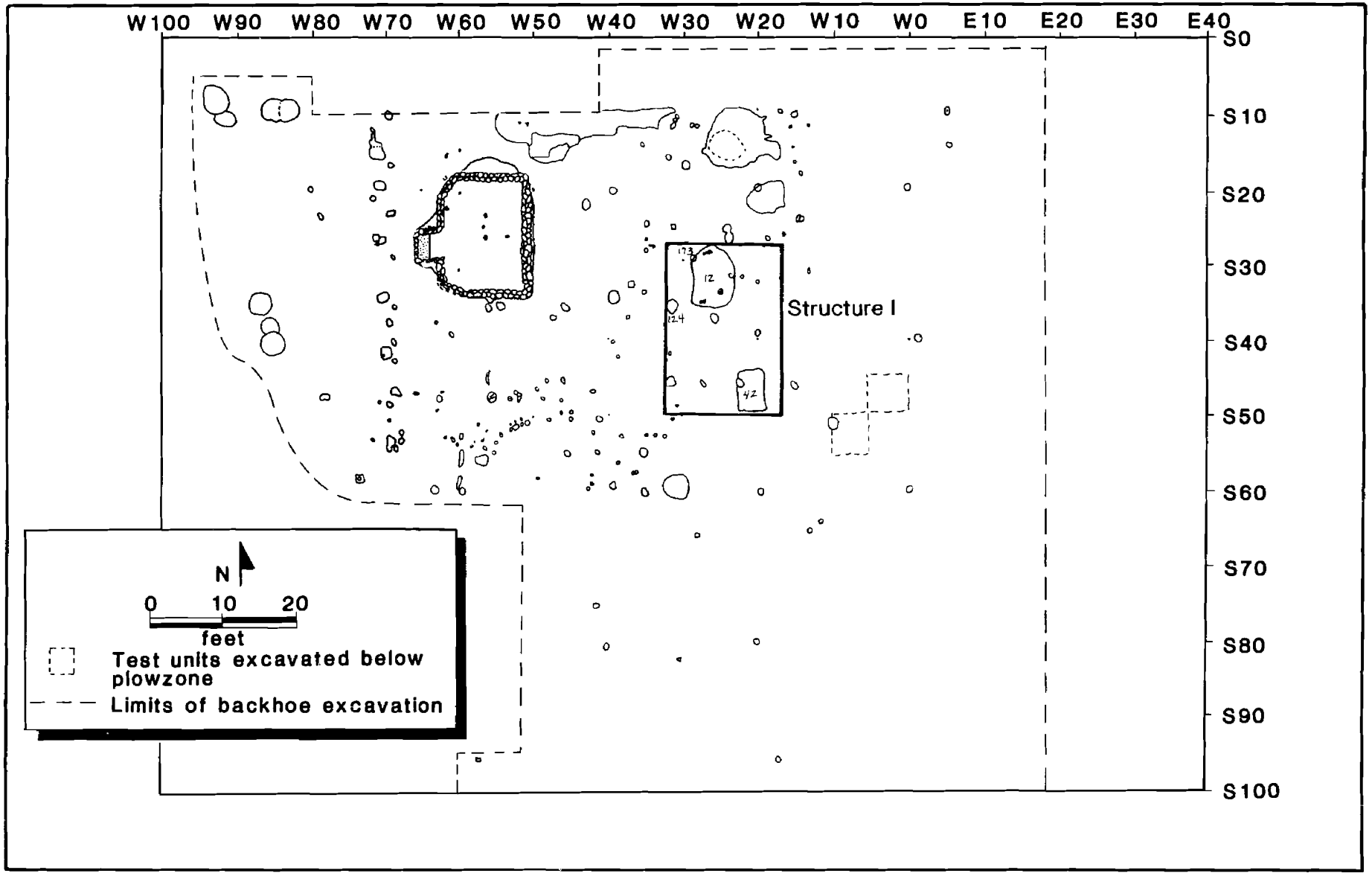


FIGURE 22

Feature 12 (Root Cellar) - Plan View

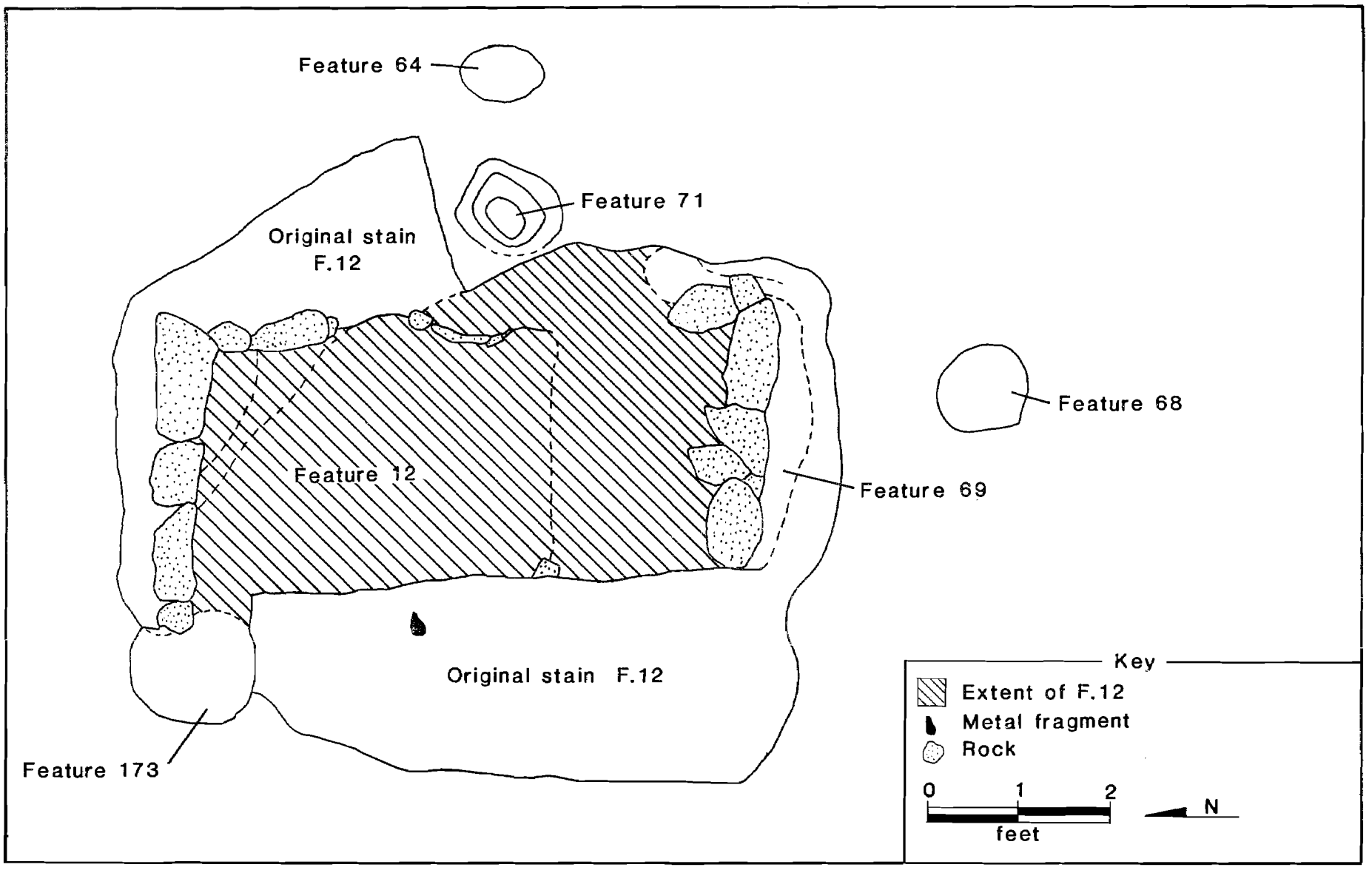
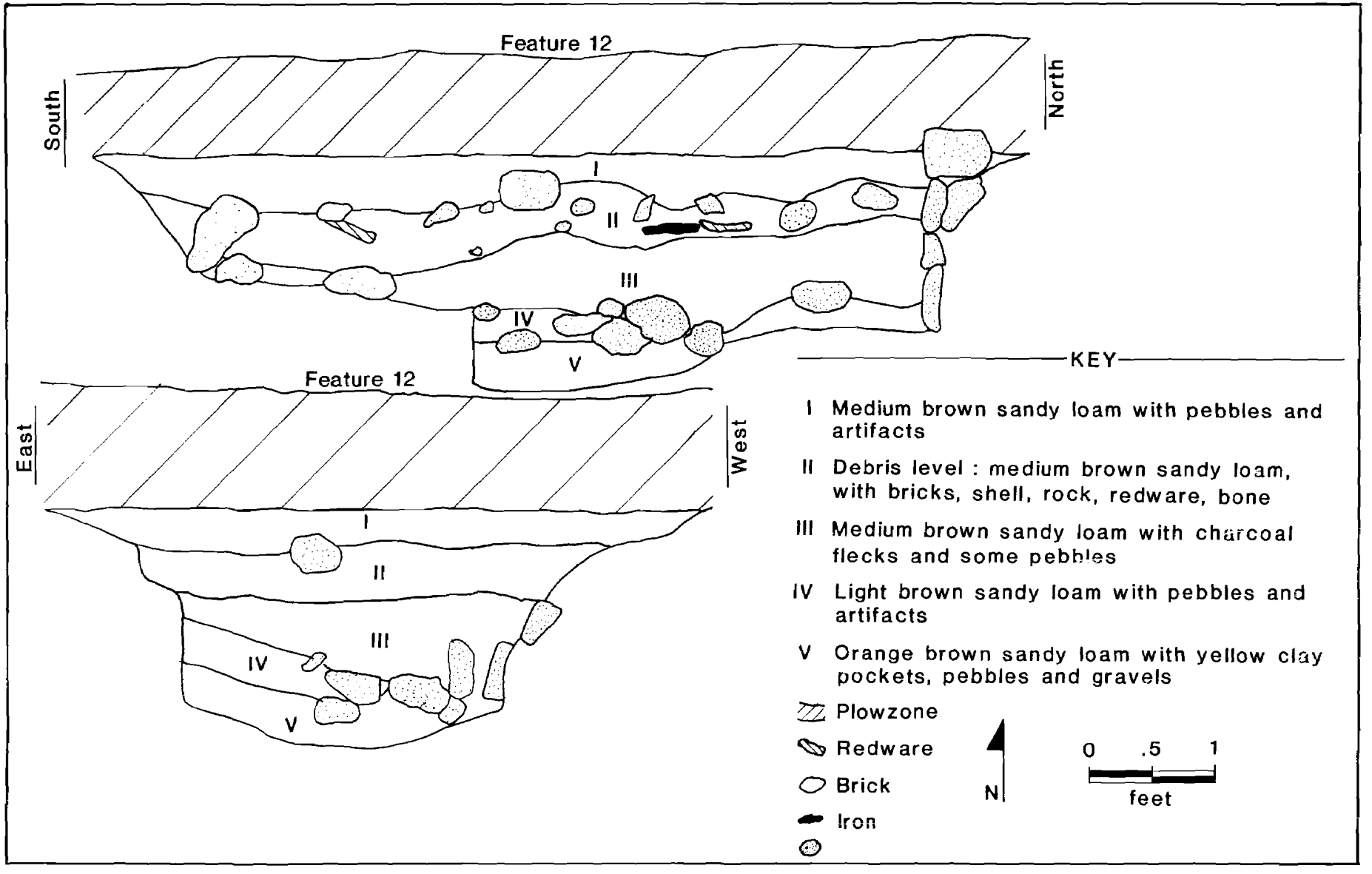


FIGURE 23

Feature 12 (Root Cellar) - Cross-section



soil slope wash and deposition from this wall were not apparent in the feature fill. The feature fill consisted of a light to medium brown sandy loam with numerous historic artifacts and pebbles and gravels intermixed. Although there were distinct soil levels distinguishable in the feature, cross-mending within the excavation levels from Feature 12 indicates that the soil deposition which filled the root cellar probably occurred all at one time (Figure 23). Feature 12 was intruded upon by several later fence posts, including Features 68, 69, and 71. Historic artifacts, including creamwares, pearlwares, redwares, whiteware, yellowware, bone, bottle glass, brick fragments, nails, and buttons, were recovered from the feature. A total of 175 minimum ceramic vessels were identified in the fill of Feature 12, and a mean ceramic date of 1821 was obtained for Feature 12. The incomplete nature of the ceramic vessel assemblage -- many vessels being represented by only one sherd -- indicates that this feature was filled with secondary refuse; i.e., the vessels had already been broken and discarded from the site (Wise 1976:265-294).

