textural characteristics of all soils, and cultural materials recovered.

Phase II site investigation testing was carried out to determine the National Register eligibility of any sites discovered during the Phase I survey. Phase II testing consisted of the systematic excavation of 3 X 3 ft test units and measured test trenches to determine the contextual integrity and limits of the sites.

PHASE I SURVEY RESULTS

To facilitate the discussion of the Phase I and II surveys, the Beaver Valley project area was divided into four study areas: 1) Area A, along the east side of Beaver Valley Road south of Beaver Creek; 2) Area B, a strip of floodplain between Beaver Creek to the south and Beaver Valley Road to the north; 3) Area C, along the west side of Beaver Valley Road north of Heather Hill Farms (N-1358) and south of Beaver Creek; and 4) Area D, south of Beaver Valley Road near the Delaware-Pennsylvania state line. These four study areas are shown in Figure 8.

A summary of the background research and field reconnaissance conducted during the Phase I survey is presented below. The goal of the Phase I survey was to locate and identify all cultural resources within the ROW and to identify areas of disturbed soil or with a potential for intact subsurface landscapes. The location of all potential cultural resources noted on historic maps within the project area is shown in Figures 9 and 10 and are summarized in Table 2. Artifact inventories from Phase I and II testing are shown in Appendix I.

TABLE 2

HISTORIC MAPS LOCATING POTENTIAL RESOURCES 1-3 IN AREA A

	P.R. 1	P.R. 2	P.R.3
Rea and Price 1849	Yes "Talley & Clouds' Store"	No	No
Beers 1868	Yes "Store & P.O."	Yes "Shoe Sh[op]"	No
Lee 1875	Yes	Yes	No
Hopkins 1881	Yes "A. Chandler Store & P.O."	Yes	No
Baist 1893	Yes "Store & P.O."	Yes "Geo. Goodley [House]"	No
Woodlawn 1911	Yes	Yes	No
Woodlawn 1914	Yes "House & Barn"	Yes	No
Woodlawn 1916	Yes "House & Barn"	Yes	No

BACKGROUND RESEARCH PREHISTORIC SITES

Sites from all time periods are expected to occur within the Beaver Valley study area. The Beaver Creek floodplain is a possible location for microband base camps of all time periods. However, earlier research (Custer 1980) has shown that some Piedmont floodplains are heavily scoured by natural erosion and such erosion may have destroyed any sites in the Beaver Creek floodplain. Procurement sites from all time periods are expected on all upland slopes and knolls within the project area.

Although the study area is located in a section of Delaware with a high to medium potential for significant prehistoric archaeological sites (Custer 1983:Figure 41), not all of the sites expected to be found in the study area are likely to be significant enough to warrant listing in the National Register of Historic Places. Procurement sites located on upland slopes would be significant only if they are unplowed, even though the study area is subjected to a high degree of development pressure (Custer and DeSantis 1985:Figures 26 and 27). Any buried or intact sites found in the Beaver Creek floodplain may be significant because such sites are rare in the Piedmont Uplands (Custer and Wallace 1982; Custer and DeSantis 1985:Figures 24 and 25).

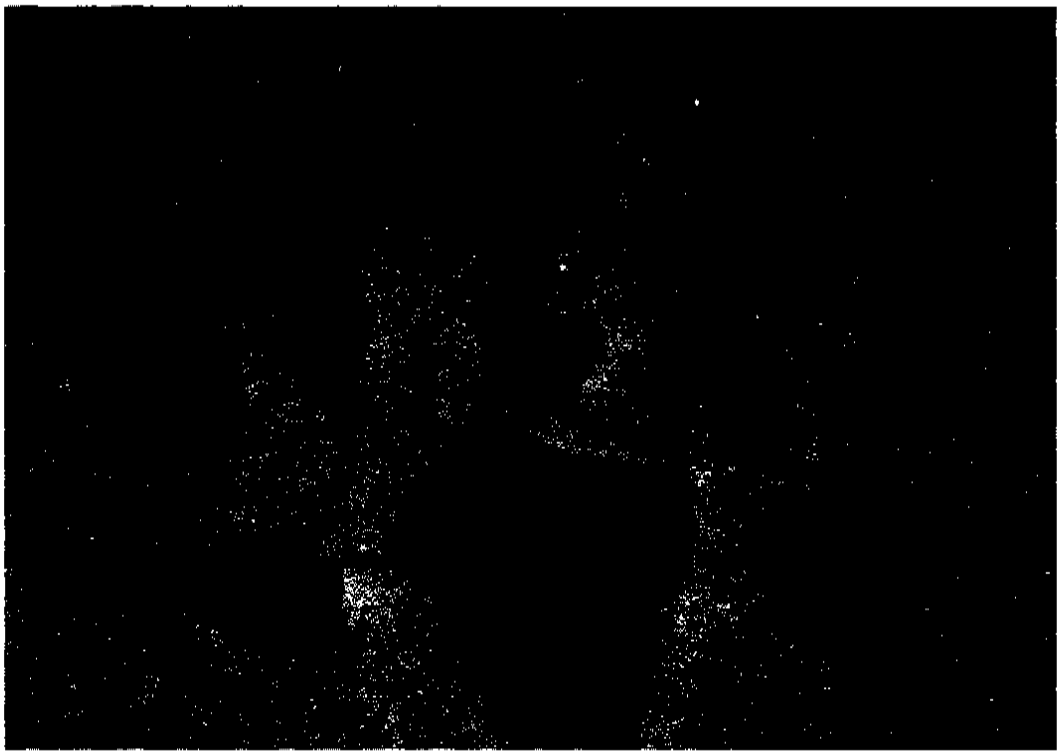
The Beaver Valley Rockshelter (N-3663, 7NC-B-2) is located near the project area, and was partially excavated by the Archaeological Society of Delaware in 1948. The site is listed on the National Register of Historic Places and artifacts recovered from these excavations included an argillite stemmed point, broadspears, other stemmed points and various unidentified quartz-tempered ceramics (Plate 3; Weslager 1953). These artifacts indicate a Woodland I and II occupation. The site will not be affected by the proposed project.

AREA A: EAST OF BEAVER VALLEY ROAD AND SOUTH OF BEAVER CREEK

Area A is a grassy, gradually sloping area east of Beaver Valley Road and extends from the south bank of Beaver Creek south to the southern project boundary (Figure 8 and Plate 2). Area A consists of three terraces and two intervening gradual slopes

PLATE 3

Artifacts from Rockshelter



(Figure 11). Terrace 1 is immediately south of Beaver Creek and terrace 3 is the southernmost and highest terrace. Between terrace 3 and terrace 1, a distance of approximately 400 feet, the vertical drop is approximately 30 feet.

Visual inspection of the area found no standing structures or obvious archaeological features in Area A. A small, mortared fieldstone spring house in very poor condition was found in a small swampy thicket approximately 400 feet outside of the eastern project ROW. The potential for historic archaeological resources was considered to be high because three historic structures had been identified within the project ROW by background research. The potential for intact prehistoric

remains and buried prehistoric landscapes was considered to be medium on each of the three terraces and low on the intervening slopes. The intensity of historic activity on the terraces and the possibility of significant colluvial action along the slopes between the terraces, however, were expected to decrease the possibility of finding intact prehistoric remains.

Background Research - Three potential cultural resources were identified by background research. All three of these potential resources appear as standing structures on various historic maps. No potential prehistoric sites were located by background research. The first potential resource is an early to mid-nineteenth century store and later store and post office located in Area A by tax assessments and historic maps, most notably Rea and Price (1849), Beers (1868), Hopkins (1881), and Baist (1893). The second potential resource is a mid-nineteenth century structure appearing on Beers (1868) as a "Shoe Sh[op]" and later on a 1914 topographic map as an unidentified structure that was probably last used as a tenant residence. This resource also appears on Lee (1875), Hopkins (1881), and Baist (1893). The third resource is an early twentieth century house located in Area A by informants and does not appear on any historic maps. The locations of the potential resources in Area A are shown in Figure 9. A detail of Beers' 1868 historic atlas showing the first two resources is shown in Figure 12. A summary of all the historic maps showing all three resources is given in Table 2.

The store and post office were built sometime after Amor Chandler (Jr.) received the land in 1812 and 1835, when Scharf (1888:907) notes that Chandler's store was being operated by

Charles and Martin Palmer. It is likely that Chandler continued to operate the store through tenants as Rea and Price (1849) shows the structure as "Talley and Cloud's Store." Chandler's store operated as such into the first quarter of the twentieth century. Between 1850 and 1874, the store also began to be used as a post office. John Chandler's son, Amor H., operated both the store and the post office from 1876 until at least 1888, the last year in which Amor H. is listed in the state directories as a postmaster and butcher and when the land is sold to William S. Stokes (NCD 14-G-383).

The second potential resource (Figure 9, Table 2) appears first on Beer's 1868 atlas as a "Shoe Sh[op]" associated with the general store and post office. This association is supported by Scharf (1888:907) who notes that Lewis Talley and William Cloud, who then operated the store and post office, manufactured shoes with some other partners in connection with the store. The structure is illustrated in a number of other historic maps (Table 2), although Beer's is the only one that labels it as a shop. Baist (1893) shows the structure as belonging to George Goodley, by which time it was probably used solely as a tenant residence. George Goodley purchased the parcel containing both the store and post office and the "shoe shop" in 1889, at which time it is likely that he lived in the more substantial store and post office structure. Interviews with informants also support this assumption. One informant, Mr. Albert Mayer, remembered the structure to be a small frame tenant house that was last inhabited by black tenants and in very poor condition in the early 1920s. The structure was destroyed between 1916 and 1939

when Woodlawn Trustees, the present owner, acquired the property.

The final potential resource is an early twentieth century house structure identified by informants (Figure 9; Table 2). No historic maps, including the 1911-1916 topographic maps, show the structure. One informant, Mr. Albert Mayer, remembered a frame house built by Williard Galbreth who purchased the property in 1900. According to Mayer, the Galbreths planned to move into the store and post office structure but found the structure to be in too poor of condition to warrant repair. Galbreth then supposedly purchased the materials for a one and a half story frame structure from the Sears and Roebuck catalog and built directly behind the store and post office.

Phase I Survey Results - One historic archaeological site was located during the Phase I survey. The Chandler-Galbreth site (N-10955; 7NC-B-19) has two components, corresponding to the first and third potential resources as identified by background research. The first component of the Chandler-Galbreth site identified by the Phase I Survey was the foundation of the store and post office (potential resource 1) identified on Rea and Price (1849), Beers (1868) and a number of other historic maps (Table 2). The second component of the Chandler-Galbreth site identified was the "Sears and Roebuck" mail order house built by W. T. Galbreth and identified by background research as potential resource 3.

Potential resource 2, the "Shoe Sh[op]" on Beers' 1868 atlas, was not located by the Phase I Survey. Field reconnaissance of the area in which the structure was located by

historic maps found the area to be a thickly vegetated swamp created in part by the discharge of a pond built on Heather Hill Farms across Beaver Valley Road in 1956 (Figure 11). A field reconnaissance of this northernmost part of Area A was completed despite heavy vegetation and standing water, but no evidence of the shoe shop was located.

A total of 32 shovel tests and four 3 X 3 ft test units were excavated in Area A during the Phase I Survey. All three terraces and both of the intervening slopes were tested. Total artifact counts by type for all Phase I excavations in Area A are included in Appendix I. Field reconnaissance of Area A located no standing structures or obvious archaeological features on any of the three terraces or two intervening slopes. The presence of the small, deteriorated spring house east of the project area was confirmed. No surface collection was attempted as the entire area is unplowed and grass covered.

The first shovel tests excavated in Area A was a transect of 16 tests running from the first terrace south to the third terrace and southern project boundary. This first series of shovel tests are shown as Shovel Tests A-1 to A-16 in Figurel3. This transect of test excavations which ran parallel to Beaver Valley Road approximately 25 feet east of the road and along the proposed ROW tested all three of the major terraces south of Beaver Creek in Area A and the two intervening slopes.

The first terrace south of Beaver Creek in Area A was tested by Shovel Tests A-1 to A-6 (Figure 13). The interval between each of these shovel tests was 15 feet. No prehistoric artifacts were recovered. Historic artifacts were recovered from all of

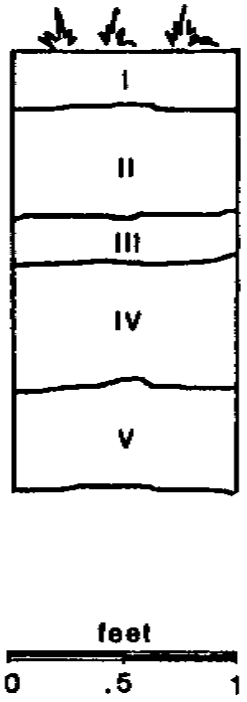
the shovel tests except Test A-1 which filled up with water after the humus was removed. This test unit is located at the edge of the swampy ground in the northernmost portion of Area A, the area in which the "Shoe Sh[op]" (potential resource 3, Figure 9) appears on Beers Atlas. The heavily decomposed organic layers uncovered as part of the humus appeared to be undisturbed, suggesting that perhaps the shoe shop was located further north, closer to Beaver Creek, than is shown on Beers Atlas (Figure 12).