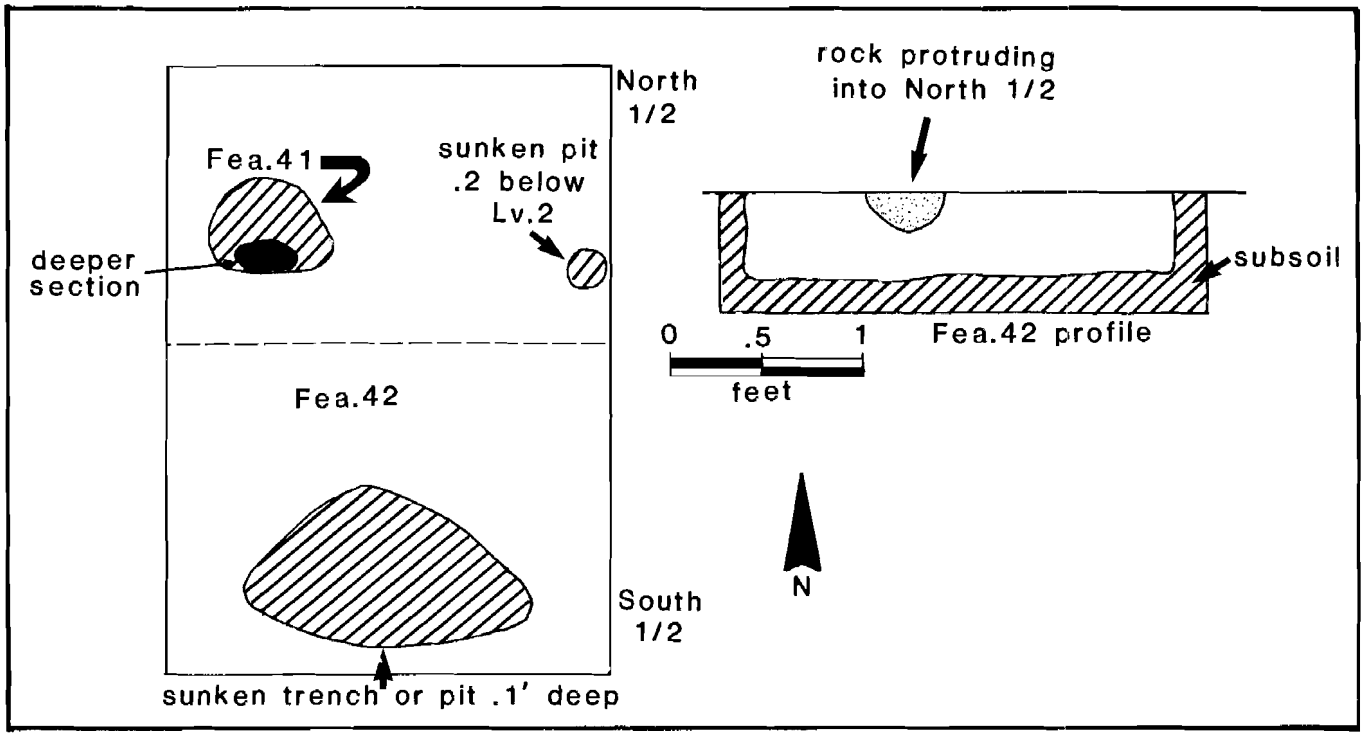
Feature 42 also represents the remains of a root cellar. This feature was located at S46.5W21, approximately nine feet south and slightly east of the southern edge of Feature 12 (Figure 24; Plate 5). Feature 42 was an unlined, shallow, rectangular hole approximately 3.5' x 5.0' in size. It was encountered at 1.58' below datum, and was extended in depth only .8' below the plowzone. There was no evidence of any type of lining for Feature 42, but it is probable that the feature had contained a wooden floor and wooden sides. A very shallow

PLATE 5

Feature 42, Plan View

FIGURE 24

Feature 42 (Root Cellar) - Plan View and Cross-section

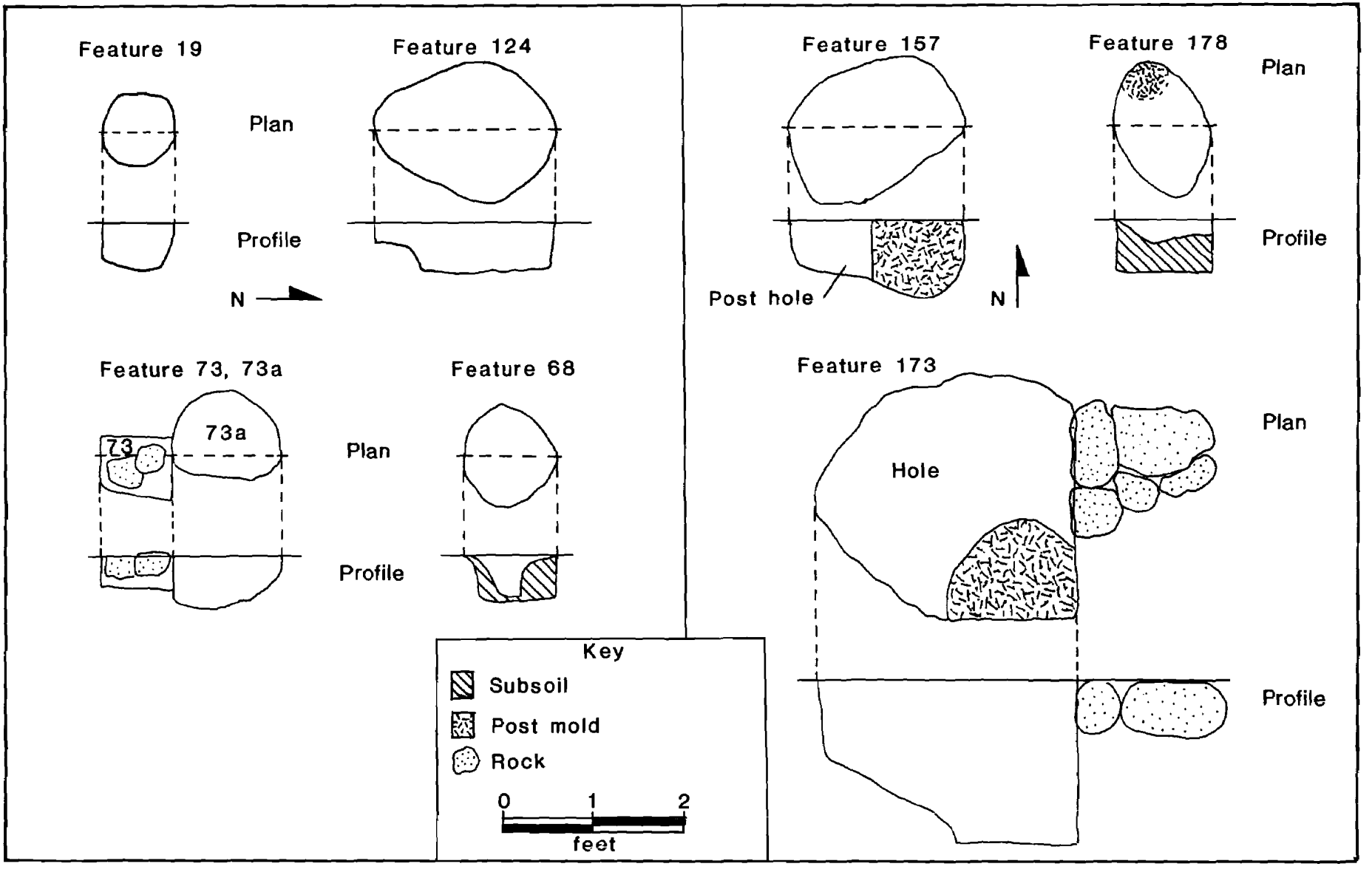


depression was seen in the southern end of the feature, and perhaps functioned as a drain of some sort. There was no indication of internal soil stratigraphy in Feature 42, suggesting that the hole, like Feature 12, was filled in at one moment in time. The soil fill in the feature was similar to that seen in Feature 12, and the recovered artifacts, although fewer in number in comparison, were of the same general types, such as creamware, pearlware, redware, nails, bottle glass and brick fragments. Like Feature 12, this cellar hole was probably filled with secondary refuse deposits (Wise 1976). The feature was also intruded upon by Feature 41, a later fence post (see fenceline discussion below).

Feature 124 (Figure 25) was an oval-shaped posthole located approximately 2.5' west of the southern edge of Feature 12. It

FIGURE 25

Plan View and Cross-section of Features 19, 124, 157, 178, 73 and 73a, 68, and 173

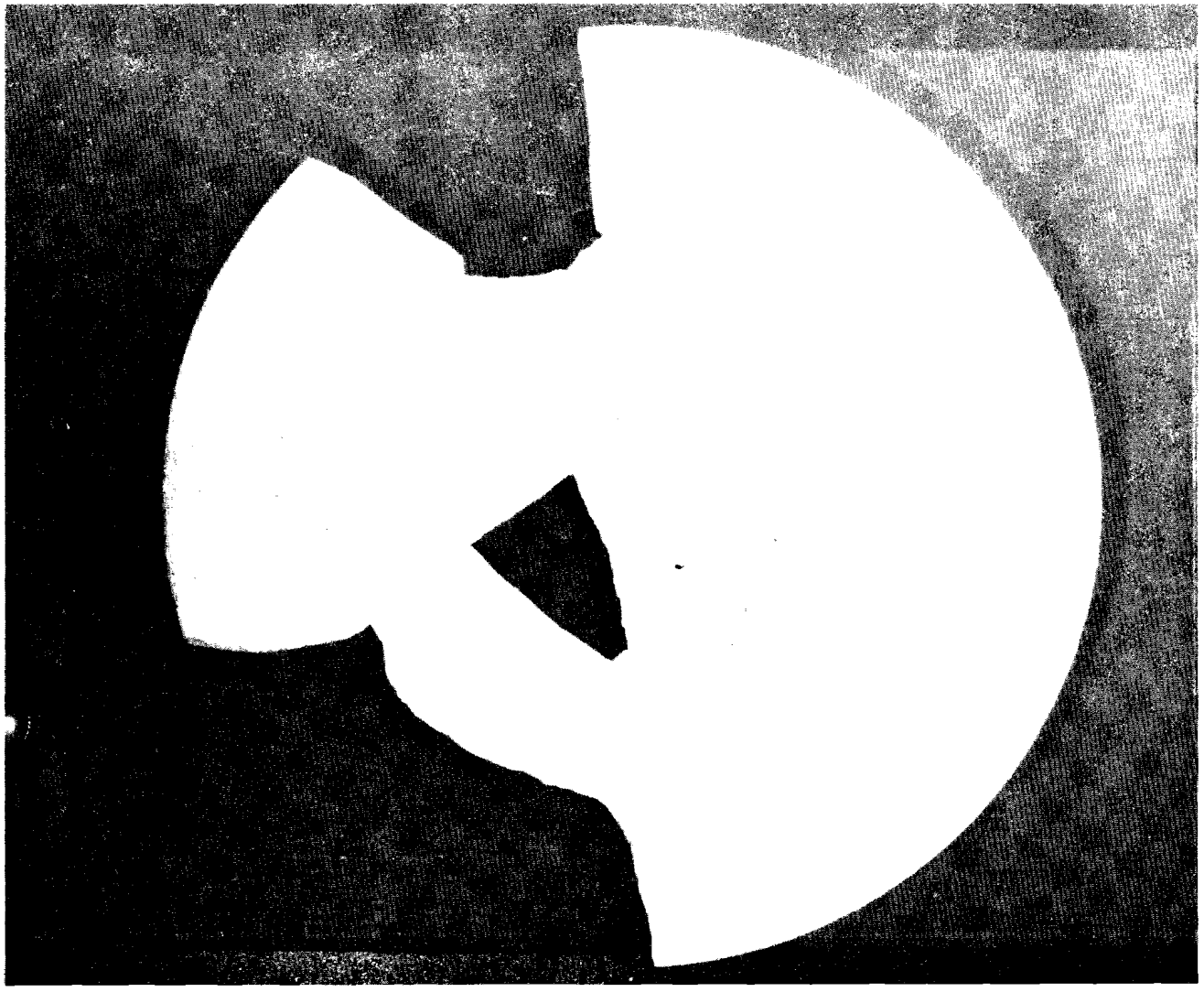


was large and shallow, measuring about 2' x 1.5' and was about .7' deep. It contained few artifacts, including three nail fragments, two jasper flakes, and an earthenware sherd. Though the profile of the feature suggests that a post may have been present, no evidence of a postmold was found. This feature is interpreted as the remains of a wooden block or pier used to support the west wall of Structure I, and may have been a replacement pier or used for shoring up the exterior wall.

Feature 173, the remains of a large post, was located immediately to the west of the northwest corner of Feature 12 (Figure 25). This circular feature was deep and large, extending 0.97' below the base of the plowzone (from 2.13' to 3.1' below datum), and was nearly 2.8' in width. A 1.2' round square-bottomed postmold was apparent in the southeastern quarter of the feature. A large stone was observed to be located directly adjacent to the west side of the postmold. The posthole feature fill consisted of a medium brown sandy loam with few artifacts, consisting of redware fragments, some window glass, mammal bones, brick fragments, and a nearly complete creamware plate which was jammed into the area directly adjacent to the postmold and Feature 12 (Plate 6). This feature is interpreted as a structural or replacement post related to Structure I; the broken creamware plate and the stone may have served to prevent the post from sliding into the cellar hole. This would have been highly likely given the sandy and gravely nature of the surrounding subsoil.

PLATE 6

Creamware Plate Removed from Feature 173



Structure II

The remains of Structure II included Feature 17, the cellar hole, Feature 20, the stone foundation itself, Feature 14, the builder's trench beneath the stone foundation, Feature 117, the remains of a wooden support pier at the southeastern end of the structure, Feature 18, the debris lens north of the cellar hole, and Feature 115, a metal barrel rim embedded into the subsoil, also at the southeastern corner of Structure II (Figure 26).

Features 17 and 20 were first identified by Lothrop et al. (1987) during the Phase II investigations. At that time, it was estimated that the structure was a building with dimensions of 15 by 10 feet (Lothrop et al. 1987:141). Plowzone excavation during the data recovery program revealed that the feature had an oval appearance, and that there was apparently a bulkhead or cellar entrance located on the west side of the foundation (Plate 4). Prior to the excavation of the cellar fill, Feature 17 was divided into quadrants, and the Phase II Test Unit S24W60 was reopened to examine the internal stratigraphy of the fill and to check this against the profiles and photographs recorded during the Phase II testing (Figure 27). The southeast and northwest quadrants were excavated first, providing north-south and east-west stratigraphic profiles across the feature. Attempts were made to excavate the feature in natural levels, but the sequence of internal soil deposits was extremely complex and intermixed. Due to this fact, arbitrary excavation levels of .6' were utilized instead.

The internal stratigraphy of Feature 17 is illustrated in Figure 28; Plate 7. There were several levels of intermixed

FIGURE 26

Structure II - Associated Features and Outline

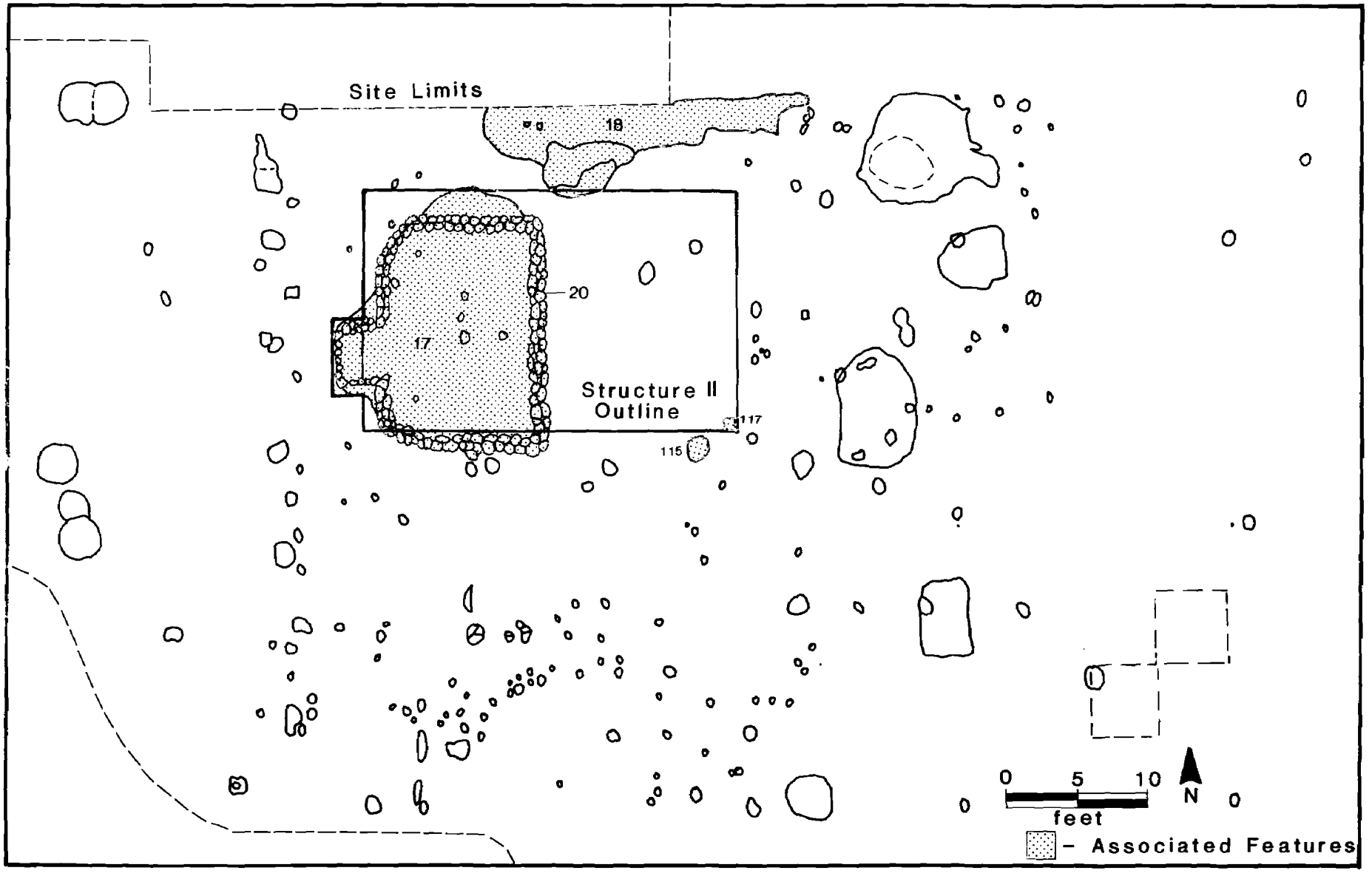
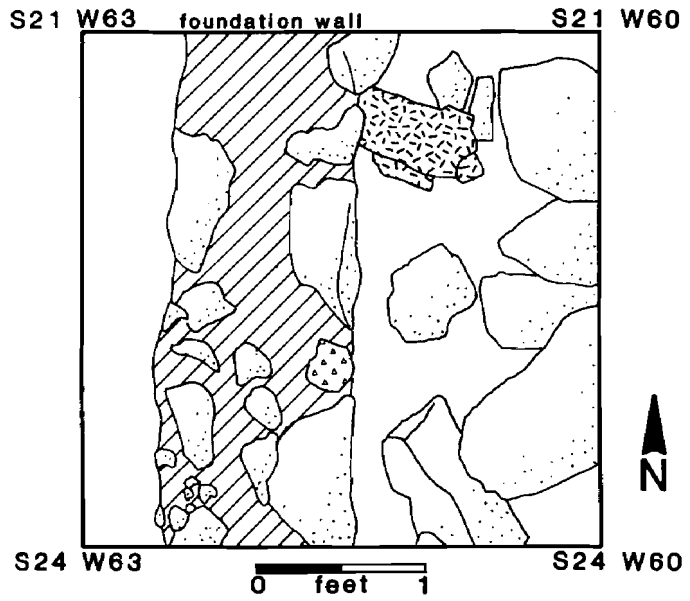
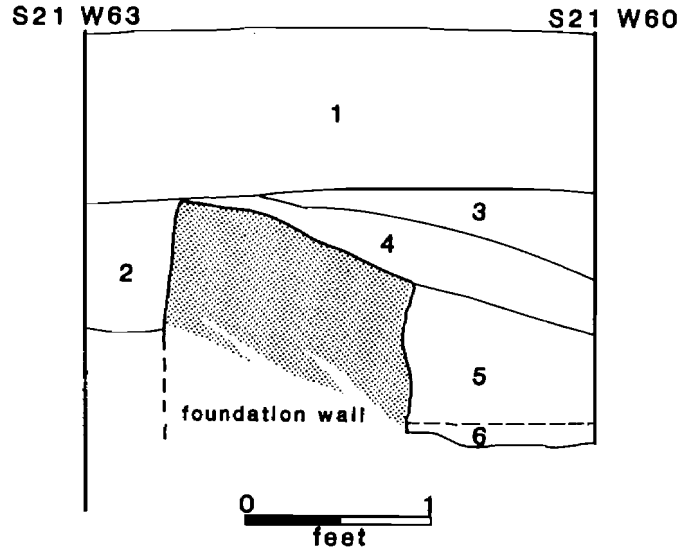


FIGURE 27

Plan View and Profile/Cross-section of S24W60



Showing Section of Western Fieldstone Foundation Wall and Deposits Encountered



tan mortar white mortar rock whitewashed brick plaster

1. plow zone- medium brown sandy loam
2. sterile subsoil- tan-brown silty sand with large amounts of gravel
3. level 1 of feature 6- mottled dark brown and tan silty sand with no mortar or gravel
4. level 2 of feature 6- tan-brown silty sand with large amounts of white mortar and some tan mortar and gravel
5. level 3 of feature 6- unconsolidated tan mortar in sand matrix with small to medium fieldstones and some gravel
6. unconsolidated tan mortar, brick and large fieldstones

foundation wall- medium to large fieldstones and consolidated tan mortar

FIGURE 28

Cross-section of Feature 17

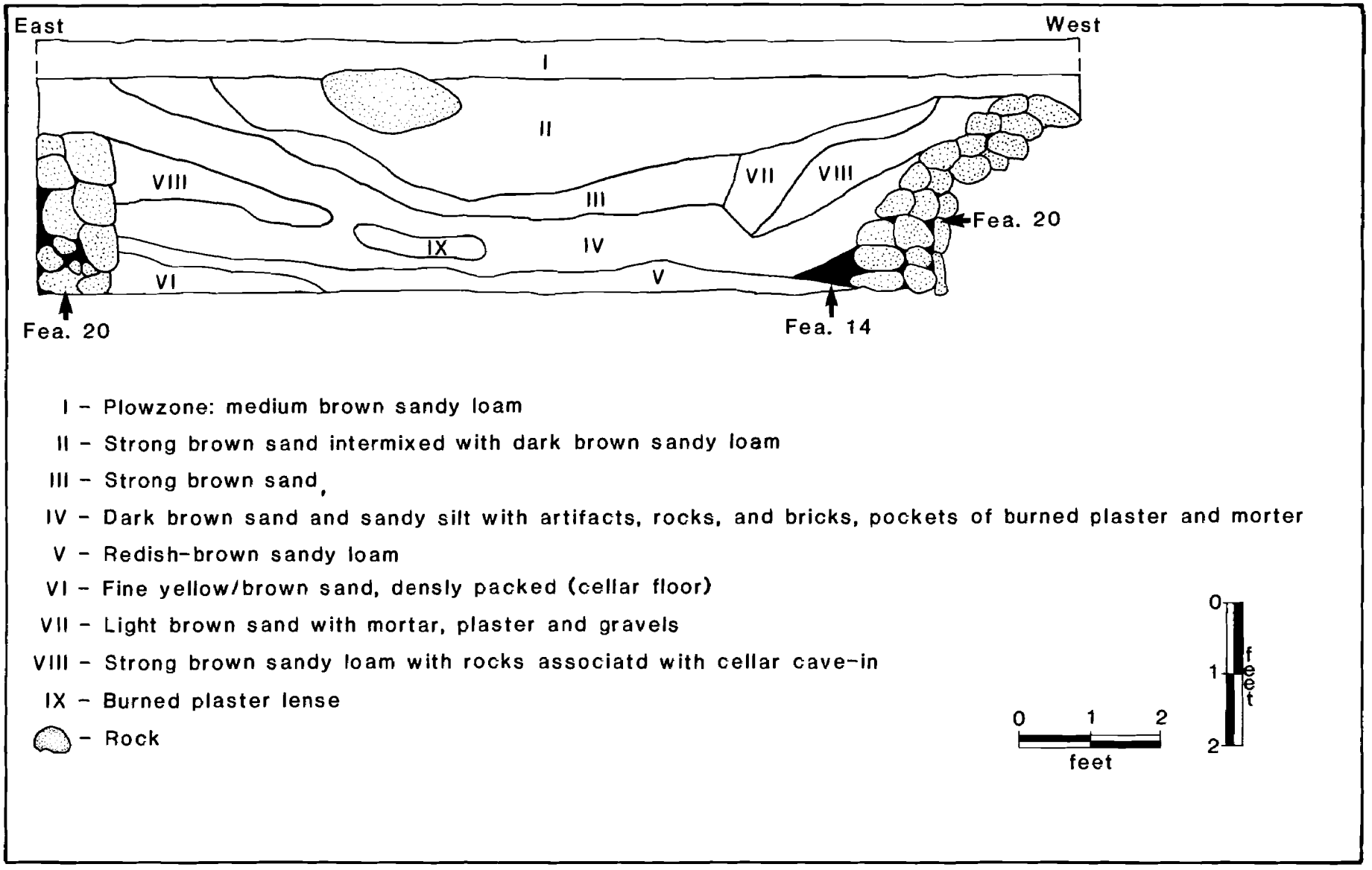


PLATE 7

Feature 17, Southeast 1/4 Profile

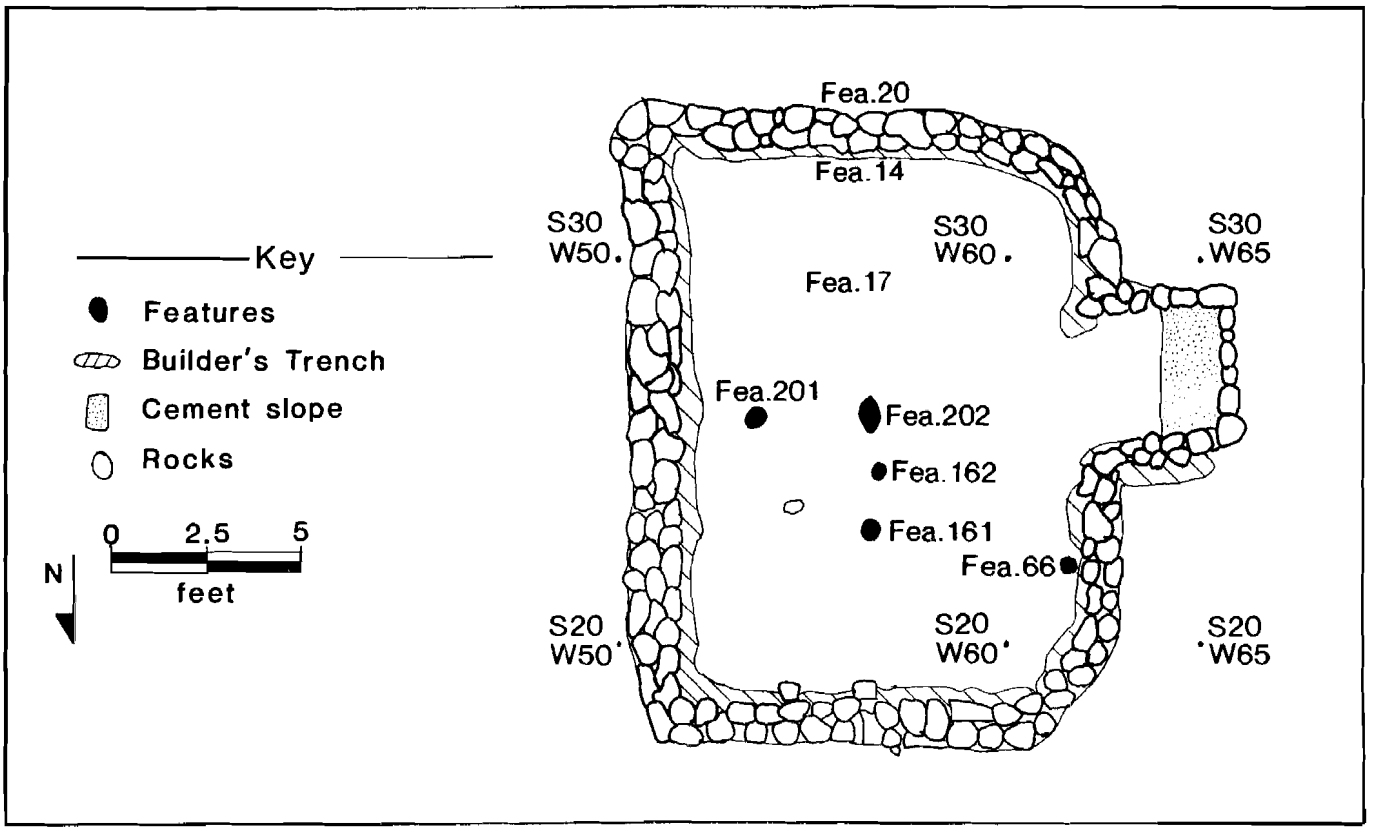
orange brown, and medium to dark brown sandy loams with pebbles, gravels, displaced foundation stones, and large amounts of historic artifacts, angling into the center of the cellar hole, and extending to a depth of approximately 1.6' to 2.1' below the base of the plowzone. Beneath these layers was a level of debris, containing soil, ash, plaster and mortar fragments, bricks, and historic artifacts exhibiting evidence of burning, such as melted bottles, charred wood fragments (possibly floor boards), and large numbers of annealed cut and wire nails. This level was approximately .8' to 1.2' in depth, the deeper sections of the deposit occurring along the cellar walls. Under this level was a densely packed fine orange sand, which constituted the cellar floor. This level also contained evidence of burning, with several patches of discolored red sand and charred wood fragments in all quadrants, but especially in the northeast and southeast.

Recovered artifacts from within Feature 17 included a full and varied range of historic domestic items, including creamware, pearlware, whiteware, ironstone, porcelain, redware, and yellowware fragments, metal hinges, wrought, cut, and wire nails, screws, bottles, window glass and bottle glass fragments, buttons, thimbles, jewelry, beads, porcelain doll parts, sheet metal, wire, and fish, bird and mammal bones. A total of 144 minimum ceramic vessels were contained in the cellar fill of Feature 17, providing a mean ceramic date of 1844 for the feature.