Shovel Test A-3 located the first evidence of a structure on the Chandler-Galbreth site. At approximately 1.1 feet below surface, a layer of decomposed tan-gray mortar and large rock was encountered and labelled Feature A-1. Two of the rocks showed evidence of mortar, but were not in place, suggesting the possibility of a disturbed stone and mortar foundation. This rubble, probably foundation related, was overlain by approximately 0.3 foot thick layer of decomposed mortar fragments (0.85 - 1.1 feet below surface), a layer of yellow-brown clayey sands from approximately 0.25-0.85 feet below surface and a thin humus (Figure 14). No plowzone was found. The artifacts recovered from Shovel Test A-3 also suggested the presence of a structure. Fragments of nails, redware vessels, bricks, and coal were found in all strata. Excavation of this shovel test was terminated at 1.15 feet below surface.

Shovel Tests A-4 to A-6 were then excavated south of Test A-3 to test the southern portions of the first terrace. All three shovel tests recovered large amounts of historic artifacts similar to those found in Shovel Test A-3. Wire nails and nail fragments, clear window and molded bottle glass fragments, green

FIGURE 14

Profile of Phase I Shovel Test A-3



Soil Key

I Humus

II Medium grey-brown sandy silt with pockets of coarse sand and decomposed schist fragments

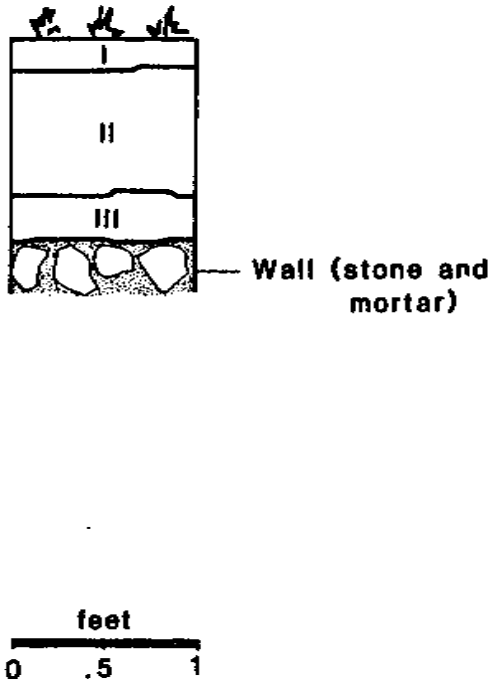
III Medium brown silt loam with small pockets of decomposed mortar. No large rocks

IV Yellow-brown sandy clay

V Brown-yellow sandy clay, sand is coarser than level IV, also higher clay content

FIGURE 15

Profile of Phase I Shovel Test A-5



Soil Key

I Humus

II Yellow-brown clayey sand, few roots: all without evidence of mortar

III Grey-tan sand with numerous decomposed mortar fragments and stains. Numerous rocks, some with mortar stains

bottle glass, and fragments of coal, coal ash, and mortar were recovered from all levels of Shovel Tests A-4 to A-6. Ceramics recovered from these tests included small fragments of undecorated whitewares and lead glazed redwares. One small nineteenth century kaolin pipe stem fragment was also recovered from Shovel Test A-5. No prehistoric artifacts were recovered.

The disturbed stone and mortar feature located by Shovel Test A-3 was not located in Tests A-4 to A-6. A typical stratigraphic sequence for this southern part of Area A is shown in the profile of Shovel Test A-5 (Figure 15). The humus was relatively thin in this test, approximately 0.3 foot thick. Below this was an approximately 0.45 foot thick layer of medium gray-brown sandy silt with numerous pockets of coarse sands and small decayed schist fragments. This second level extended from approximately 0.3 to 0.95 foot below ground surface. The third strata encountered was a medium brown silt loam with small pockets of decomposed mortar extending from approximately 0.75 to 0.95 foot below surface. Level four was composed of a yellow-brown sandy clay from approximately 0.75 to 0.95 foot below surface. Level V was a brown-yellow grained sandy clay at approximately 1.5 to 2.0 feet below surface, the limit of excavation. This deepest strata contained a much more coarsely grained sand and was more clayey in nature. No plowzone was encountered. Historic artifacts were recovered from all levels of Shovel Test A-5. All of these artifacts, with the possible exception of one small sherd of slip-decorated redware, date from the mid-to-late nineteenth century to early twentieth century. Other artifacts recovered included fragments of undecorated

whitewares, clear and green molded late nineteenth and twentieth century bottles, wire nails, coal, and coal ash. These artifacts are typical of those found in the other shovel tests excavated in terrace 1.

A measured 3 X 3 ft test unit was then excavated approximatley one foot south of Shovel Test A-3. This unit, labelled Test Unit A-1, was excavated to determine the extent of the disturbed mortar and stone feature found in the shovel test and to determine if any intact portions remained. No intact portions, however, were located by this unit and no orientation to the rubble was seen. At 1.25 feet below surface, the stone and decomposed mortar rubble was located.

A humus (0-0.3 foot below surface) and a thick layer of medium brown mottled sandy loam fill (0.3-1.5 feet below surface) were located above the feature in this test unit. The second level of fill was heavily mottled with tan pockets of mortar and contained numerous nineteenth and early twentieth century historic artifacts. Numerous large and small rocks, many of them broken and with evidence of mortar, were also seen. Diagnostic artifacts recovered from this level included fragments of molded and gaudily decorated early twentieth century whitewares; glazed and unglazed utilitarian earthenwares; brown banded stonewares; and a mid-to-late nineteenth century pharmaceutical bottle. Other artifacts recovered included the usual assortment of window glass; clear, amber, and green bottle glass; wire nail fragments; and coal. None of the artifacts recovered from these levels above the stone and mortar feature date before late nineteenth

century and were most likely deposited during the razing of the structure in the late 1930s or early 1940s.

Test Unit A-1 was then expanded two feet to the south to include Shovel Test A-3 in order to determine if the displaced stone and mortar feature located in Shovel Test A-3 was part of the same deposit uncovered in Test Unit A-1 and to determine an orientation to the feature. A plan of the expanded Test Unit A-1 is shown in Figure 16. As can be seen in this figure, the bottom of the unit was composed of a uniform level of displaced rocks and pockets of decayed mortar, probably the remains of a severly disturbed foundation (Feature A-1). No orientation was seen.

The soil along both sides of the feature were the same type of sandy loam, but the soil along the southern edge was much more loosely packed and heavily pocketed with large air spaces. This feature was interpreted as possible evidence of an interior portion of a structure and strengthened the association of Feature A-1 with a disturbed foundation. The area north of the feature, presumably the exterior, was troweled off but no evidence of a builder's trench was found.

While troweling south of Feature A-1, presumably in the interior of the structure, a large fragment of a brown stoneware bottle was found (Plate 4). Along one broken edge the letters "WM __RE" are found. The middle letters are illegible but the spacing suggests two letters. This inscription suggests that the bottle was manufactured by William Hare of Wilmington. Hare operated a pottery at 212 French Street in Wilmington and is listed in the city directories as a potter from 1845 to 1885. Hare produced both redwares and stonewares and is known

FIGURE 16

Floor Plan of Phase I Test Unit A-1

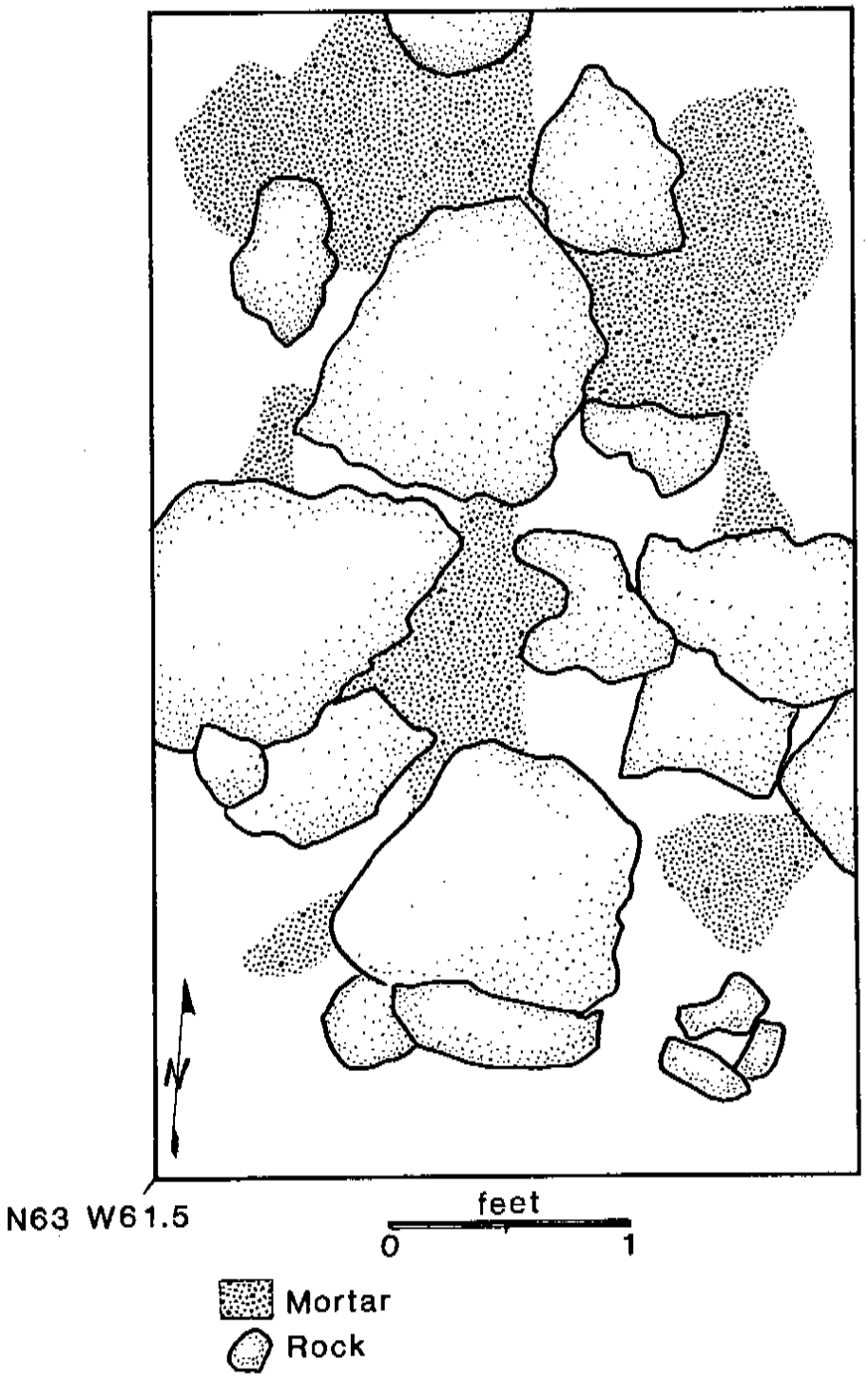
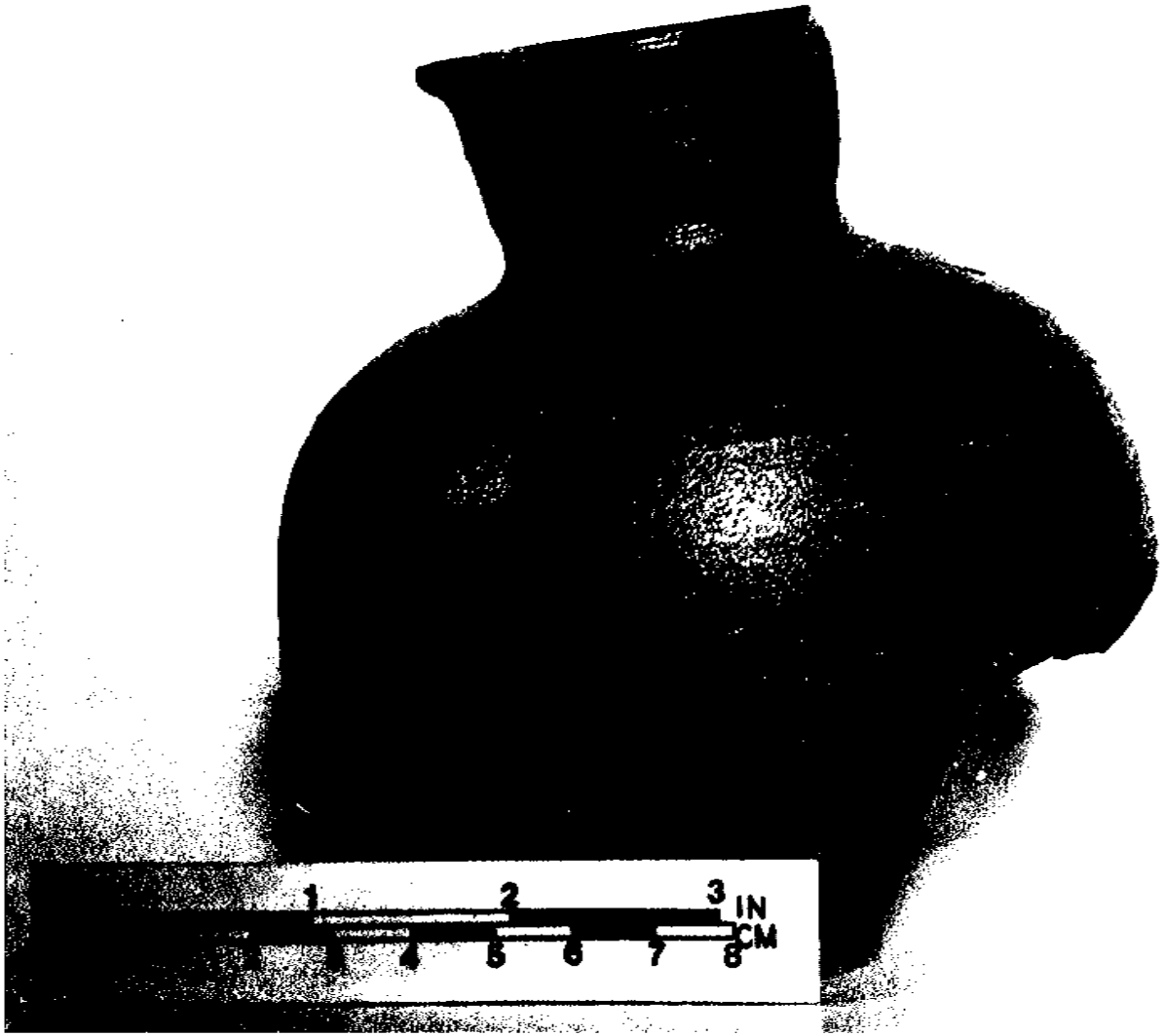