Feature 20, the stone foundation wall, was found to have dimensions of approximately 17' by 13', with a 3' by 3.5'

FIGURE 29

Plan View of Features 14, 17, and 20



bulkhead entrance located on the west side of the structure (Figure 29; Plate 8). The wall was about two feet thick, and was constructed of rough-faced, undressed river cobbles, with evidence of plastering on the interior of the wall. These stones were mostly dry-laid, although some sand mortar was apparent. The southeast corner of the foundation was the shallowest of the feature, located at 2.04' below datum, while the southwest corner was at 2.80', and the northeast and northwest corners were the deepest below datum, at 3.04' and 3.05', respectively. The foundation wall extended into the subsoil to a depth below datum ranging from 3.15' at the southeast corner, to 2.38' below datum at the northeast corner.

PLATE 8

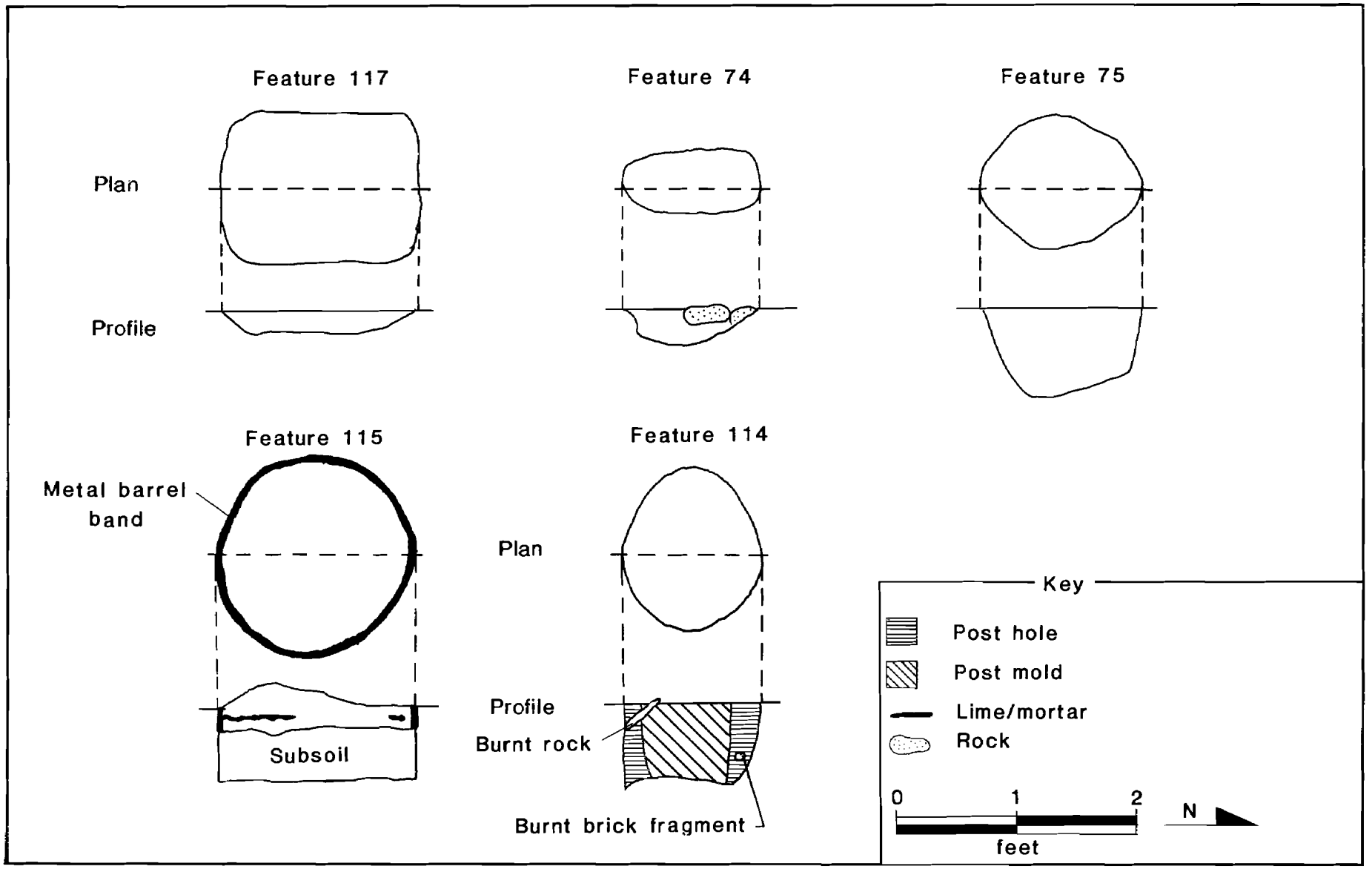
Features 17 and 20 After Excavation

The curved nature of the foundation wall corners, a most unusual and unique architectural feature, was most pronounced on the northwestern and southwestern corners of the feature, and was present to a lesser extent on the northeastern corner as well. In an effort to determine if the corners were purposefully rounded or were disturbed in some way, and to try and locate an exterior builder's trench, a shallow trench was excavated along the outside of Feature 20. This excavation located only partial evidence of an exterior builder's trench, which supports Lothrop's et al. (1987:141) contention that there was no trench present. Inside of Feature 20, Feature 14 was identified along the interior edge of the wall, and this feature constitutes the builder's trench for the foundation. It was not complete around the entire foundation, being most evident on the eastern and southern walls. Feature 14 varied in width .1' to .6' from the wall, and consisted of a light brown sand with some artifacts. In some portions of the wall, it extended beneath Feature 20. Feature 14 contained nails, yellowware, and aqua glass flask fragments, providing a mean ceramic date of 1836.8 for the construction of Feature 20.

Feature 117 was located at S33W37, about 13.5 feet to the east of the stone foundation, on line with the southeast corner of Feature 20. This feature was a 1.5' x 1.2' rectangular soil stain consisting of dark brown sandy loam and orange sand mottling (Figure 30). It was very shallow and flat-bottomed, extending only .2' below the plowzone into subsoil. There was no discernible postmold within the feature. Artifacts recovered from Feature 117 included brick fragments, redware fragments, a

FIGURE 30

Profile and Plan View of Features 117, 74, 75, 114, and 115



window glass fragment, and several prehistoric flakes. The large, shallow and flat character of this feature, coupled with its location in relation to Feature 20 and to Feature 115 (see below), suggest that it represents the remains of a wooden block or pier which supported the southeastern corner of Structure II. No other corner piers or posts for Structure II were located during the data recovery excavations, and it is probable that these were removed or completely plow-disturbed. The extremely shallow nature of Feature 117 supports this argument.

Feature 18, located north and east of Feature 17, consisted of a large, irregular soil lens of dark brown sandy loam with plaster, mortar, brick fragments and historic artifacts intermixed (Figure 26). The feature was approximately 25 feet in length (east-to-west), and at its widest point, about 7 feet north-to-south. It was very shallow, only about .2' in depth, and broke cleanly and distinctly on the orange sand and gravel subsoil. Feature 18 is interpreted as the remains of debris associated with the demolition of Structure II. Its placement along the north side of the structure, but not directly in association with the cellar hole, gives an indication of the original dimensions and length of Structure II.

Feature 115 is the final feature associated with Structure II. This feature consisted of a metal barrel rim, about 1.6' in diameter, embedded into sterile subsoil (Figure 30). The feature fill consisted of dark brown sandy loam with charcoal, and mortar flecks intermixed. Near the bottom of the feature was a thin lens of lime. Evidence of wooden slats or barrel staves were observed on the interior of the barrel rim. The top

of the rim was found at 1.77' below datum, and extended into the subsoil to a depth of approximately 2.07' below datum. Artifacts recovered from the feature included pearlware, yellowware, and redware fragments, nail fragments, brick pieces, and prehistoric artifacts. This feature is interpreted as the remains of a rain barrel located at the southeastern corner of Structure II.

Well

Feature 2 was originally identified during the Phase I and II investigations of the Williams Site. Located in S15W20, the feature consisted of a darkly-stained soil deposit which was interpreted at that time as a trash pit feature (Lothrop et al. 1987:129). No further excavation was conducted during the Phase II testing of the site.

After the removal of the disturbed plowzone soils, Feature 2 was seen to be an irregularly circular dark sandy loam and charcoal deposit measuring over 12 feet in diameter. It was decided that one half of the feature would be investigated to determine the exact nature of the feature; therefore the west half of the feature was excavated. The surface fill of Feature 2 consisted of a medium to dark brown sandy loam with gravels, pebbles, ash, plaster, charcoal, and coal intermixed. The feature contained a wide range of historic artifacts, including wagon wheel parts, barrel bands, sheet metal, wire, a shovel (spade) blade, a grub hoe blade, an iron grate, wire and cut nails, a metal bucket, a horseshoe, metal can fragments, ceramics such as whiteware, porcelain, redware and ironstone,

bone fragments, window and lamp glass fragments, a candlestick base, and melted bottle glass. The metal debris was concentrated near the center of the feature (Plate 9).

The walls of Feature 2 began at about 3.32' below datum to slope down steeply, and at 4.9' below datum a dry-laid brick coursing was encountered in the northwestern side of the feature (Figure 31). The feature fill by this depth was a dark brown sandy loam with gravels, mottled with yellow sand, orange sandy clay, and light brown sandy loam. Charcoal, wood chips, brick fragments, and coal were present throughout the fill. At 4.22' below datum, a 1908 U.S. Indian Head penny was recovered, along with a shoe eyelet, needle, glass tumbler base, and more ceramics and metal fragments. At a depth of 4.82', the jaw bone of a dog was found, along with nails, a metal rake fragment, a straight pin, and buttons. The brick courses identified earlier were most evident along the northern edge of the feature, but were not present in the southern side. They were also sloping precariously into the feature, making manual excavation difficult and dangerous. A pile of bricks and foundation stones was encountered along the north wall, and was likely the result of cave-in from above, although some of the bricks within the well fill had mortaring. Manual excavation of Feature 2 was terminated at 6.65' below datum, due both to the interior tilting condition of the brick lining (which had expanded from a diameter of 1.6' when first encountered to 2.0' at the close of excavation), and to the depth of excavation (Plate 10).

PLATE 9

Feature 2, Prior to Excavation

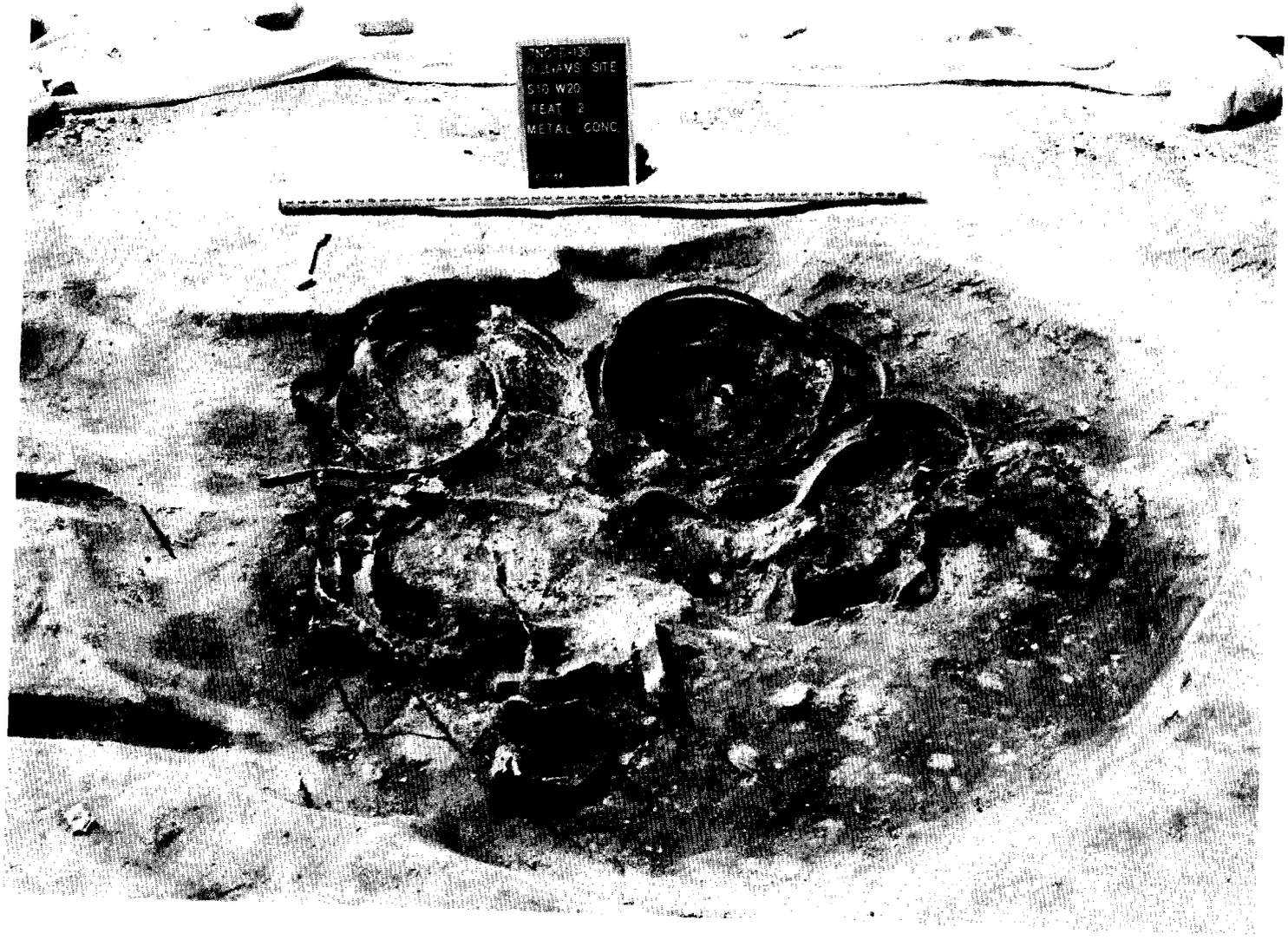


FIGURE 31

Feature 2 - Profile of the Williams Site Well

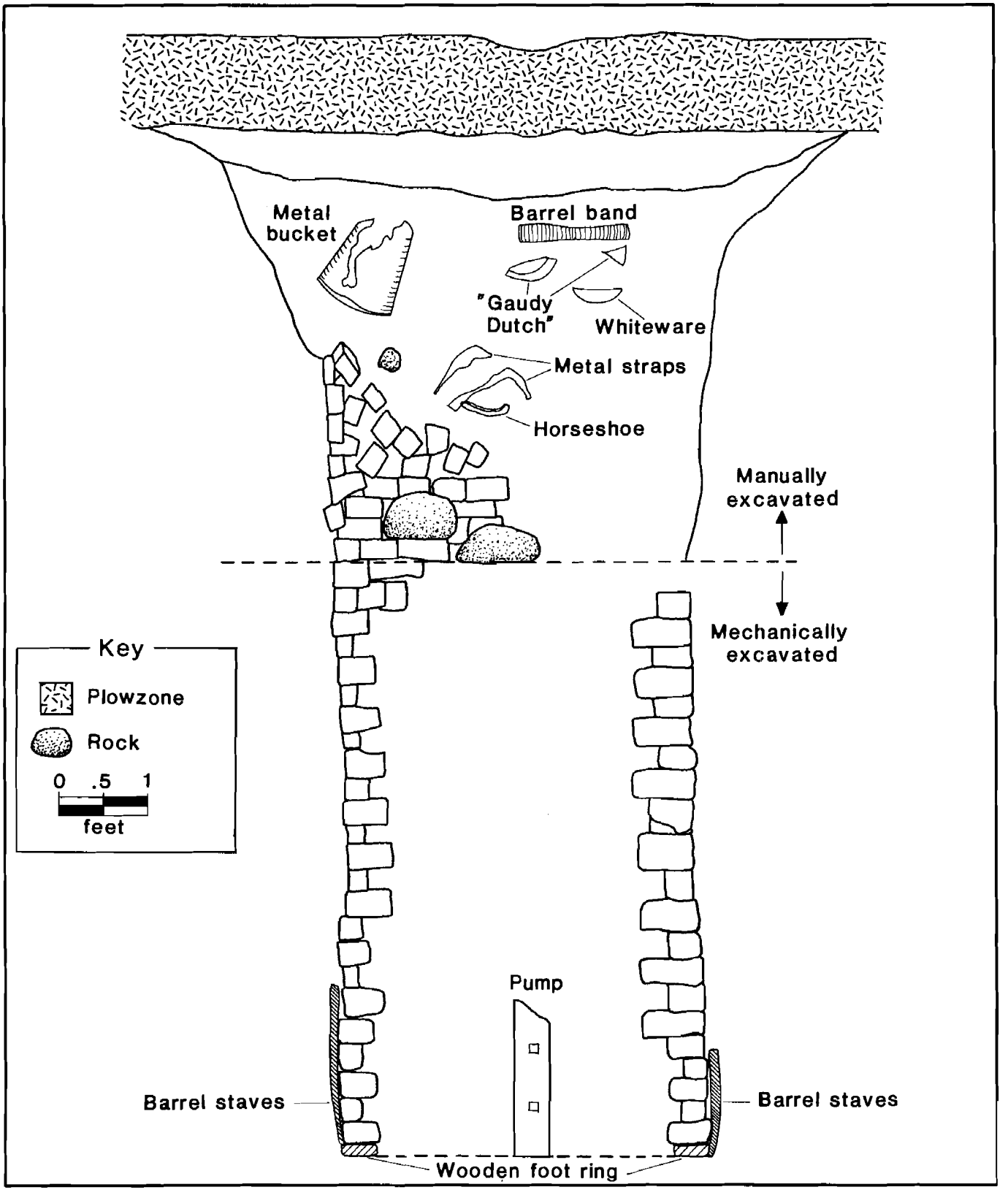
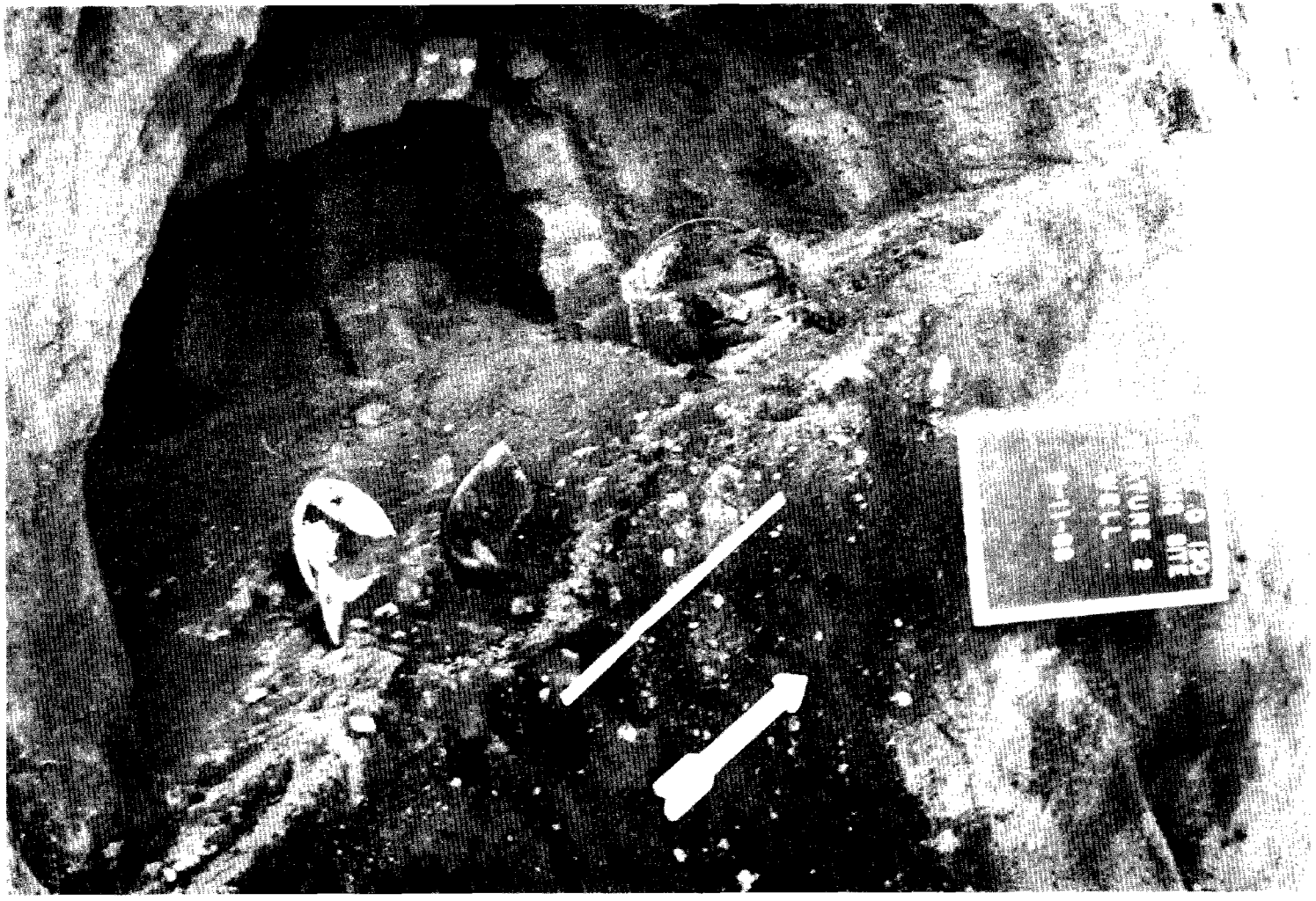


PLATE 10

View of Feature 2, Prior to Mechanical Excavation



The remainder of the well was mechanically investigated by means of a DelDOT grade-all. The well shaft was bisected, and dug to the bottom of the brick coursing, a total depth of 13.82' below datum. Water seepage occurred at about 12.5' below the top of the subsurface. The surrounding subsoil, consisting of orange sands and gravels, was extremely unconsolidated. At a depth of 12.3' below the bottom of the plowzone, wooden barrel staves were observed on the exterior side of the brick coursing, with the bricks pressed against the barrel sides. Eight barrel staves, measuring 1" to 1.25" in width, were recovered from the excavations. A squared wooden pump stock, about 1.8' in height and .3' square, was found in the center of the well shaft. Consisting of a single wooden piece with horizontal saw marks, the pump stock had four square holes chiseled into the center of the stock, two each on opposite sides of, and slightly offset from the other pair. Beneath the final course of brick, a wooden curb or foot ring was identified. This ring was constructed of two hand-planned thicknesses of timber, about .6' wide, nailed together with cut nails. The wooden ring was connected to the barrel staves, and had a diameter of 4.0', suggesting that the barrel which was used in the construction had probably been a hogshead (54 gallons), a puncheon (72 gallons), or a butt (108 gallons).

The use of barrel curbs in well construction appeared by the mid-1820s, according to contemporary building manuals (Noel-Hume 1969:18-23). Barrel curbs and wooden linings have also been found in excavated nineteenth century wells in Alexandria, Virginia (Noel-Hume 1969:23; Shepard 1989). A similar pump

stock was identified at a recently excavated New Castle County site, the Whitten Road Site, and this report contains an excellent description of the Sweetgum pump stock and its construction (Shaffer et al. 1988:122-128). A similar wooden curb, like that found at the Williams Site, was observed at the Temple Site, and consisted of the remains of a white pine wooden curb located at the base of the brick-lined well (Hoseth et al. 1990).

Ceramics recovered from Feature 2, mainly during the manual excavation, accounted for 110 minimum ceramic vessels, including redwares, pearlware bowls and cups, porcelain cups, a whiteware pitcher, whiteware bowls, and ironstone vessels. The mean ceramic date for Feature 2 is 1810. It is obvious from the mix of vessel types in the feature fill that the fill deposit contained ceramic vessels from the entire range of the Williams Site occupation, indicating that, like Feature 12 and Feature 17 described above, the well was filled in with both primary and secondary refuse from across the site. However, like Feature 17, the well contained more whiteware and ironstone than did Feature 12, suggesting that the cellar hole and well were back-filled at a later date than Feature 12.

Outbuilding I (Feature 1)

Feature 1, the center of which was located at about S21W18, was first located and identified during the Phase II testing (Lothrop et al. 1987:139), and was tentatively interpreted at that time as a trash pit. Following the mechanical removal of the plowzone from the site, Feature 1 was found to be a roughly

oval dark brown soil stain, approximately 4.5 x 5 feet in diameter (Figure 32). Excavation of the feature identified two pits within the confines of the feature at a depth of 2.12' below datum (Plates 11 and 12). The larger pit was oval-shaped on the west side, but became straight-sided on the east side of the feature. This pit was .4' in depth, and had the same diameter as was first seen at the top of the subsoil. A smaller, circular pit was located within this larger pit, and measured 2.9' in diameter, and was about .45' in depth. The regularity of the bottoms and sides of both of these pits precluded the possibility that this feature was the remains of a tree or root stain. Few artifacts of any kind were recovered from the feature, and included one redware fragment, eleven prehistoric artifacts, several cut nails, and some aqua and clear glass fragments. The most interesting artifact recovered was the iron head to an axe, located in the bottom of the interior, circular pit. The head is a square poll or American axe, a type that was prevalent in North America during the eighteenth and early nineteenth centuries. Axes of this type began to become common by the beginning of the nineteenth century. Square poll axe or hatchet heads characteristically have a "squared" or rectangular poll, short blade height, and brief ears projecting back from the eye of the axe (Neumann 1973:257-263), all characteristics which the axe head from Feature 1 possesses.

The archaeological evidence suggests that the two pits in Feature 1 appear to have been contemporary and constructed at the same time; the profile view seen in Plate 11 does not show