PLATE 4

Reconstructed William Hare Stoneware Bottle from Feature A-1, Test Unit A-1, A. Chandler/Galbreth Site (N-10955, 7NC-B-19)



particularly for his marked stoneware bottles, of which this artifact is probably an example. The maker's mark on this artifact is very similar to that of one intact William Hare stoneware bottle, owned by Sue Fox (Plate 5).

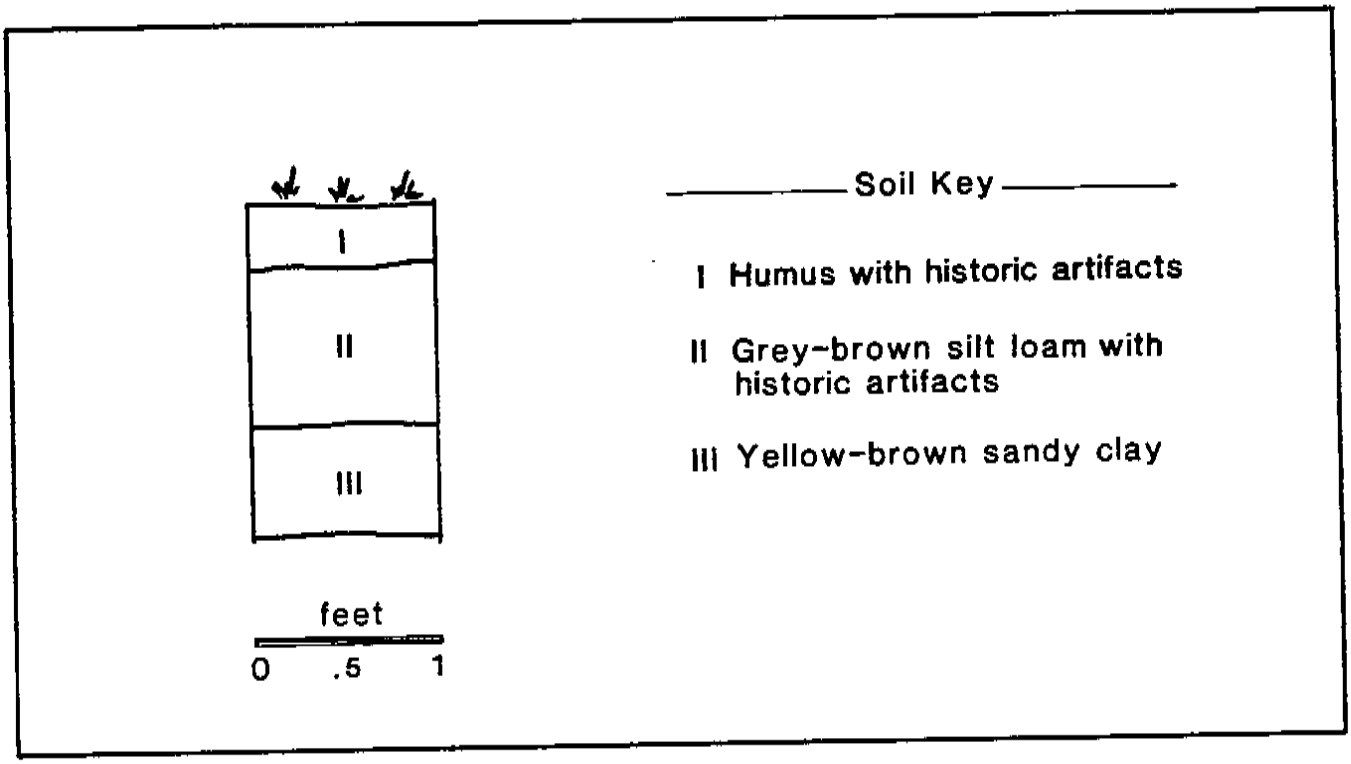
An additional shovel test was excavated approximately 7 feet north of Shovel Test A-3, equidistant between Shovel Tests A-3 and A-2. This additional shovel test was excavated to determine if the structure extended further to the north and was missed by the original 15 foot interval. This shovel test was excavated to a depth of 0.80 feet when a large decomposed mortar stain similar to that seen in Shovel Test A-3 and Test Unit A-1 was encountered. The shovel test was then enlarged to a 2 X 2 ft unit to determine if the stain was associated with a foundation. This 2 X 2 ft unit was labelled test unit A-2 and was excavated by natural levels to a depth of 2.0 feet below surface. No intact foundation was located. The mortar stain continued to a depth of 1.7 feet and contained numerous large rocks, revealing an area of disturbed mortar and rock rubble similar to that seen in Test Unit A-1. None of these rocks showed evidence of mortar and are probably related to the destruction and subsequent fill of the structure. Historic artifacts recovered from this unit consisted of wire nails, nail fragments, and numerous pieces of window glass. The vertical distribution of artifacts between natural soil levels was consistent. No historic ceramics or prehistoric artifacts were recovered. Having located evidence of one structure, this test unit completed the Phase I testing of the first terrace of Area A.

PLATE 5

Complete William Hare Stoneware Bottle

FIGURE 17

Profile of Phase I Shovel Test A-8



The second terrace of Area A begins approximately 300 feet south of Beaver Creek and the slope between terrace 1 and terrace 2 is very gentle, approximately five vertical feet in 60 feet. A total of 13 shovel tests and one 3 X 3 ft test unit were excavated in the second terrace as part of the Phase I Survey. The first three shovel tests excavated in the second terrace were located along the same transect as Shovel Tests A-1 to A-6 in terrace 1. These three shovel tests were labelled A-7 to A-9 and are located in Figure 13. Shovel Test A-9 was located along the slope between terrace 2 and 3 (Figure 13).

A typical stratigraphic sequence in terrace 2 can be seen in the profile of Shovel Test A-8 (Figure 17). The stratigraphy of

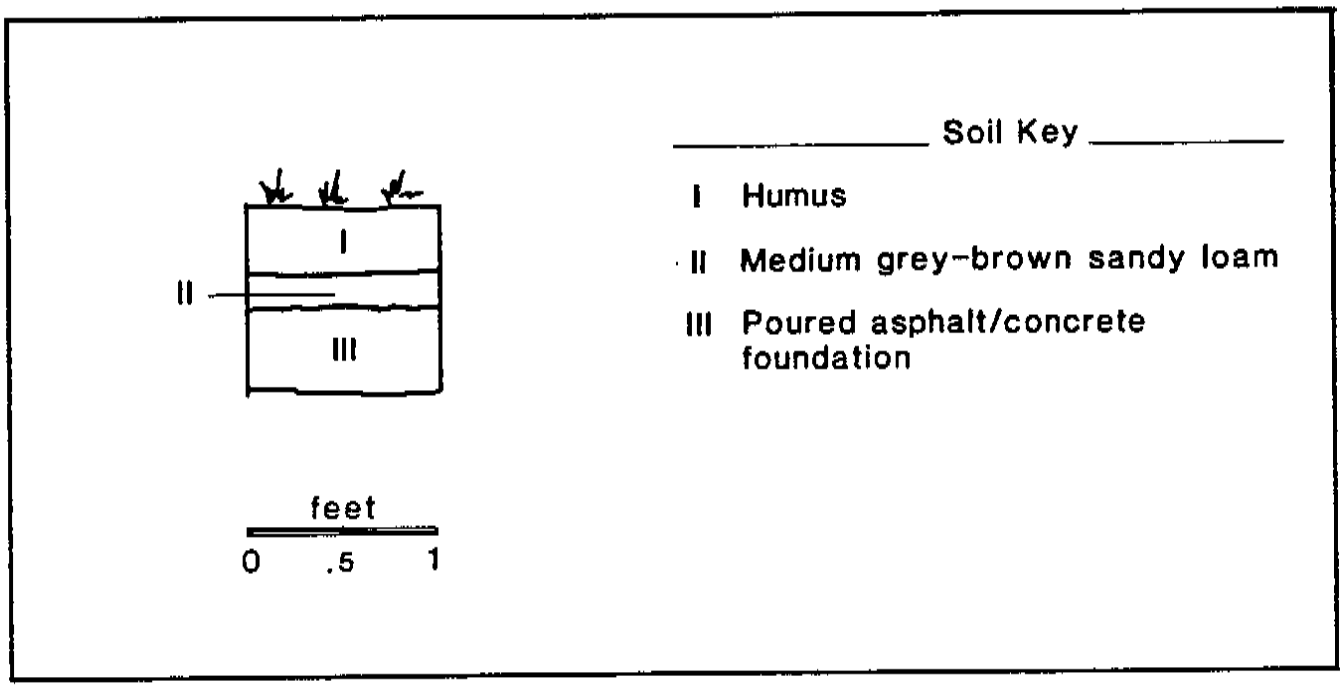
the second terrace was similar to that of terrace 1. A thin, 0.35 foot thick humus was underlain by a 0.85 foot thick layer of gray-brown silt loam (0.35-1.2 feet below surface). This layer was underlain by a yellow-brown sandy clay from 1.2-1.8 feet below surface (Level 3, Figure 17). Particle size increased with depth, particularly in the second silt-loam level where numerous small, decayed schist fragments were found. This terrace was also never plowed as no plowzone was identified.

No intact prehistoric or historic cultural resources were located by Shovel Tests A-7 to A-9 in terrace 2. No prehistoric artifacts or buried landscapes were located. The density of historic artifacts recovered in these tests decreased sharply towards the south. Shovel Test A-9, the southernmost test, contained only one artifact, a small and heavily weathered pearlware sherd.

Two transects of 10 additional shovel tests were then excavated in terrace 2. These shovel tests were placed along east-west transects between Tests A-6 and A-8. The location of these two transects and the total historic artifacts from each of these additional tests are shown in Figure 18. Total structurally-related artifacts (South 1977:95) for each of these shovel tests and the original transect of shovel tests (A-6 to A-8) are shown in Figure 19. These 10 additional shovel tests were labelled according to a datum established in the northeast corner of the terrace and outside of the ROW. Thus Shovel Test S20W30 was located 20 feet south and 30 feet west of datum. All further Phase I/II excavations in Area A were measured from this datum.

FIGURE 20

Profile of Phase I Shovel Test S0 W30, Area A



Shovel Test S0W30 located part of a dark, poured concrete-macadam foundation at 0.55 foot below surface. No decomposed mortar or displaced rock similar to that seen in terrace 1 was found. This was the only cultural resource identified by the shovel test grid in terrace 2. The location of shovel test S0W30 is shown in Figure 18. The poured foundation found in Shovel Test S0W30 was overlain by a relatively simple stratigraphy (Figure 20). Immediately above the foundation was a 0.20 foot thick layer of medium gray-brown sandy loam from 0.35-0.55 foot below surface (Level II, Figure 20). Above this was a thin humus. Artifacts recovered from Shovel Test S0W30 included fragments of window glass, wire nails, and twentieth century terra cotta drainage pipe. No ceramics or other diagnostic artifacts were recovered.

The stratigraphy identified in S0W30 was very similar to that seen in the other areas of terrace 2 sampled by the shovel test grid. Artifact density over the entire terrace remained relatively constant with structural remains decreasing towards the south. Structural remains comprised mainly of fragments of flat, clear glass and wire nails comprised approximately 90% of the artifacts recovered. Other artifacts recovered in terrace 2 included numerous fragments of undecorated and transfer-printed whiteware, unifacially and bifacially lead glazed redwares of both utilitarian and refined types, and green and amber bottle glass. No pearlware or any other ceramics earlier than whitewares were found. This grid of 13 shovel tests completed the Phase I Survey of terrace 2.

No further evidence of the foundation segment located in Shovel Test S0W30 was encountered in any of the other shovel tests excavated in terrace 2. Each of the three shovel tests excavated immediately surrounding test S0W30 (Figure 18) failed to locate the foundation, although window glass and wire nails were found in all levels of each of the tests.

A 3 X 3 ft test unit was then excavated immediately east of Shovel Test S0W30 to locate the dark gray-black concrete-macadam foundation uncovered in the shovel test. The location of the Test Unit S3W28, and Shovel Test S0W30 are shown in Figure 18. At 0.35 feet below surface an intact alignment of small mortared rocks was located. At 0.55 feet below surface these small mortared rocks were found to be part of the deeper and much more substantial concrete-macadam wall. The entire foundation was oriented east-west and was overlain by a thin humus and a layer

of gray-brown sandy loam from 0.20-0.55 feet below surface.

The mortar used in this wall was different than that encountered in terrace 1, and along with the construction of the foundation suggested a different and probably much later structure than that located on the first terrace. The mortar on terrace 2 was much lighter in color and more finely grained. The concrete-macadam portion of the wall in terrace 2 was observed to be approximatley 0.4 feet thick. The vertical extent of the wall was not determined as excavation was stopped at 0.75 feet below surface. One sherd of a slip-decorated refined redware and a porcelain button were recovered from the light brown silt loam along the interior edge of the foundation at approximately 0.45 feet below surface. Other artifacts recovered from Test Unit S3W28 included clear window and bottle glass fragments and terra-cotta drain pipe fragments.

A floor plan of Test Unit S3W28 at approximately 0.60 feet below surface showing the orientation of the concrete-macadam wall is given in Figure 21. Two distinct soils were recognized south of the wall, suggesting the exterior of the structure (Figure 21). The first soil recognized was a 0.6-1.0 foot wide band of light brown silty loam with pockets of coarse sand. South of this was a medium brown sandy silt with numerous pockets of coarse sands and gravels. Excavation was stopped at this level as the difference between the two soils suggested a possible builders' trench. Later excavation, however, did not locate any builders' trench. This test unit completed the Phase I investigation of the second terrace in Area A.

FIGURE 21

Floor Plan of Phase I Test Unit S3 W28, Area A

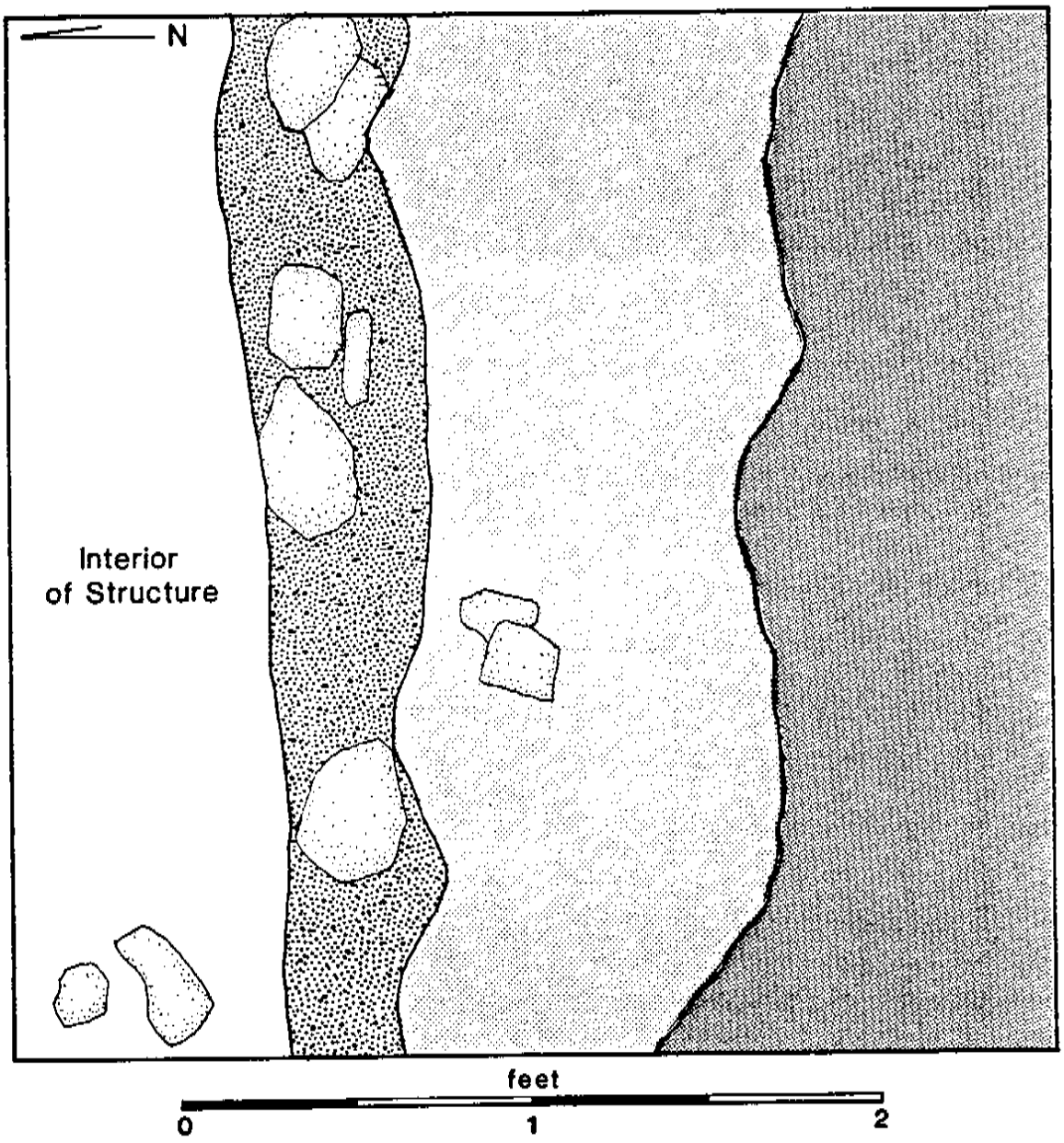
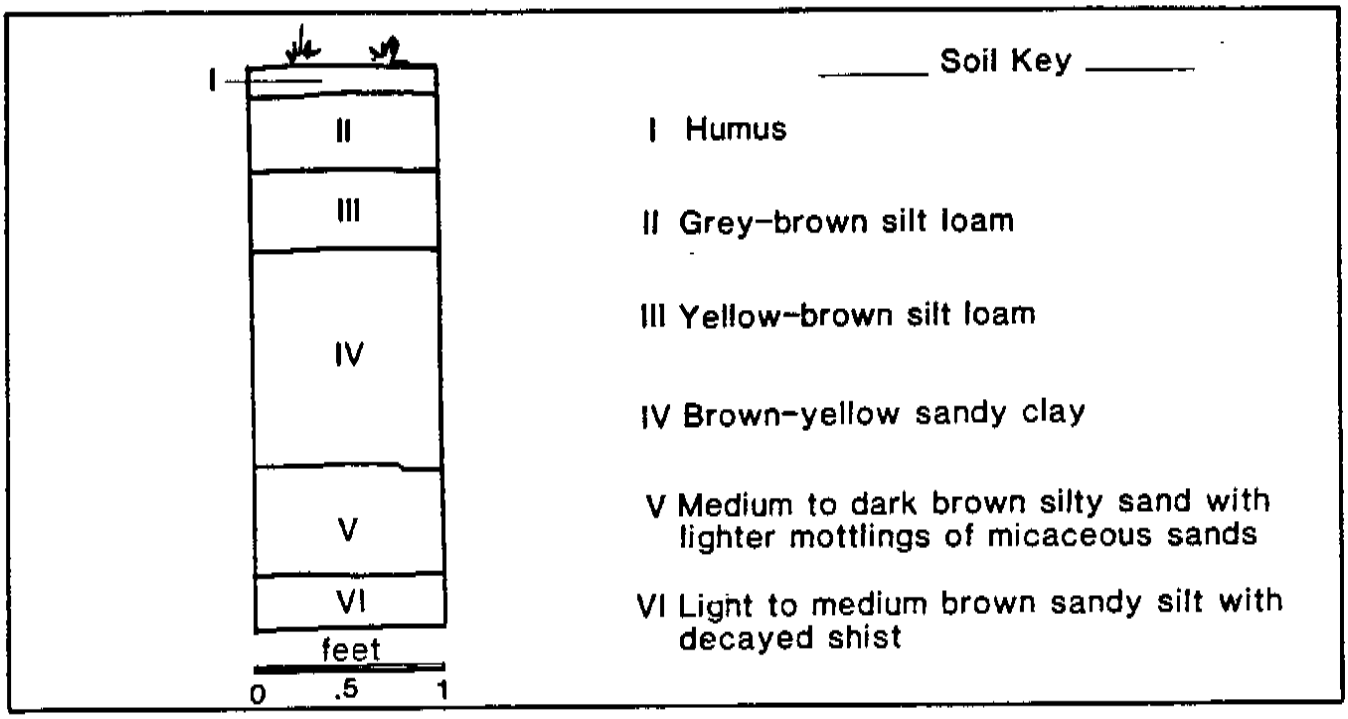


FIGURE 22

Profile of Phase I Shovel Test A-15



Along the original transect of sixteen shovel tests, Tests A-10 to A-16 sampled the slope between terraces 2 and 3 (Figure 13). The interval between A-10 and A-11 along the slope between terrace 2 and 3 was 40 feet. The interval between A-11 and A-16 along the third terrace was 20 feet. No cultural features were identified in terrace 3 or the slope towards terrace 2.

A typical stratigraphic sequence in terrrace 3 can be seen in the profile of Shovel Test A-15 given in Figure 22. A humus was underlain by a gray-brown silt loam from 0.15-0.55 feet below surface and a yellow-brown silt loam from 0.55 to 1.0 feet below surface. Below this was a brown-yellow sandy clay from 1.0 to 2.15 feet below surface (Level IV, Figure 22). From 2.15-2.75

feet was a sterile medium to dark brown silty sand with lighter mottlings of micaceous sands (Level V, Figure 22). Below this was another sterile level, a light to medium brown sandy silt with numerous fragments of decayed schists up to 6 inches long from 2.75-3.0 feet below surface (Level VI, Figure 22).

Historic artifacts were from the upper levels of all the shovel tests excavated in terrace 3. Compared to terraces 1 and 2, however, fewer artifacts were recovered. As with the slope between terrace 1 and 2, the slope between terrace 2 and 3 contained very few historic artifacts and encountered sterile soils at less than 1 foot below surface. This distribution is due in part to colluvial action and to the distance from the locus of historic activity along the first terrace. Shovel Tests A-9 and A-10 recovered one artifact apiece, and Test A-11 at the base of terrace 3 located 2 wire nails, 6 fragments of window glass, 1 olive bottle glass fragment, 2 oyster shells, coal, and 1 heavily weathered sherd of late nineteenth century salt-glazed stoneware. Shovel Tests A-11 to A-16 recovered similar assemblages, with small, oxidized nail fragments, window glass, and coal comprising the bulk of the artifacts recovered. Few ceramics were recovered on the third terrace, although one small piece of pearlware was found in Shovel Test A-9 and one equally small and heavily weathered whiteware sherd was found in Shovel Test A-13.

A grid of 6 additional shovel tests was then excavated in terrace 3. The location of these 6 tests along the south 145 line is shown in Figure 18. These additional tests were excavated to test between the original transect of shovel tests

and to test the remainder of the terrace. Few historic and no prehistoric artifacts were recovered from this terrace. The distribution of artifacts within the terrace remained relatively constant and showed no significant patterns as can be seen in the distribution of total historic artifacts from all of the Phase I shovel tests in terrace 3 in Figure 18. Small fragments of coal, utilitarian redwares, late nineteenth century whitewares, wire nails, clear and amber molded bottle glass, and window glass were by far the most commom artifacts recovered. No intact structural remains were located by any of the Phase I shovel tests on the terrace. Very few structurally-related artifacts were even recovered from the terrace as can be seen in Figure 19. No pearlwares or other earlier ceramics were located. The stratigraphy identified for other areas in terrace 3 was very similar to that identified in shovel test A-15 (Figure 22).

The limits of the Chandler-Galbreth site (N-10955; 7NC-B-19) as indicated by the Phase I Survey are shown in Figure 23. The site extends from approximately 280 feet south of Beaver Creek along the east side of Beaver Valley Road to approximately 360 feet south of the Creek and the beginning of terrace 2. These limits are based on the distribution of structurally-related artifacts within the original series of shovel tests and the two grids of tests excavated in terraces 2 and 3. These limits correspond to those suggested by background research, in particular deed research that shows the southern limit of the Chandler/Galbreth property to be approximately 400 feet south of Beaver Creek. Because artifacts were recovered from intact

contexts and intact structural remains were located, a Phase II study was recommended for the site. A description of the Phase II survey is included later in this report.