FIGURE 32

Outbuilding I – Plan View

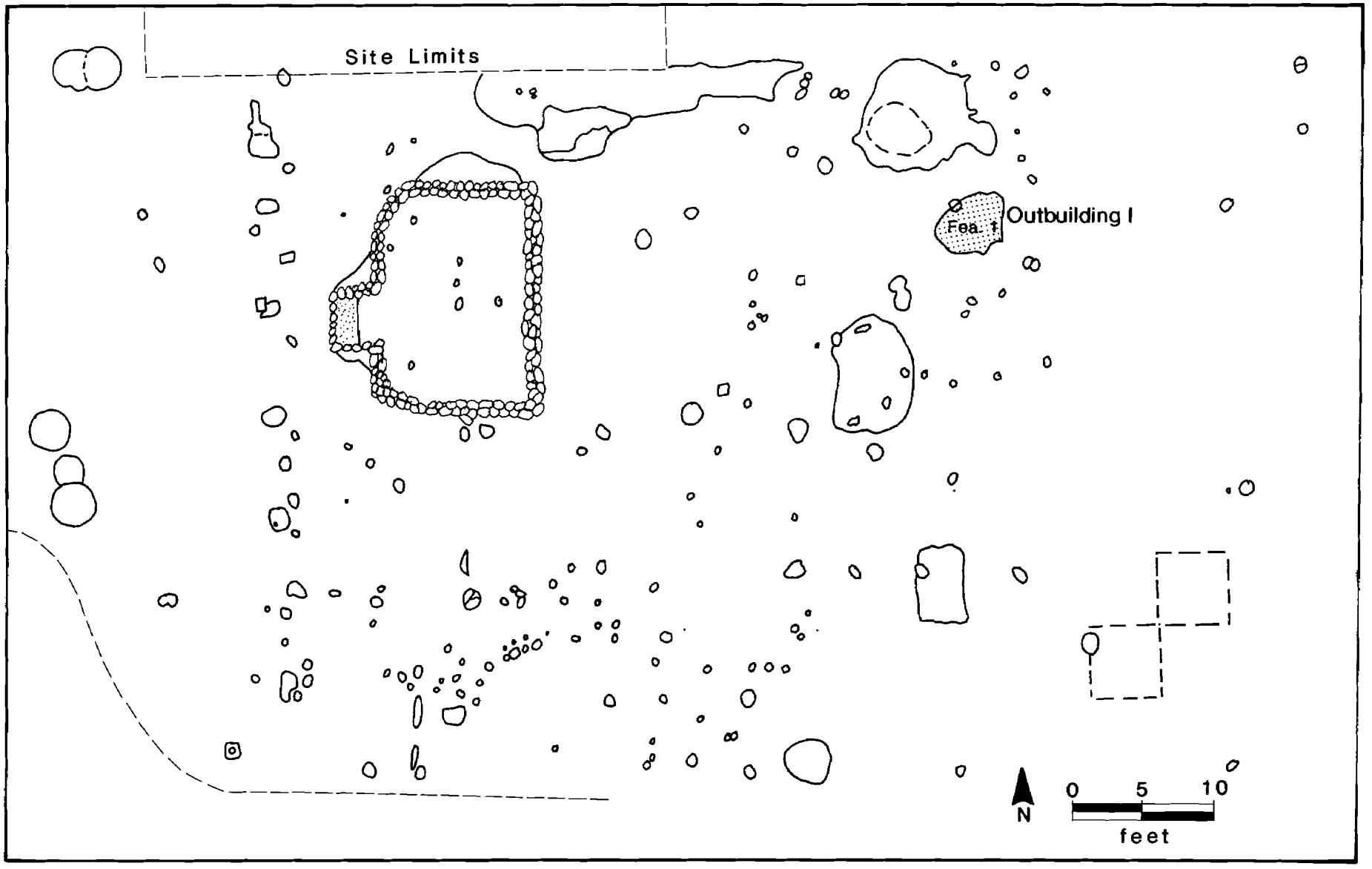


PLATE 11

Feature 1 (Outbuilding I) Cross-section

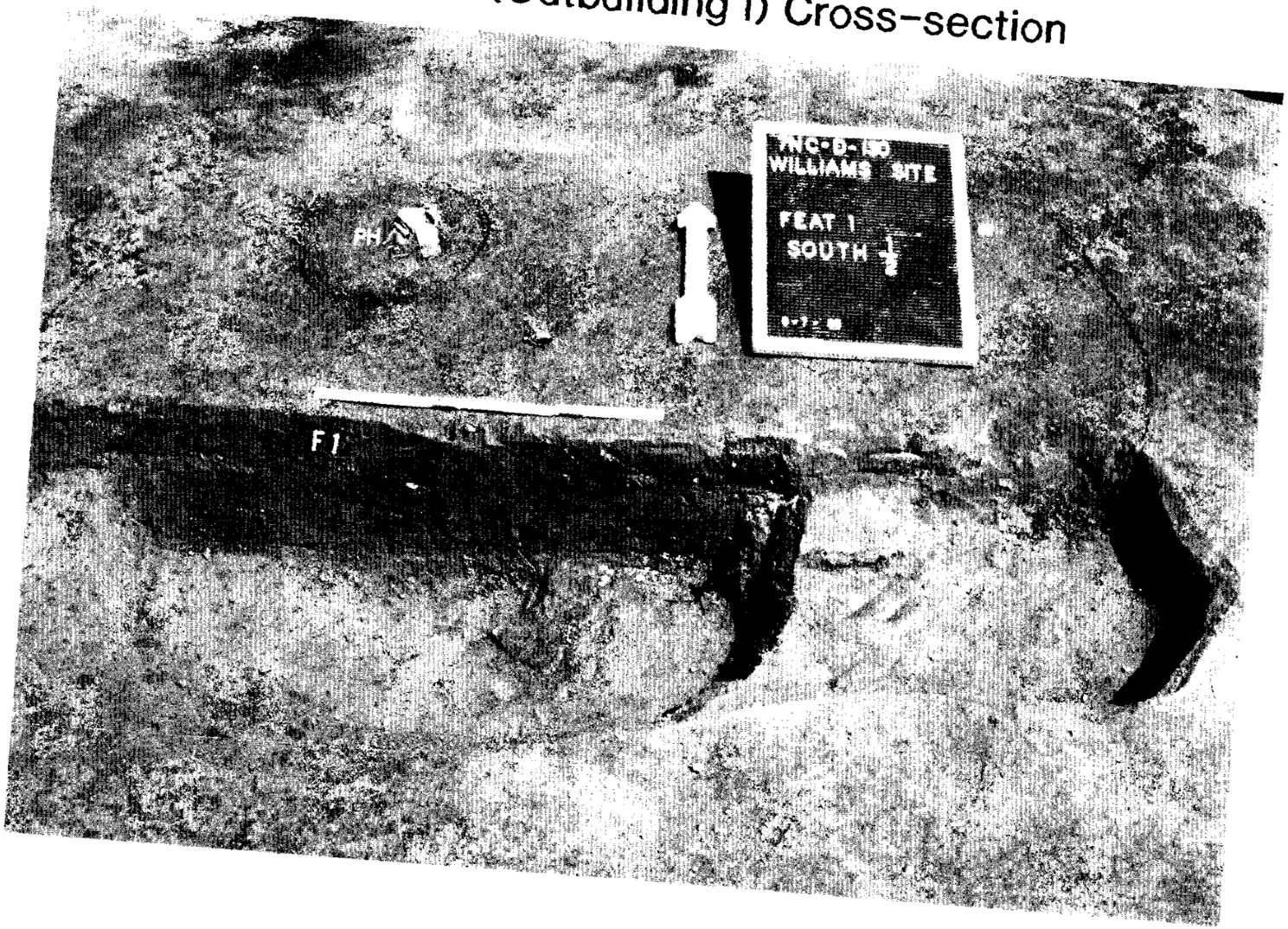
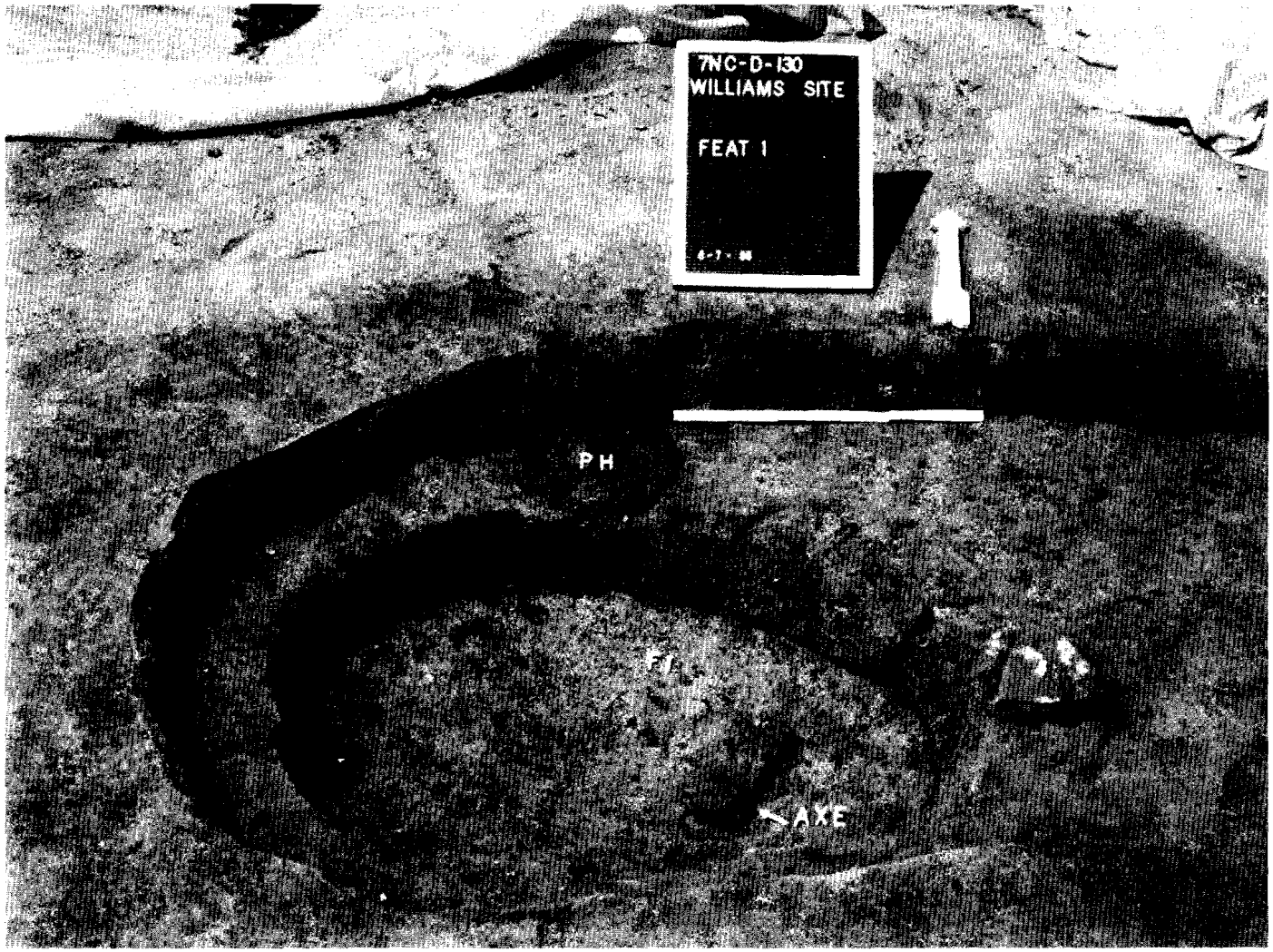


PLATE 12

Feature 1 (Outbuilding I) After Excavation, Plan View



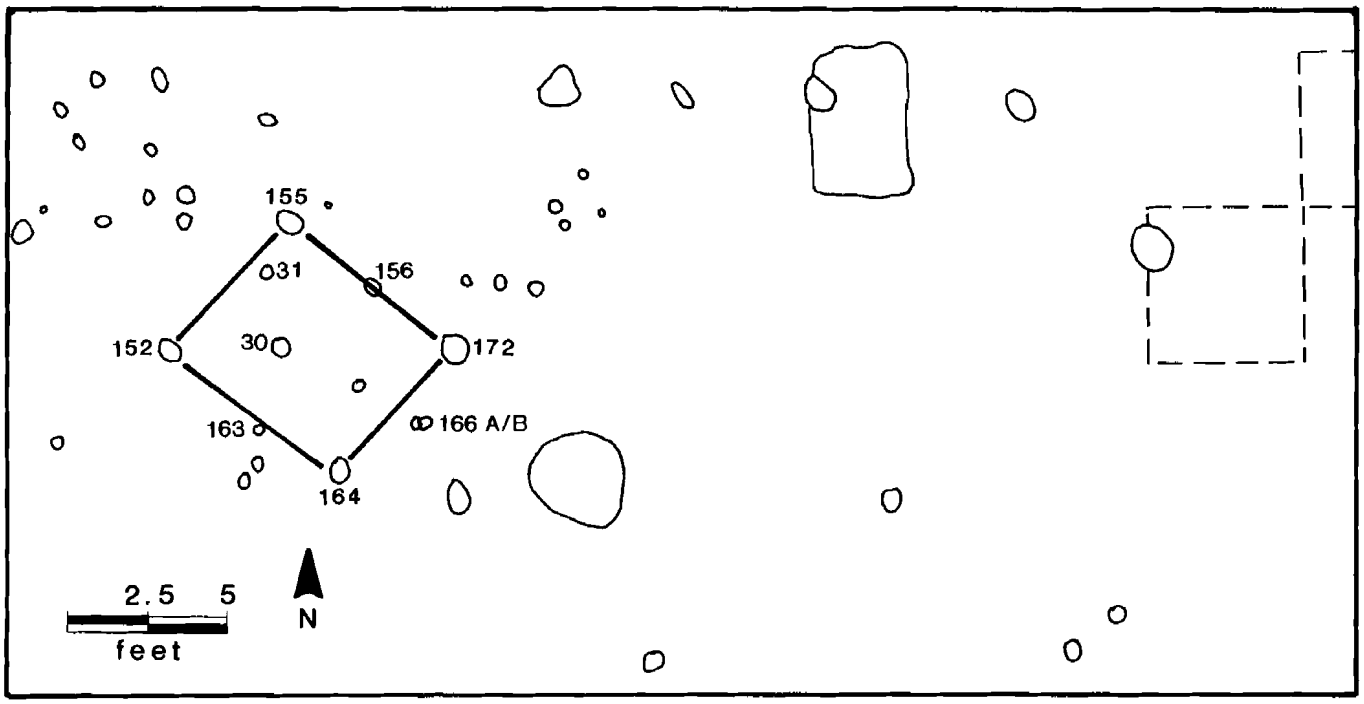
any soil discontinuity between the two pits, suggesting that they were filled at the same time. It is suggested that this feature may have functioned as a cold storage shed or outbuilding, particularly because of the close proximity of Feature 1 with Feature 2, the well. Cold storage outbuildings, such as dairies, are often placed in close association with wells on rural sites; another example in New Castle County was found at the Temple Site (Hoseth et al. 1990). Feature 1 probably had a ground-laid sill or pier constructed structure erected over it, and the different levels within the feature were utilized for temperature control. The curved nature of the exterior pit on the northwest corner suggests that, like the cellar hole's corners, a wooden block or pier was located here, and the curve was dug so as not to undermine the pier.

Outbuilding II

The remains of a possible post-supported outbuilding were identified centering on S55W40 (Figure 33). Consisting of four main corner posts and three smaller support posts, the structure would have measured approximately 13 x 16 feet, and was oriented about 45 degrees out of alignment with either Structure I or II. Features 152, 155, 164, and 172 were the corner posts; Features 152, 155, and 164 were roughly circular or ovate, with diameters of 1.0' to 1.2', and extending to a depth of .8 to 1.0 feet below subsurface. Feature 172 was a large oblong stain about 2.2' x 1.4' in length, and was shallow (.4') and flat-bottomed. In the center of the structure was Feature 30, a feature which exhibited both a mold (1.2' across by .7' deep) and a hole (2.0' across and .4' deep). Two smaller posts, Features 31 and

FIGURE 33

Outbuilding II - Associated Features and Outline



156, were located on the northwest and northeast sides of the structure, respectively. These posts were small, square stakes, about .3' across by .4' in depth. Both of these posts are either associated with Outbuilding II, or are part of a later fenceline in the area. There are numerous unassociated postholes in this portion of the site.