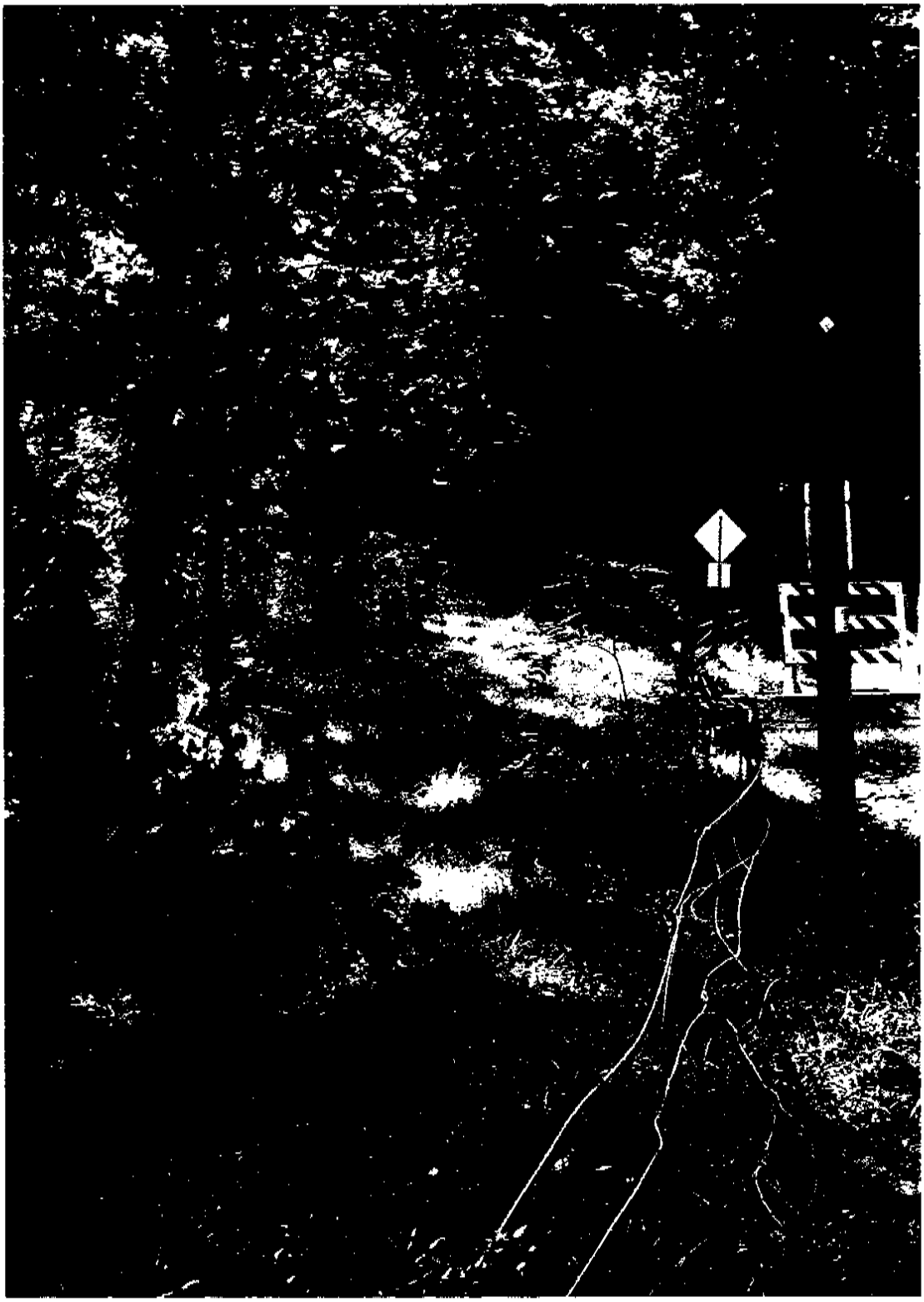
AREA B: SOUTH OF BEAVER VALLEY ROAD AND NORTH OF BEAVER CREEK

Area B is a narrow strip of floodplain between Beaver Valley Road to the north and Beaver Creek to the south (Plate 6). Visual inspection of the area found no standing structures or obvious archaeological features. The potential for historic archaeological sites was considered to be high. The potential for intact prehistoric remains and buried historic and prehistoric landscapes was considered to be low due to flood disturbances, including the flood of 1843 that wiped out a number of mills in the area. In any areas not affected by violent alluvial action, however, the potential for intact prehistoric remains was assumed to be high.

Background Research - The only potential cultural resource identified by background research in this area was a house indicated by a 1914 topographic map made for the present owners, Woodlawn Trustees (Figure 10). The structure was probably constructed during the period between 1893-1914 as it does not appear on Beers' (1868), Hopkins (1881), or Baists' (1893) atlases. Two informants confirmed the location of the structure as indicated on the 1914 map. According to both informants, the structure was a turn-of-the-century tenant house last inhabited by blacks. A 1911 topographic map prepared for the current owners, Woodlawn Trustees, shows the structure as the "Sauber" house. One informant remembers the structure as being extremely

PLATE 6

Area B, Looking West, June 1986



dilapidated in the early 1920s. The names of any of the tenants are unknown and the existence of the structure is not recorded in any of the deed transactions for the property. The structure was probably removed in 1939 when Woodlawn Trustees acquired the land from Alice G. Highfield (NCD F-41-490).

Phase I Survey - A total of nine shovel tests and three 3 ft X 3 ft test units were excavated within the ROW in Area B (Figure 24). No prehistoric artifacts were located and no intact prehistoric or historic subsurface landscapes were identified. All of the shovel tests revealed a similar stratigraphy of alluvially deposited silty sands on top of sterile, coarse-grained clayey sands and heavily worn pebbles and cobbles. These sterile clayey sands begin at approximately 2.5 feet below surface and represent the in situ weathering of local geologic strata. The profile of Shovel Test B-2 illustrates a typical stratigraphic sequence in Area B (Figure 25). The earliest diagnostic historic artifacts recovered from Area B were mid-to-late nineteenth century blue transfer-printed whiteware fragments recovered from all strata down to the sterile clayey sands and gravels. No prehistoric or earlier diagnostic historic artifacts were recovered, although all soils were screened through 1/4 inch mesh. Other types of historic artifacts recovered in Area B include clear and amber bottle glass fragments, refined and coarse redware sherds, wire nails and nail fragments, brick fragments and coal ash. Such late nineteenth to early twentieth century artifacts were found in all strata down to the sterile clayey sands. Given the nature of the fine-grained sands and silty sands seen in all of the artifact-bearing strata and the

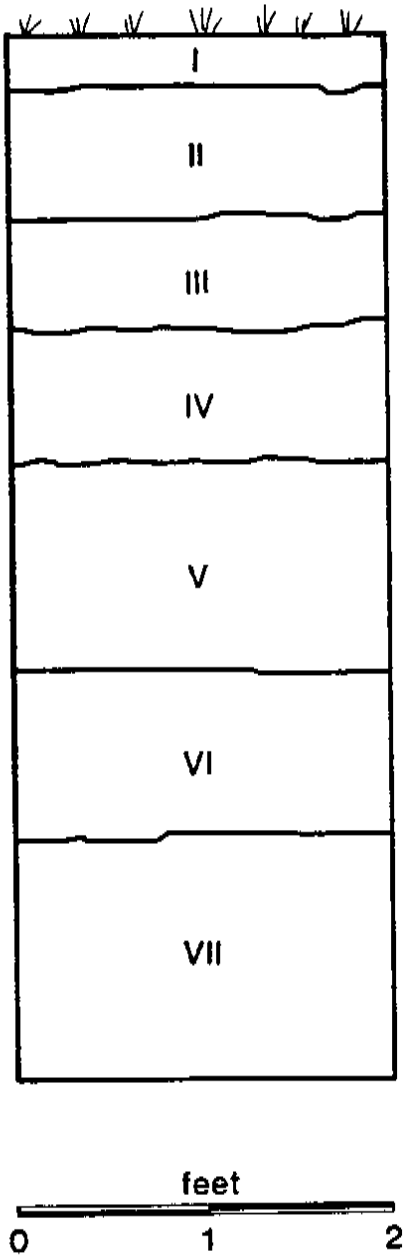
fact that nineteenth century ceramics were found equally distributed through all non-sterile levels, it is likely that alluvial action has scoured this strip of floodplain of all earlier cultural remains.

Shovel Test B-3 located the site of the pre-1914 tenant structure identified in the 1914 Woodlawn map as the Sauber residence. The location of the structure was later confirmed by informants. This shovel test encountered a thin, 0.2-0.3 foot thick layer of brick and mortar fragments at approximately 0.5 foot below surface. A 3 ft X 3 ft test unit, Test Unit B-1, was then put in immediately east of the shovel test to determine the extent of this brick and mortar layer. This unit was later expanded to a 5 ft X 3 ft unit to include Shovel Test B-3. The location of Test Unit B-1 is shown in Figure 24.

Test Unit B-1 was excavated according to the natural stratigraphy to a maximum depth of 2.0 feet. A profile of Test Unit B-1 is shown in Figure 26. The broken brick, rock, and mortar layer was located and sectioned. No evidence of an intact foundation was found. The broken brick and mortar lens identified in the shovel test was found to be part of a larger brick, mortar, and rock filled depression. Extending from 0.5 to 1.3 feet below surface, this level contained numerous small brick, wire nail, transfer-printed whiteware, coarse and refined redware, window glass fragments, and mortar stains. An early twentieth century canning jar base was recovered from the deepest part of the deposit suggesting the degree of disturbance sustained when the structure was destroyed. This broken, brick,

FIGURE 25

Profile of Phase I Shovel Test B-2

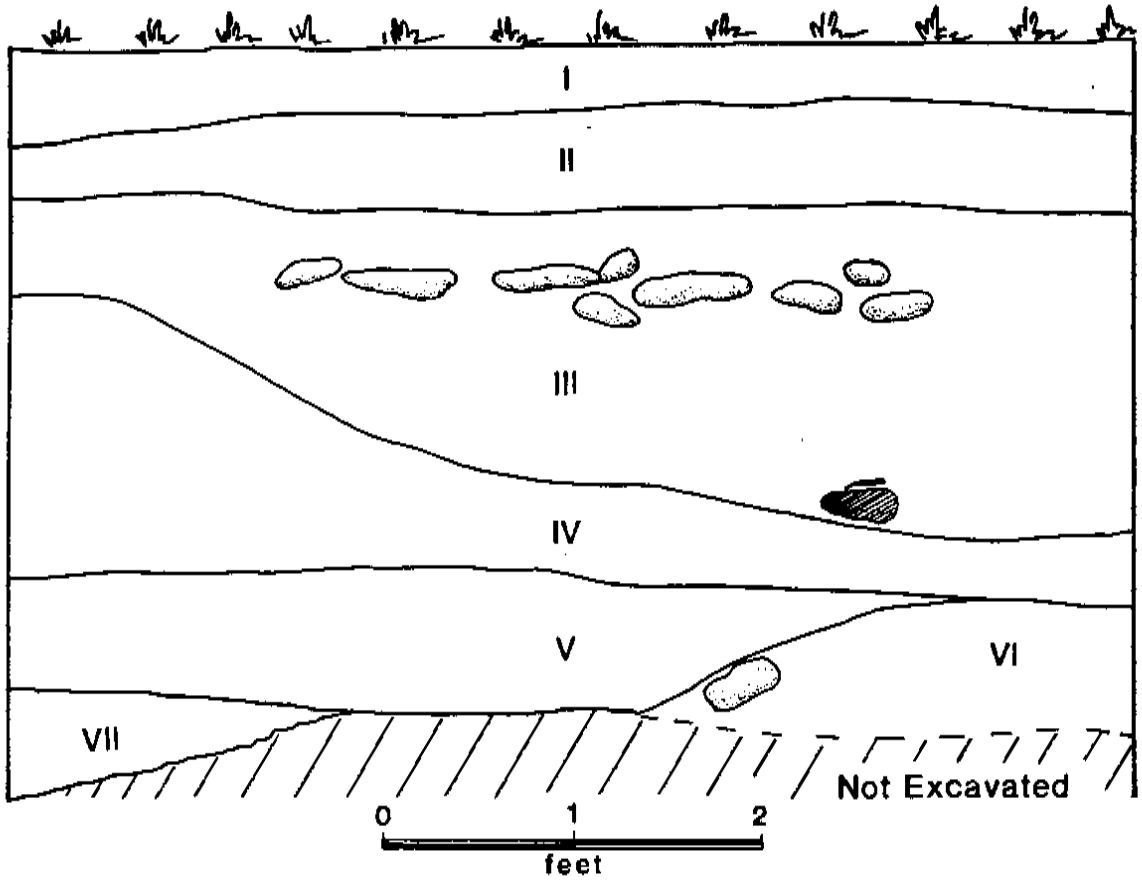


Soil Key

I	Humus
II	Medium brown silty sand
III	Light brown-tan silty sand with more sand content than level II, almost pure sand
IV	Orange-light brown mottled clay with some coarse sand (probably fill)
V	Dark brown sandy silt
VI	Brownish-yellow sandy clay with much coarse sand and large rocks (sterile soil)
VII	Dark brown-gray-orange moist sandy clay (sterile soil)

FIGURE 26

Profile of Phase I Shovel Test B-1



Soil Key

I Humus
II Medium to dark brown-tan mottled silty fine-grained sand
III Unconsolidated coarse grained sand with large rocks mortar stains and brick fragments
IV Medium brown slightly sandy clay
V Light brown slightly sandy silt (sterile soil)
VI Yellowish-brown coarse grained sand (sterile soil)
VII Gray-orange-brown mottled clayey silt (sterile soil)

Rocks

Mortar and nail and glass fragment (jar base)

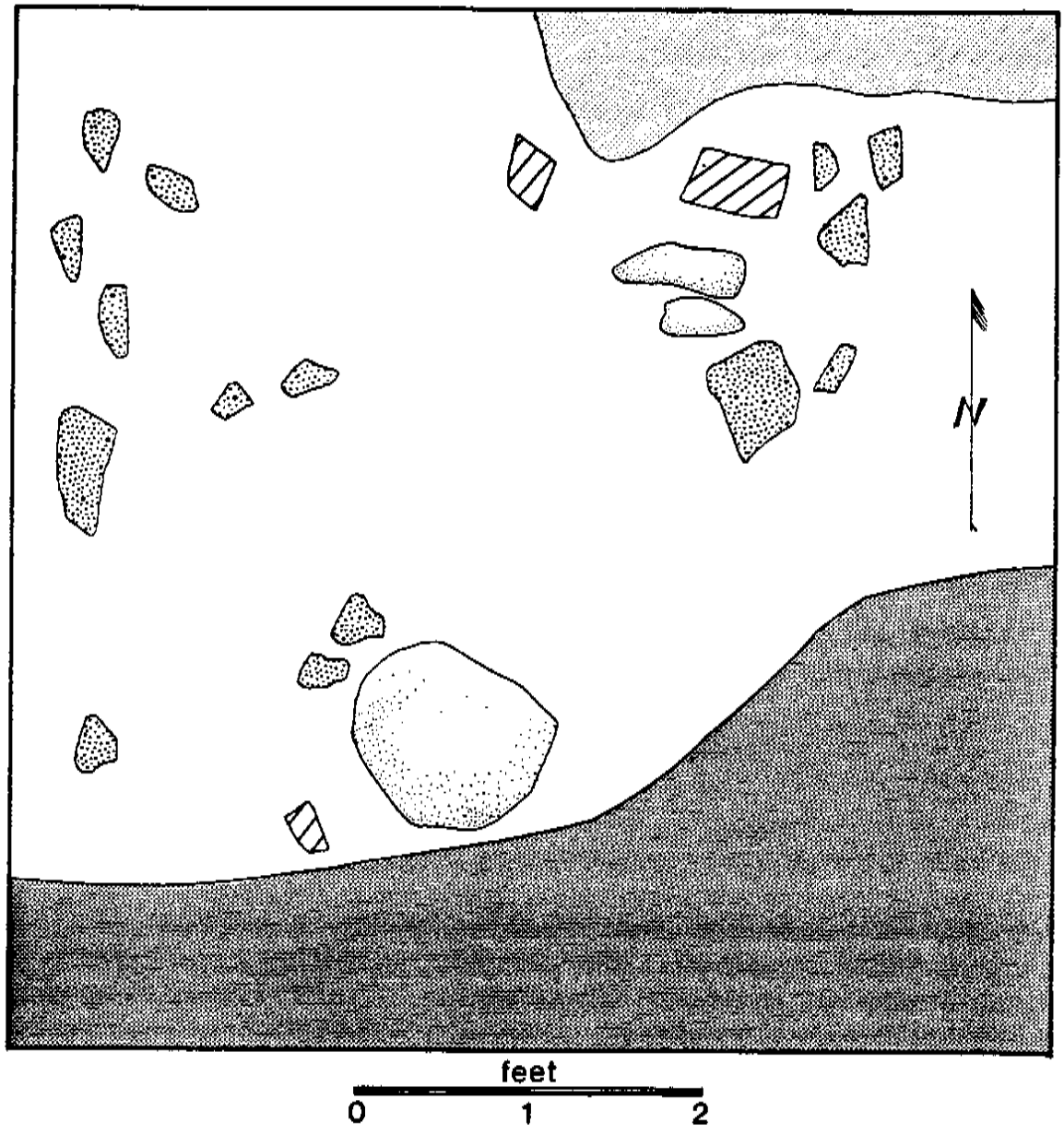
rock and mortar feature is shown as Level III in Figure 26. The matrix of the depression was composed of coarse, unconsolidated sands, probably deposited as fill. None of the rocks found in the depression showed any evidence of mortar and no builders trench was found. Four additional natural levels (Levels IV-VII, Figure 26) were excavated in Test Unit B-1 of which the deepest three were sterile. No earlier diagnostic artifacts were recovered.

A second 3 X 3 ft test unit was then put in south of the Shovel Test B-3 to determine if any intact portions of the foundation existed. The location of Test Unit B-2 is noted on Figure 24. No intact portions of a foundation were found. At approximately 0.6 feet below surface a thin, 0.2-0.3 foot thick lens of broken brick and mortar in a matrix of coarse sands corresponding to that found in Shovel Test B-3 and Test Unit B-1 was found. The stratigraphy of Test Unit B-2 is shown in Figure 25. The thin brick and mortar band did not extend over the entire unit, thus one edge of the depression was located. A floor plan of Test Unit B-2 showing the southern extent of the mortar and brick filled depression is shown in Figure 27.

No other remains of the pre-1914 tenant structure were located. Based on the results of the Phase I Survey, the site was registered with the BAHP as the Sauber House site (N- 11074, 7NC-B-20). Given the nature of the shallow mortar and brick rubble filled depression located by Shovel Test B-3 and exposed in Test Units B-1 and B-2, it is likely that the destruction of the Sauber tenant site in the 1930s-40s heavily disturbed any archaeological remains.

FIGURE 27

Floor Plan of Phase I Test Unit B-2



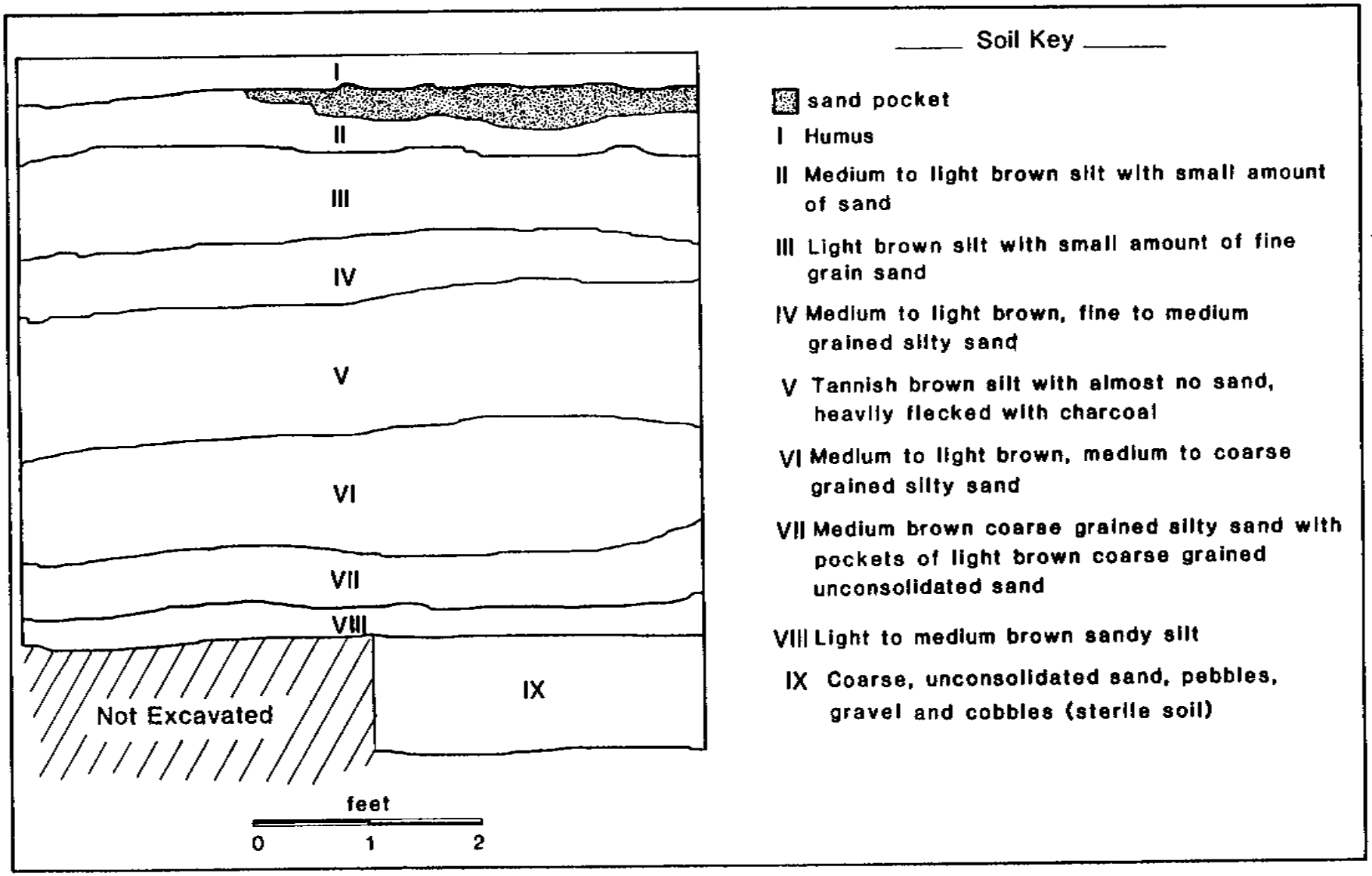
A third 3 X 3 ft test unit was excavated to establish firm vertical control over the alluvial statigraphy of Area B and to further test for any intact prehistoric or historic buried landscapes. The profile of the east wall of Test Unit B-3 is shown in Figure 28. As can be seen, the stratigraphy of Area B is composed of alluvially deposited silts, silty sands, and clayey sands on top of sterile sands and gravels. The sterile sands and gravels located by Test Unit B-3 probably originated from an old stream bed buried by subsequent colluvial deposits and historic fill. The distribution of late nineteenth to early twentieth century historic artifacts throughout all non-sterile levels supports the observation of an historically high energy environment in Area B. In addition, significantly fewer artifacts were recovered from Levels I-IV (0-1.2 ft below surface) than from Levels V-VII (1.2-2.5 ft below surface) although all of the artifacts were otherwise identical and all dated to the late nineteenth to early twentieth century.

This distribution indicates that all of the non-sterile levels were deposited during relatively recent historic events and that Levels I-IV deposited since the mid-nineteenth century. The alternating bands of silts and sands in Test Unit B-3 in Levels II-VII also point to significant alluvial action within a relatively high energy environment with the silt layers representing relatively low energy deposits and the sand layers representing slightly higher energy flood deposits.

No further excavations were undertaken in Area B. The Sauber House site (N-11074) was not considered to be eligible for National Register status because of its lack of integrity and no

FIGURE 28

Profile of the East Wall of Phase I Test Unit B-3



further work is recommended. The limits of the Sauber House site are shown in Figure 24.

AREA C: WEST OF BEAVER VALLEY ROAD AND SOUTH OF BEAVER CREEK

Area C is a grassy field west of Beaver Valley Road and south of Beaver Creek. The area extends from Beaver Creek to the north to a hedgerow and ephemeral creek approximately 200 feet to the south (Figure 8, Plate 7). Area C consists of a single terrace south of Beaver Creek and contains no discernable slope although most of the area is the toe of a fairly steep slope to the west. The project ROW runs parallel to Beaver Valley Road and extends approximately 20 feet west of the road (Figure 8).

Visual inspection of the area found no standing structures in the area. The nearest standing structure is a stone farmhouse (N-569) located approximately 600 feet northwest of the project ROW (Plate 8). A recent garage built for this structure is located approximately 400 feet from Area C. The potential for historic archaeological resources was considered to be high as one structure, a blacksmith and wheelwright shop, was identified in the area by background research, and appears on Beers' 1868 atlas (Figure 12). The potential for archaeological resources associated with the yard areas of N-569 was considered to be low because of the distance from the structure. The potential for intact prehistoric resources was considered to be medium to low because of the historically documented alluvial action along Beaver Creek including the flood of 1843 that destroyed a number of mills in the area.

PLATE 7

Area C, Looking South, June 1986

PLATE 8

Area C, Looking West Towards Standing Structure N-569,

Background Research - One potential cultural resource was identified by background research. This resource is an early to mid-nineteenth century blacksmith and wheelwright shop located in the area on a number of historic maps (Table 2). No potential prehistoric resources were identified. The blacksmith and wheelwright shop identified in Area C first appears on Beer's 1868 atlas (Figure 12). The shop was then owned and operated by Jehu Chandler who is listed in census and tax assessment records as a blacksmith. At this time Jehu Chandler probably lived in structure N-569 as shown on Beers' atlas (Figure 12). The shop also appears on Lee (1875), Hopkins (1881), and Baist (1893). In 1889 Elizabeth Highfield purchased the property (NCD F-14-268). According to one informant, Mr. Albert Mayer, a blacksmith operated a the site until 1926. The blacksmith shop stood until 1939-1940 when the present owners, Woodlawn Trustees, destroyed the structure and built a garage on the site. The garage was later removed from the area and placed on a neighboring property, Heather Hill Farms. The concrete foundation of the garage, however, remains and is located in Figure 8.