Privy Pits

Eight possible privy pits (Features 46, 97, 98, 100, 101, 111, 112, and 113) were identified during the data recovery excavations of the Williams Site (Figure 34). One of these features, Feature 46, was located during the plowzone testing, and the remainder were found after mechanical plowzone removal. With the exception of Feature 46 (Plate 13), located at S60W30, all of these other features were grouped in pairs or triplets,

FIGURE 34

Privy Pit Locations

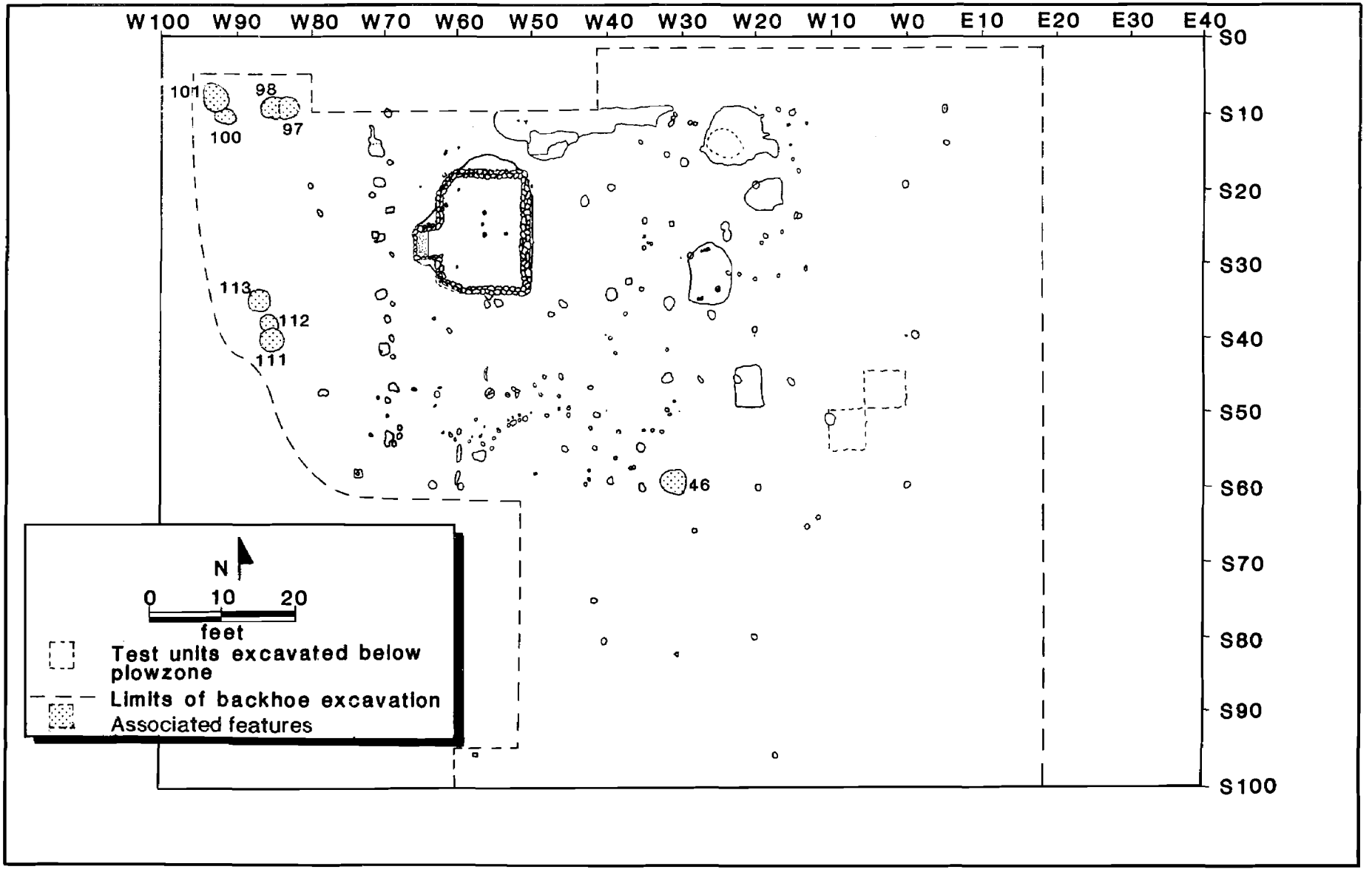


PLATE 13

Feature 46 (Privy Pit) Cross-section

PLATE 14

Features 97 and 98 (Privy Pits), Plan View

as in the case of Features 97 and 98 (Plate 14), 100 and 101, and 111-113. These seven features were all placed west of and down slope from Structure II. The ground surface sloped away sharply from the west end of Structure II beginning at approximately the W73 transect, dropping from about 3.6' below datum around Feature 53 to 4.9' below datum at Feature 101, a slope of about 1.3' over a distance of 20 feet. All of the privy pits, including Feature 46, were located 25-30 feet from Structure II. Feature diameters ranged from 2.4' across (Feature 112) to 3.5' across (Feature 46), with an average diameter of 2.9' for all eight pits. All of these privy pit features were very shallow, basin-shaped and flat-bottomed holes, the deepest being Features 100 (.80') and 97 (.75'); the remainder of the features averaged about .50' in depth below datum. The soils in each of the pits was a mottled dark brown sandy loam with some charcoal flecking intermixed with orange sandy clay subsoil; surprisingly, there were no obvious "privy" soils in any of the features. Traces of phosphates obtained from soil samples taken from these features exhibited low frequency levels in all of the features.

Small amounts of artifacts were recovered from each of the features. Feature 46 contained small fragments of aqua glass, several cut nails, coal fragments, prehistoric flakes, and 28 historic ceramic sherds, including creamware, pearlware, whiteware, porcelain and redware fragments. Artifacts recovered from Feature 97 included wire nails, colored, aqua and olive bottle glass fragments, bone fragments, a black glass button, metal can fragments, oyster shell bits, sheet metal, prehistoric

flakes, window glass, and forty-eight historic ceramic sherds, including redwares, whitewares, pearlwares, and porcelain. Feature 98 contained similar items, such as cut and wire nails, a watch gear, window glass, melted aqua bottle glass, a ceramic smoking pipe fragment, clear and aqua bottle glass, prehistoric flakes, historic ceramics, and bone. Feature 100 yielded a 1911 U.S. Indian Head cent, a brass-plated belt buckle and a copper buckle, an iron padlock, clear and aqua bottle glass, window glass, cut nails and other metal fragments, brick and bone fragments, one prehistoric ironstone flake, and historic ceramics such as whiteware, pearlware, redware, yellowware, and porcelain fragments. The list of recovered artifacts from Feature 101 is substantially the same: small amounts of historic ceramics, nail fragments, window and bottle glass, a quartzite flake, and assorted rusted lumps of metal. Feature 111 contained no historic ceramics, but did have oyster and bone fragments, aqua glass, brick fragments, and rusted metal bits. Features 112 and 113 both contained small amounts of window and bottle glass, historic ceramics, brick, bone and shell fragments, and nails, and neither contained any prehistoric artifacts.

Table 8 contains a summary of the privy features from the Williams Site, including opening and closing depths, diameters, the date range of recovered ceramics, and the features' mean ceramic dates. These features are interpreted as the remains of the bottoms of dug privy holes or pits. The circular nature, flat-bottomed shape, and regularity of size supports this

TABLE 8

SUMMARY OF PRIVY PIT FEATURES

Feature No.	Diameter	Top Depth	Bottom Depth	MCD
46	3.5'	1.36'	1.9'	1836.8
97	2.8'	4.20'	4.95'	1856.7
98	3.0'	4.41'	4.99'	1870.1
100	3.1'	4.89'	5.69'	1836.0
101	3.2'	4.9'	5.29'	1851.2
111	3.3'	4.3'	4.86'	------
112	2.4'	4.2'	4.61'	1847.7
113	2.6'	4.15'	4.64'	1853.3

KEY:
MCD - Mean Ceramic Date

conclusion. The pits likely were covered with a movable shed or building and lined with a wooden barrel. When the barrel was full of "privy" soils, it was removed from the hole, and the contents spread on fields or sold for fertilizer. A new hole was then excavated, and the process begun again. Though the presence of a removable wooden barrel is unusual, the use of a movable building is proven by contemporary agricultural documents, such as this entry from The Genessee Farmer:

> The farmer generally, in building a "palace" for the accommodations of the household, either dig a pit to a great depth, or a shallow one with a moveable building, to be removed as often as the pit becomes filled (Country Gentleman 1854).

The location of all but one of these features (Feature 46) on the western, downslope side of Structure II and on an opposite side of the site from the well (Feature 2) strongly supports the suggestion that these features functioned as privies. Their

placement in this area of the site was probably spurred both by aesthetics as well as hygiene (Catts 1984), a conclusion also supported by the consistent distance from Structure II for all of the features. The cross-cutting of several of the features with other privy pits also lends credence to this interpretation; older, filled-in pits were truncated or disturbed by later, newer holes, all located in the same vicinity downslope from the site.

Fencelines

Three distinct fencelines can be discerned from the posthole and mold patterns present at the Williams Site. These are a western fenceline, a southern fenceline, and an eastern fenceline, as well as numerous unaligned postholes (Figure 35). Table 9 contains a summary of the fenceline features, their depths and dimensions, and comments on their appearance and excavation. The western fenceline consisted of thirteen posthole and mold features beginning at S15W71 (Feature 53) and extending southerly thirty-two feet to S47W69 (Feature 86). These features ranged from 4.0 to 7.0 feet apart, averaging about 5.0 feet from post to post. Several of the features (Features 53, 77, 80, 51, 56) had exhibited evidence of rectangular or square posts, but the majority of hole and mold features were circular or oval, indicating that the posts were round. There was evidence of replacement posts present in several of the features (Features 51, 52, and 53). Remains of the wooden posts were still extant in Features 53 and 83. Features 53, 77, 78, 51, and 56, were 1.0 to 1.2 feet in depth,

FIGURE 35

Structure II – Fencelines

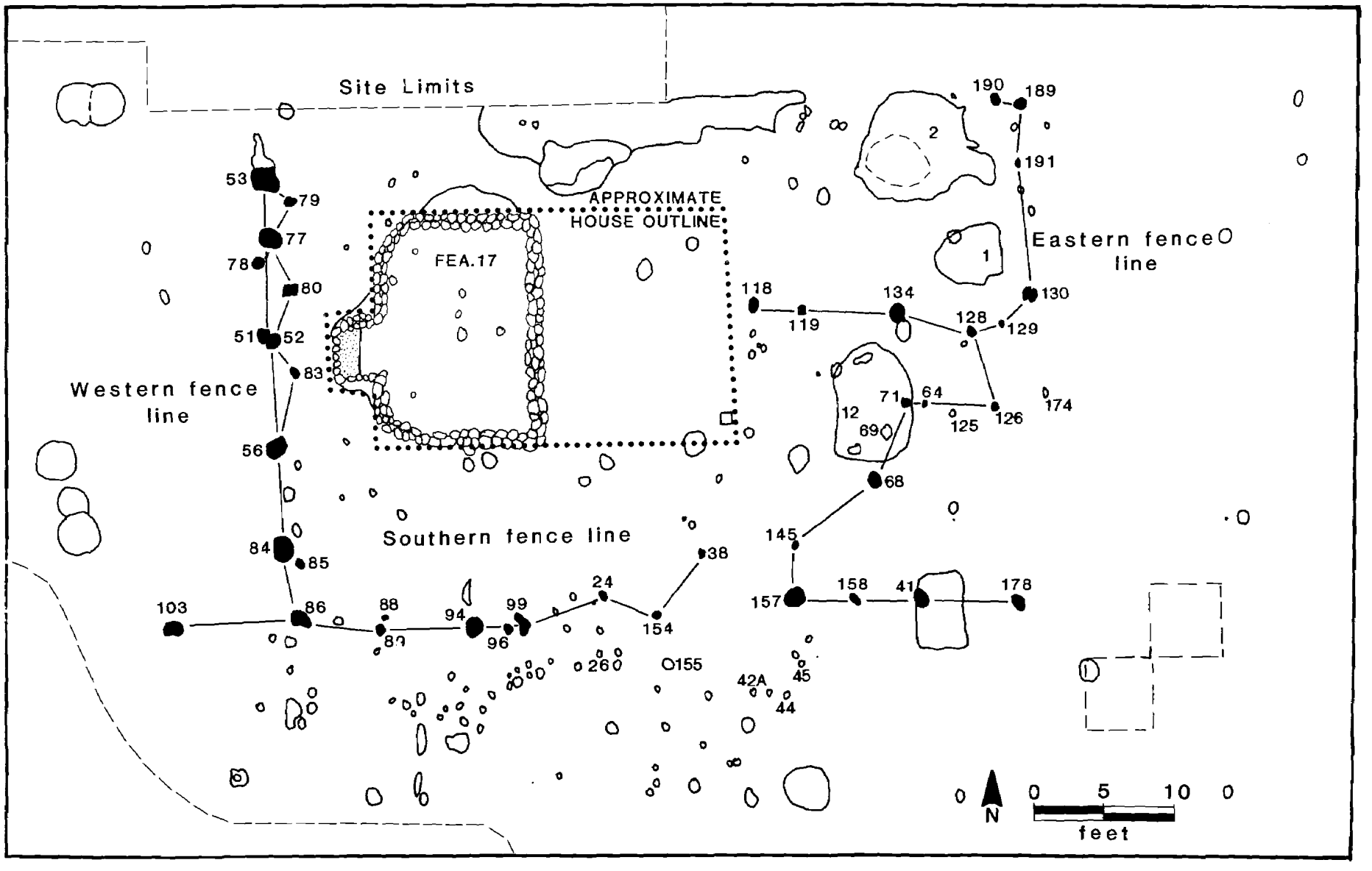


TABLE 9

SUMMARY OF FENCELINE FEATURES

West Fence Line

Feature No.	Dimensions	Depth	Comments
53	hole: 2.0' mold: 8.5' square post, hole is circular	hole: .8'blII mold: 1.0'blII	evidence of two posts, one still present approx. 1.0'x.6' in size.
77	hole: 1.4' mold: .3'x.3' at bottom	hole: 1.2' mold: 1.1'	post mold evident in base of feature.
78	hole: .9'	hole: 1.1'	no mold present.
*51	hole: 1.3'	hole: 1.1'	square stain: no mold present; very shallow.
*52	hole: .8'	hole: .5'	no mold present: like Fea. 51 above, a very shallow circular stain.

* These two may represent replacement post with original post.

56	hole: 1.2'	hole: 1.0'	rectangular mottled stain, possibly square.
86 (hole and mold)	hole: extremely large; 1.8'x1.0' mold: .4'x.4'	hole: .6' mold: .6'	post may have been set into the hole from the west, angles in that direction.
84 (hole)	hole: 1.5'	hole: .7'	like Feature 86 above, this one has angle to south side, may be post set into hole.
79 (hole/mold)	hole: .9' mold: .65'	hole: .5' mold: .6'	clear line between mold and hole.
88	hole: .45'x.7'	1.6'	rectangular post hole.
80	1.4'x1.0'	.4'	possible post hole. this may be non-cultural- no artifacts and a root stain in center- tree/ bush?

KEY: blII - below Level 2

TABLE 9 (cont.)

83	hole: .5'	hole: .8'	no evidence of mold, though wood could be part of post - this was located in west half.
35	.5'	.7'	post hold, dark circular stain.

South Fence Line

Feature No.	Dimensions	Depth	Comments
103 (hole)	square hole: 1'x1'	.6' rounded base	charcoal could be remains of square post.
86	see west fenceline		
88 (hole)	rectangular hole .45'x.7'	1.1'	no mold apparent, homogenous soil throughout.
89 (hole)	hole: 1.1'x.9' roughly circular	.4'=shallow	no mold present. shallow post.
94 (hole)	.6' in diameter (circular)	1.0'	no mold apparent.
96 (hole)	stain - .7'	.3'=shallow	no gravels present, as in Feature 99.
99 (post mold and hole)	hole: 1.1'x1.6' mold: .5'	hole: 1.0' mold: 1.3'	mold and hole looks like hole was larger to the west. Fea. 99 and 94 may form gate posts.
24 (hole)	hole: .7'	hole: .7'	driven post? shallower at south end.
154 (hole)	hole: circular 1'x.9'	hole: 1.0'	
157 (mold and hole)	hole:1.9' diam. mold: 1.0'	hole: .7' mold: .9'	circular postmold vaguely pointed.
158 (hole)	hole: .9'x.7' (ovate)	possible mold area: .6' deep x .5'	two rocks supporting south side of post.
41 (hole)	1.0'x1.1'	1.1' deep	circular pointed hole.