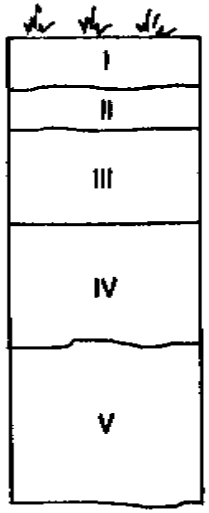
Phase I Survey - A total of 8 shovel tests and three measured test units were excavated in Area C as part of the Phase I Survey. One historic archaeological site was located, the wheelwright and blacksmith shop identified by background research. The first nine shovel tests excavated in Area C were located along the project ROW and spaced 20 feet apart. These initial tests were labelled Shovel Tests C-1 to C-8 and are located in Figure 29.

A typical stratigraphic sequence in Area C can be seen in the profile of Shovel Test C-2 (Figure 30). A thin (0.25 foot thick) humus was underlain by a layer of dark brown clayey silt from 0.25-0.50 feet below surface (Level II, Figure 30) and a gray-brown clayey silt from 0.5-1.0 feet below surface (Level III, Figure 30). Beneath this were two sterile levels of sandy clay that graded from a yellow-brown sandy clay at 1.0-1.65 feet below surface (Level IV, Figure 30) to a yellow-gray layer at 1.65-2.0 feet below surface (Level V, Figure 30). No plowzone was encountered in this test or in any of the other excavations in Area C.

Late nineteenth to early twentieth century artifacts were recovered from the humus and clayey silt levels (Levels I-III, Figure 30). The artifacts recovered from Test C-1 consisted of 1 heavily weathered whiteware sherd, 3 window glass fragments, 4 fragments of clear bottle and lamp glass, 27 heavily corroded nail fragments, 12 unidentified corroded metal objects, 7 pieces of coal slag, and 6 small pieces of coal. This assemblage was typical of that recovered from the other shovel tests excavated in Area C. No earlier diagnostic historic artifacts were recovered in any of the shovel tests. Sterile levels at approximately 1.0-1.5 feet below surface were located in all of the shovel tests. One prehistoric artifact, a medial section of a quartz stemmed projectile point was found in Shovel Test C-1. No other prehistoric artifacts, however, were recovered and no intact prehistoric land surfaces were located by the shovel tests. This projectile point is an isolated find and does not represent an intact prehistoric site.

FIGURE 30

Profile of Phase I Shovel Test C-2



Soil Key

I-Humus

II-Dark brown clayey silt with pockets of small gravels and sand

III-Gray-brown clayey silt with small pockets of sand and gravels and numerous small flecks of historic charcoal

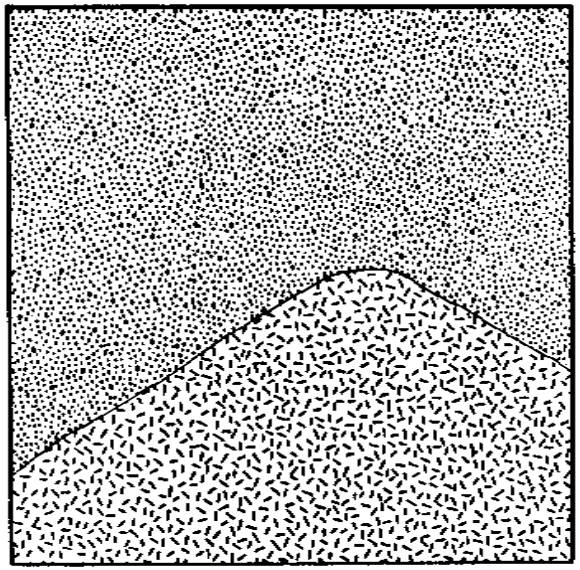
IV-Yellow-brown sandy clay with abundant medium brown and orange sandy mottlings. Sterile.

V-Yellow gray sandy clay with some orange brown sand mottlings and numerous fragments of decomposing schist. Sterile

feet
0 .5 1

FIGURE 31

Floor Plan of Phase I Test Unit C-1



feet
0 .5 1

Micaceous Cap

Yellow brown silt with artifacts

Shovel Test C-4 was the first Phase I excavation to locate part of the wheelwright and blacksmith shop identified by background research. Immediately below the humus, the shovel test located a layer of very compact micaceous ash and mortar. The shovel test was enlarged into a 3 X 3 ft Test Unit C-1. Once the humus was removed, one edge of the micaceous mortar feature was located in the northern half of the unit. A floor plan of Test Unit C-1 at this level is shown in Figure 31. Surrounding the micaceous cap was a yellow-brown fine grained silt. The micaceous cap was very hard and compact and was composed of large amounts of mica, cinders, coal ash, and a few small pockets of sand and gravel. Numerous large, but randomly placed rocks were also found within the silt layer.

The micaceous cap was then removed and the material screened seperately from the surrounding yellow-brown silt. This cap was observed to be approximately 0.4 feet thick and contained relatively few artifacts. The silt layer, however, was found to contain numerous window glass (274) and corroded nail (24) fragments. Four redware, three whiteware, and one pearlware sherds were also recovered. Some of the rocks located in the yellow-brown silt showed evidence of mortar, but no intact segments of a foundation or other structural feature were located.

The unit was then expanded 2 feet to the north to determine whether the yellow-brown silt was a pocket within a larger micaceous feature and possibly to further expose the disturbed rock and mortar feature found under the micaceous cap. In this

extension, removal of the humus revealed the micaceous cap over the floor of the entire unit. The cap was not removed and the area around the test unit was augered to determine the extent of the micaceous feature. The location of these auger tests and their relationship to Test Unit C-1 (3 X 5 ft unit) and Shovel Test C-4 is shown in Figure 32.

The auger grid located the micaceous cap as far as 8 feet north of Test Unit C-1 and as far east as the large boulders placed along Beaver Valley Road by Woodlawn Trustees. Test units placed south and west of C-1, however, proved negative (Figure 32). Shovel Test C-5, 20 feet to the south of Test Unit C-1, also proved negative.

A datum was then established 55 feet south of the southwest corner of Test Unit C-1 and out of the project ROW. The coordinates of Test Unit C-1 therefore were N55W0. All further Phase I and Phase II work completed in Area C were measured from this datum and labelled accordingly. As in Area A, all units were labelled according to the coordinates of their southwest corner.

A second test unit (N55W3) was then excavated immediately west of Test Unit C-1 as an auger test two feet west of the first unit did not locate the micaceous cap. After removal of the humus, the western edge of the micaceous cap was located just inside the east wall. Test Unit N55W3 was then extended two feet to the north to define more of the western edge of the micaceous cap. Figure 33 shows the micaceous cap as uncovered in Test Units C-1 (N55W0) and N55W3.

FIGURE 32

Auger Tests in Area C showing the Extent of the Micaceous Cap

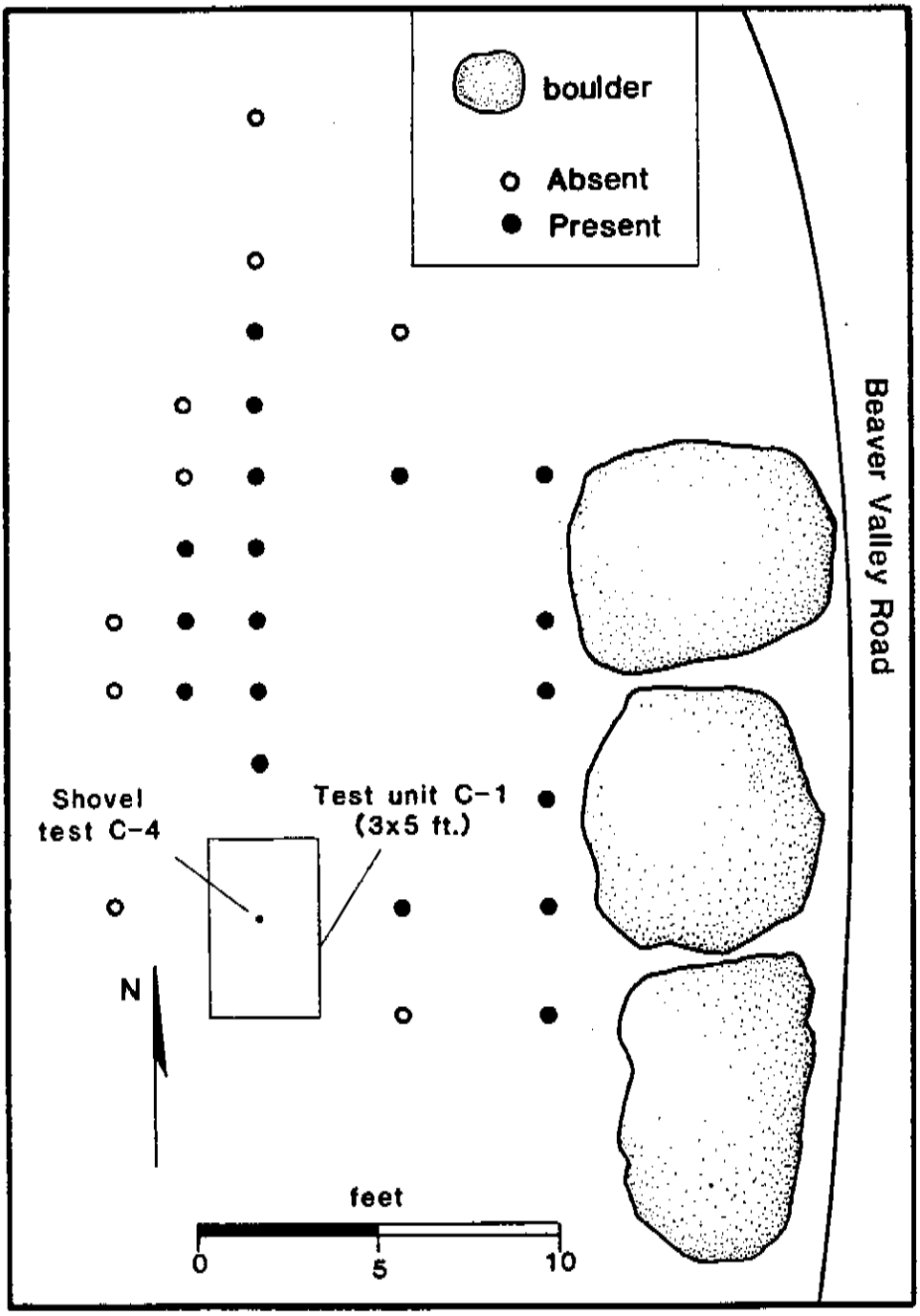
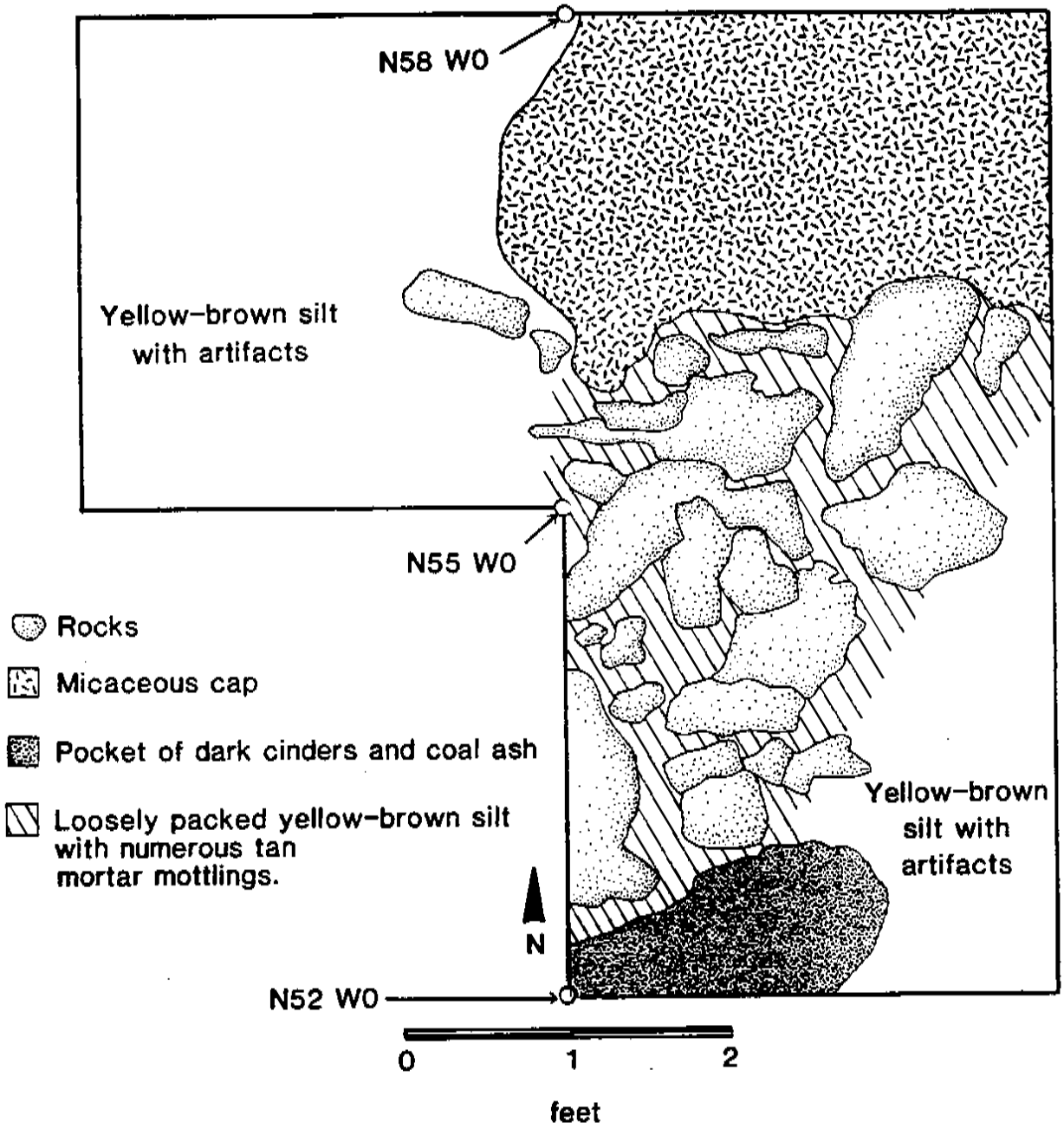


FIGURE 33

Floor Plan of Phase I Test Units C–1 N55 W0, N52 W0, N55 W3, Area C



A third test unit, N52W0, was then excavated south of Test Unit C-1 to determine the integrity and orientation of the disturbed rock and mortar feature uncovered south of the micaceous cap. As expected, the micaceous cap was not encountered in this unit. Beneath the humus was a yellow-brown silt similar to that uncovered in the southern third of Test Unit C-1. Beginning at approximately 0.3 feet below surface more of the stone and mortar feature was uncovered. An approximately north-south orientation was observed, but no intact portions of the feature were observed (Figure 33). Excavation of this unit completed the Phase I Survey of Area C.

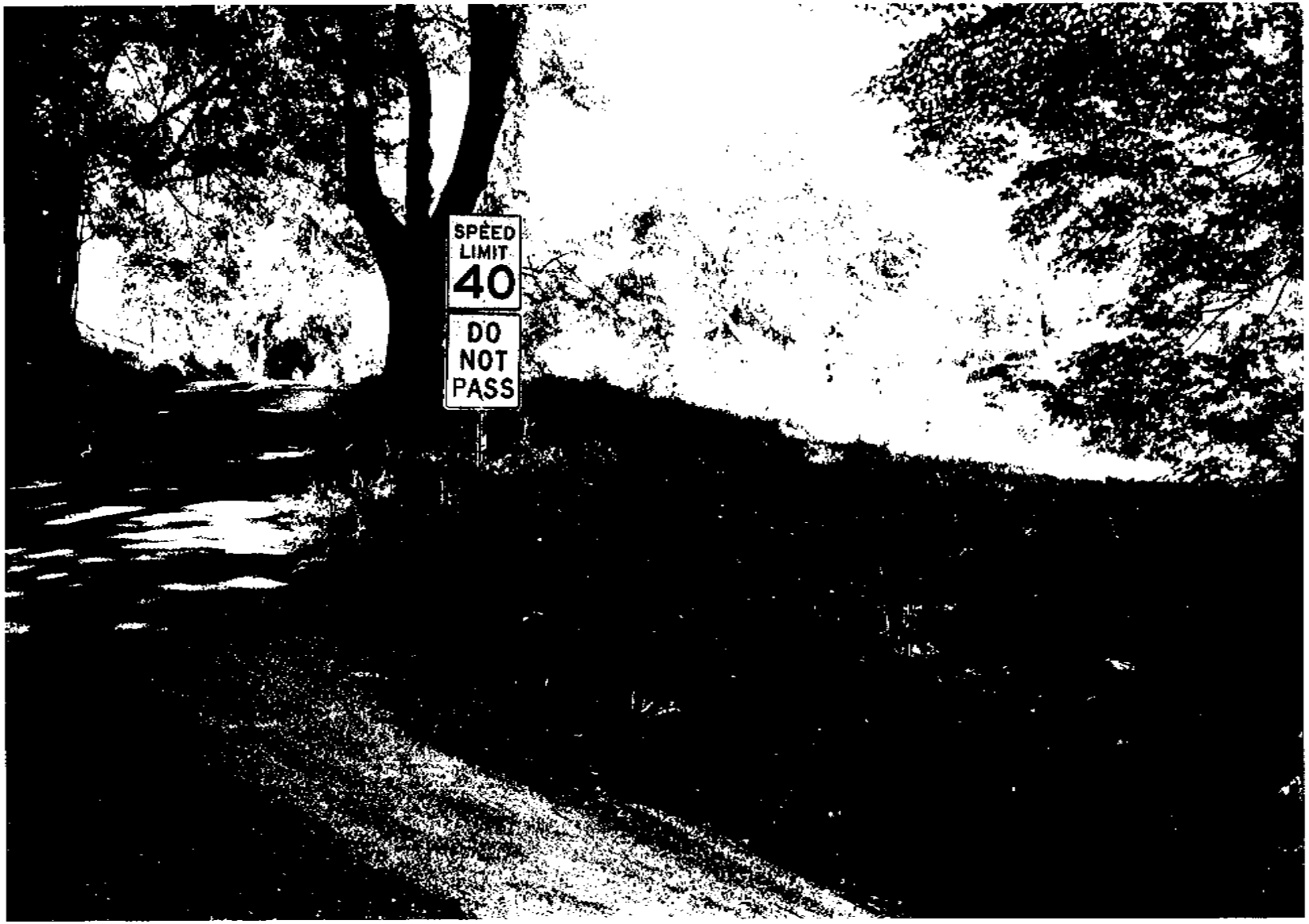
On the basis of this evidence, a Phase II Survey was recommended for Area C as the potential for intact features under the micaceous cap was considered high.

AREA D: SOUTH OF BEAVER VALLEY ROAD AND NORTH OF BEAVER CREEK

Area D is a moderately to heavily eroded slope along the southern edge of Beaver Valley Road north of Beaver Creek and near the Delaware-Pennsylvania state line (Figure 8, Plate 9). The slope is 3-8% according to the New Castle County Soil Survey (Matthews and Lavoie 1970:sheet 3). Visual inspection of the area located no standing structures or obvious archaeological features and found the slope to be much closer to 8%. The potential for historic cultural resources was considered to be low due to the degree of slope and because no structures had been located within the area by background research. The potential for prehistoric cultural resources was considered to be

PLATE 9

Area D, Looking Northwest, September 1986



medium if intact prehistoric landscapes survived and low if they did not.

Background Research - The only potential cultural resource identified by background research was a possible mill race identified on three historic maps, Lee (1875), Hopkins (1881), and possibly Baist (1893). This mill race supplied water from Beaver Creek east of Beaver Valley Road to the "old Woolen Mill" and Tempest's Paper Mill (Figure 6; Mill Sites A and B) approximately 1500' to the west. This mill race however, does not appear on later maps including a 1914 topographic prepared for Woodlawn Trustees, the current owners or a 1934 property atlas made by the Franklin Survey Company. Similarly, no mention of a mill race or associated structures is made in any of the deed transactions for the property.

Phase I Survey - A complete field reconnaissance of both sides of Beaver Valley Road in Area D located no intact portions of the mill race. Some indication of the mill race, however, was seen outside of the project area towards Beaver Creek to the south and towards another bend in the creek to the west. It is likely that whatever survived of the mill race when both of these maps were made was subsequently destroyed by the paving and widening of Beaver Valley Road in the early twentieth century and erosion.

Six shovel tests were excavated in Area D to test for intact prehistoric and historic remains and to locate intact buried landscapes. Four of the shovel tests were placed along the project ROW south of Beaver Valley Road and two were placed out of the ROW at the bottom of the slope near the north side of Beaver Creek. The location of these shovel tests are shown in

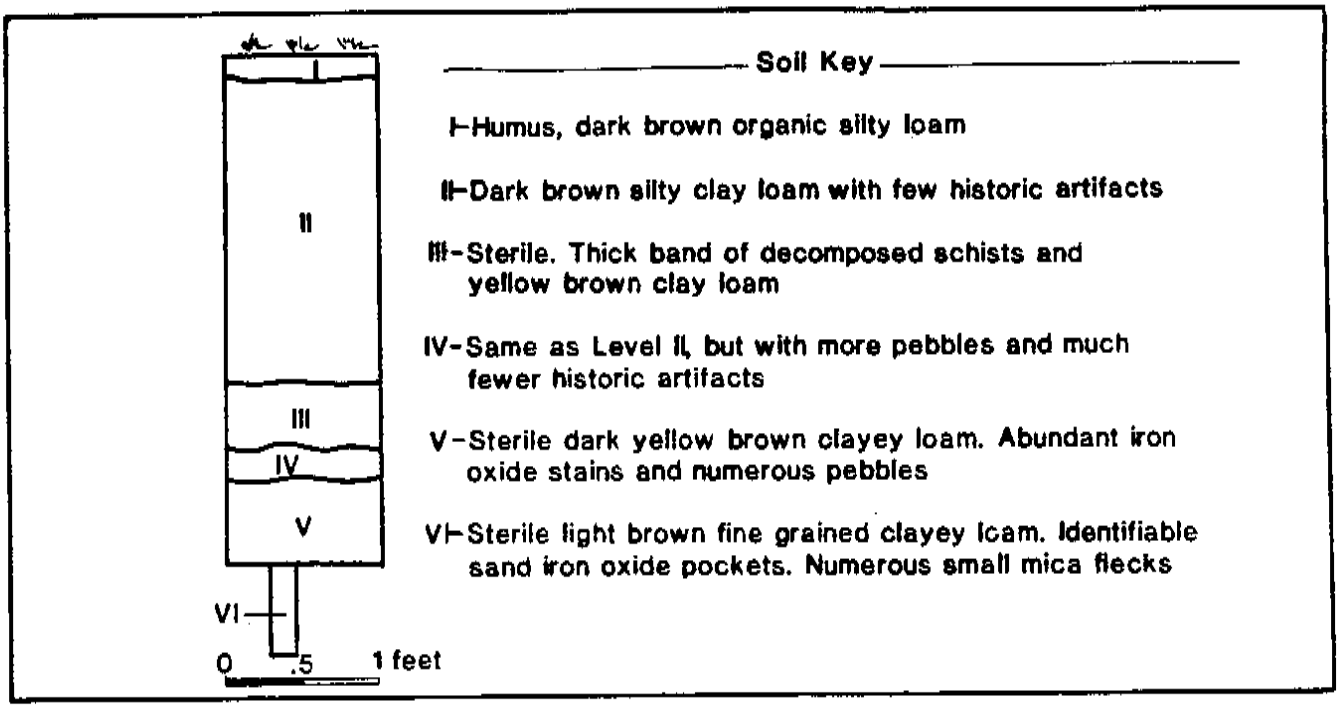
Figure 34. No historic or prehistoric sites were located and no intact buried landscapes were identified.

A typical stratigraphic profile from Area D can be seen in the profile of Shovel Test D-3 (Figure 35). The stratigraphy of Area D consisted of a thin humus then dark brown silty clay loams (Levels I-II, Figure 35) on top of sterile dark yellow-orange clay loams and light brown clay loams with abundant iron oxide concretions and heavily worn pebbles (Levels III-V, Figure 35). No plowzone was encountered in any of the tests. At approximately 2.2 feet below surface, a 0.4-0.5 foot thick sterile lens of decomposed schists was encounterd in all of the shovel tests excavated. This level and the clay loams below represent the in situ weathering of local geologic strata, precluding the existence of buried cultural materials. No intact buried historic or prehistoric landscapes were located. No prehistoric or historic features were identified.

A few generally no more than a half dozen per shovel test, historic artifacts were recovered from the humus and dark brown silty clay loam levels (Levels I and II, Figure 35) of each shovel test. All of the artifacts recovered were small (less than one inch in diameter), heavily weathered, and date to no earlier than the mid-to-late nineteenth century. Wire nail and undecorated whiteware fragments were recovered down to approximately 3.2 feet below surface, showing the degree of erosion and colluvial deposit in the area. The historic artifacts recovered in Area D probably originated from farther up the slope north of Beaver Valley Road which is part of the yard

FIGURE 35

Profile of Phase I Shovel Test D-3



area of a late eighteenth century stone farm house located in Pennsylvania and approximately 350 yards north of the project area. Other historic artifacts recovered included clear and amber bottle glass and clear window glass fragments, non-diagnostic redware sherds, and small pieces of coal. No prehistoric artifacts were recovered.

In conclusion, Area D was found to contain no prehistoric or historic cultural resources. Evidence of moderate to severe erosion and colluvial action were seen in the modern topography, the stratigraphy of the area identified in the shovel tests, and in the wide vertical distribution of contemporary mid-to-late nineteenth century artifacts. The heavily weathered surfaces of the ceramic and glass artifacts recovered also argues for