TABLE 9 (cont.)

178 (hole)	1.4'x1.0' oval soil stain	shallow, only .45'	base of post?
42A	.4'x.4'	.6'	oval, dark brown stain post hole.
44	.8' diameter	.65'	dark brown circular stain posthole.
45	1.1'x.8'	.8'	dark brown roughly oval stain adjacent to Fea. 160; post hole.

East Fence Line

Feature No.	Dimensions	Depth	Comments
189	.3'x1.0'	.8'	post mold and hole - rectangular.
190	.3'x1.0'	.65'	post mold; driven - rectangular.
191	.6'x.3'	.2'	bottom of post; mold only, rectangular.
195	mold: .45' dia. post: .8' dia.	.8' 1.0'	part mold and hole.
126	.8' dia.	.3'	mold only.
174	.5' dia.	.4'	posthole.
69	.6'-1.0'	.4'	circular soil stain - possible two postholes, one intruding on the other.
68	mold: .9' dia.	.4' .45'	posthole - sloping walls of feature and flat-bottom suggest postmold location.
71	1.0' dia.	.7'	possibly two postmolds.
125	.3'x.5'	.20'	roughly rectangular - posthole.
130	hole: 1.1' dia. mold: .6' dia.	1.3' 1.2'	postmold and hole. mold is roughly square. mold shows signs of being driven
118	.5'x.9'	.6'	posthole, roughly oval-shaped.

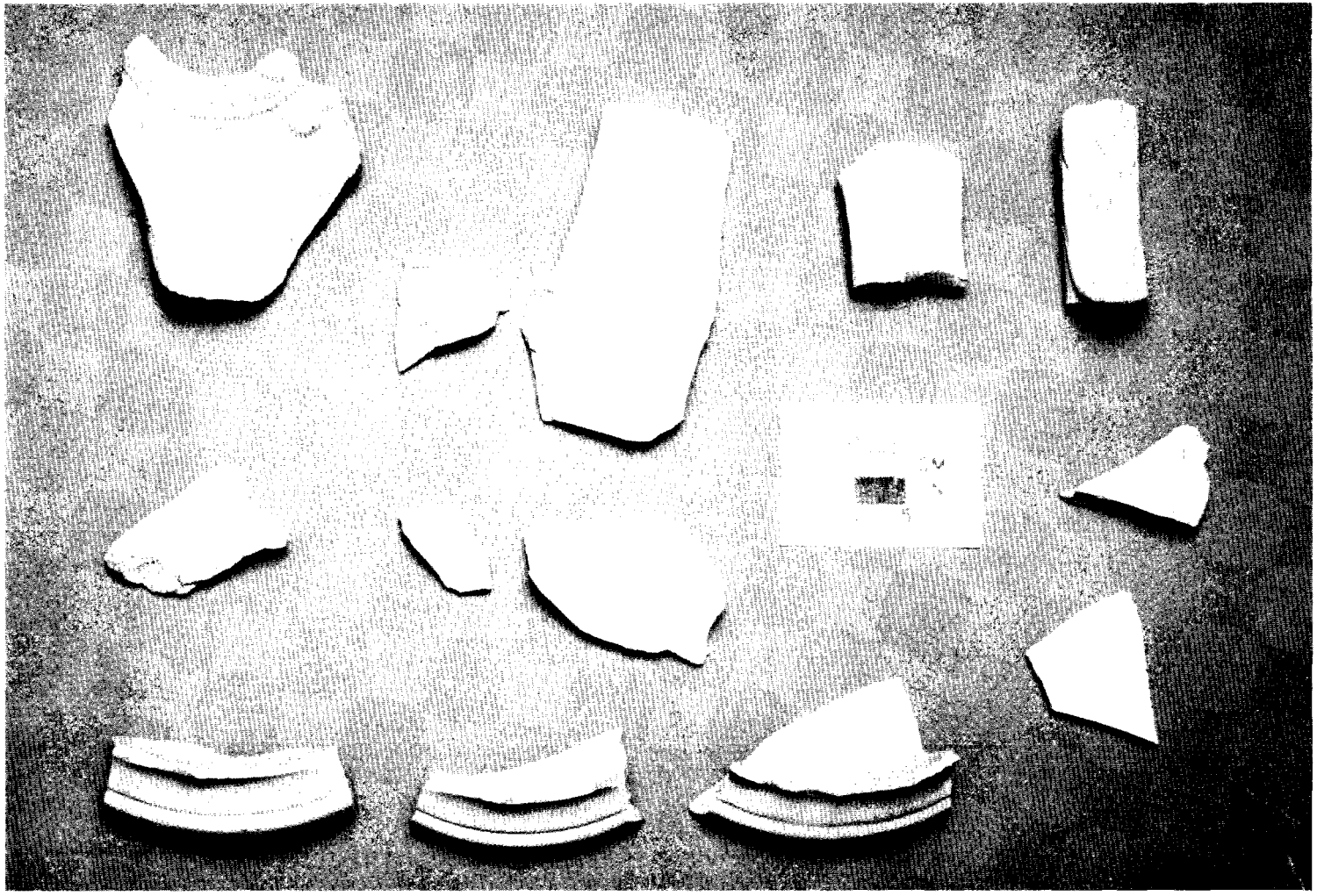
while Features 52, 86, 84, 79, 80, and 83 were on the order of .4 to .6 feet in depth. Within Feature 53, several fragments of an unusual yellow-bodied and glazed ceramic vessel were recovered. The hollowware vessel, probably a vase or pitcher, was slip-cast with the image of several figures, including an orangutan, or other ape, dressed in flowing robes and a turban, smoking a pipe. Other fragments of the vessel were also recovered from Feature 17 and surrounding plowzone units (Noel-Hume 1974) (Plate 15).

The southern fenceline, containing eleven to fourteen postholes and molds, began at Feature 103, located at S47W58, and ran generally eastward to Feature 178 (S46W15), a distance of about sixty feet. This line contained Feature 86, probably a corner post for both the western and southern fencelines. This fenceline ran roughly parallel to and about 13.0 feet from the south wall of Structure II. At Feature 154, the line appears to have turned southward to Feature 155, and the north corner of Outbuilding II (see above discussion). From Outbuilding II, the line may have utilized Features 42A, 44 and 45, and then struck the original eastern alignment at Feature 157 or 158. From here the line continued through Feature 41 and ended at Feature 178. Most of the posts in this line were evident by circular or oval stains; only Feature 103 had a definite square postmold. Depths for these features ranged from very shallow, .3 to .6' deep, probably truncated posts (Features 96, 41, 89, 103, 158, and 178), .9' to 1.3' deep, well-defined postholes and molds (Features 99, 88, 94, 154, and 157).

PLATE 15

English Yellow-glazed Earthenware ("the monkey jug")

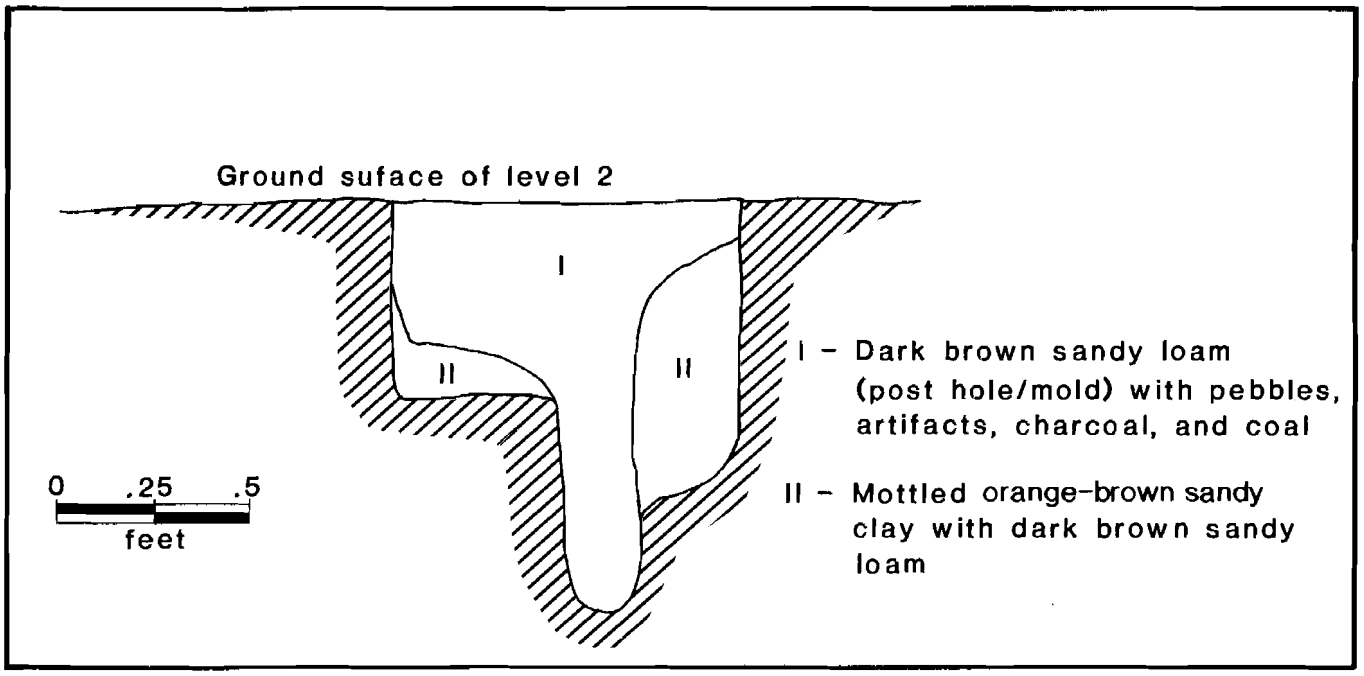
Vessel Recovered from Feature 53



The eastern fenceline consisted of nine to thirteen postholes and postmolds, starting at S10W17 (Feature 190), extending southerly from there to Feature 130, located at S24W14, and a distance of fourteen feet. From Feature 130, the line turned westward, running twenty-one feet to S15W35 (Feature 118). Like the southern fenceline described above, this line may have varied in direction somewhat, as evidenced by the series of driven and set posts south of Feature 130 (Features 126, 174, 69, 68, 71 and 125). Several of these ran through and intruded into Feature 12, indicating that the fenceline in this area post-dated the feature. This fenceline evidently defined the eastern boundary of the site, and included within its confines (i.e., to the west), the well (Feature 2) and Outbuilding I (Feature 1). Most of the posts located in this eastern fenceline appear to have been driven (cf., Features 189, 190, 126, 130, and 128). With Feature 128, a hole had been excavated, probably with a post-hole digger, to a depth of about 2.8 below datum, and a pointed, wooden post (approximately circular .4' in diameter) was driven to a depth of 3.85 feet below datum (Figure 36). The final post in this group, Feature 118, was an oblong stain, about .5' x .9', and exhibited signs of a post and mold. At the deepest, the feature was 3.34' below datum, and the feature was deeper in the southern end suggesting the location of the post within the hole. It is probable that this post was anchored or joined in some way to the eastern gable end of Structure II.

FIGURE 36

Feature 128 - Profile



Additional Features

Several important additional features were found during the data recovery excavations. The first of these was actually a feature complex, and represented the remains of a tree root system. Centered at about S55W55, a series of circular and oblong features, filled with dark, rich organic soils, mark the remains of this tree. There were about 21 features included in this complex (Features 132 - 145, 147-150) (Figure 20). Except for a few fragments of coal and a chert flake, no artifacts were recovered from any of these features. The presence of these features in this location places the tree south of the southern fenceline, and about twenty feet from the southern wall of Structure II.

Feature 110 is the second of the additional features, and like the tree complex noted above, was made up of five features.

The only one which was a true cultural feature was Feature 110, a posthole and mold. This feature was about 1.4' in diameter, and reached to a depth of .7' below subsoil. A clear mold was present in the hole. Artifacts recovered from this feature included whiteware, redware, and pearlware fragments, window glass, nails, and a fragment of a "DAVIS O.K. BAKING POWDER" bottle. The other four features were apparently root stains or burrows, and could represent plantings of some sort around this post. Feature 110 is probably associated in some fashion with the western fenceline, since its location is only seven to eight feet south of Feature 86.

Several isolated fenceposts were located during the excavations. Each of these apparently was not associated with any obvious structures or other features. Feature 176 (S10E5) was a clear posthole with a small, circular, driven post, yet was associated with no other discernible features. Feature 48 (S82W30) was unique in all of the features seen. It was triangular in shape (.7'x.7'x.7'), with no apparent posthole, and was fairly deep, extending to a depth of 2.71' below datum. It has been suggested that the triangular shape of the feature indicates that this was a split rail post (Alice Guerrant, personal communication 1988). Feature fill included whiteware, redware, nails, window glass and brick fragments. Once again, no other associated features were identified.

The final feature to be discussed was not located on the Williams Site proper, but was found on the farm lane leading west from the site to Route 896. In the course of the excavations by a private contractor for the gas line which ran

along the western boundary of the farm field, the workers used a backhoe to excavate the portion of the farm lane that crossed a small, unnamed tributary of Muddy Run. This crossing revealed the presence of a section of corduroy road, or wooden logs laid perpendicular to the course of the road, in situ beneath the hard-packed earth comprising the farm lane. The corduroying extended along the lane about 15 to 20 feet, effectively "bridging" the small stream. Logs forming the corduroying were about 8 to 10 feet in length, and 3 to 6 inches in diameter. They were rough cut and undressed, with the bark still present. Few artifacts were observed in the soils deposited with the corduroy road, and those that were present included whitewares and clear bottle glass, suggesting a date of construction in the late nineteenth-century. Although not technically part of the Williams Site, the discovery of the corduroy road aids in the interpretation of the site and area as a whole, indicating the types of rural engineering necessary for communication and transportation, and which likely were constructed by local residents.

ARTIFACT ANALYSIS

Excluding the prehistoric artifacts, which have already been described, there were over 35,000 historic artifacts recovered from the plowzone sampling of the Thomas Williams Site, including ceramics, nails, bottle and window glass, ceramic smoking pipe fragments, buttons, bone and shell, coins, and miscellaneous metal fragments. This total does not include the 101,426 brick fragments, ranging from small bits to whole