RESULTS OF FIELD INVESTIGATIONS

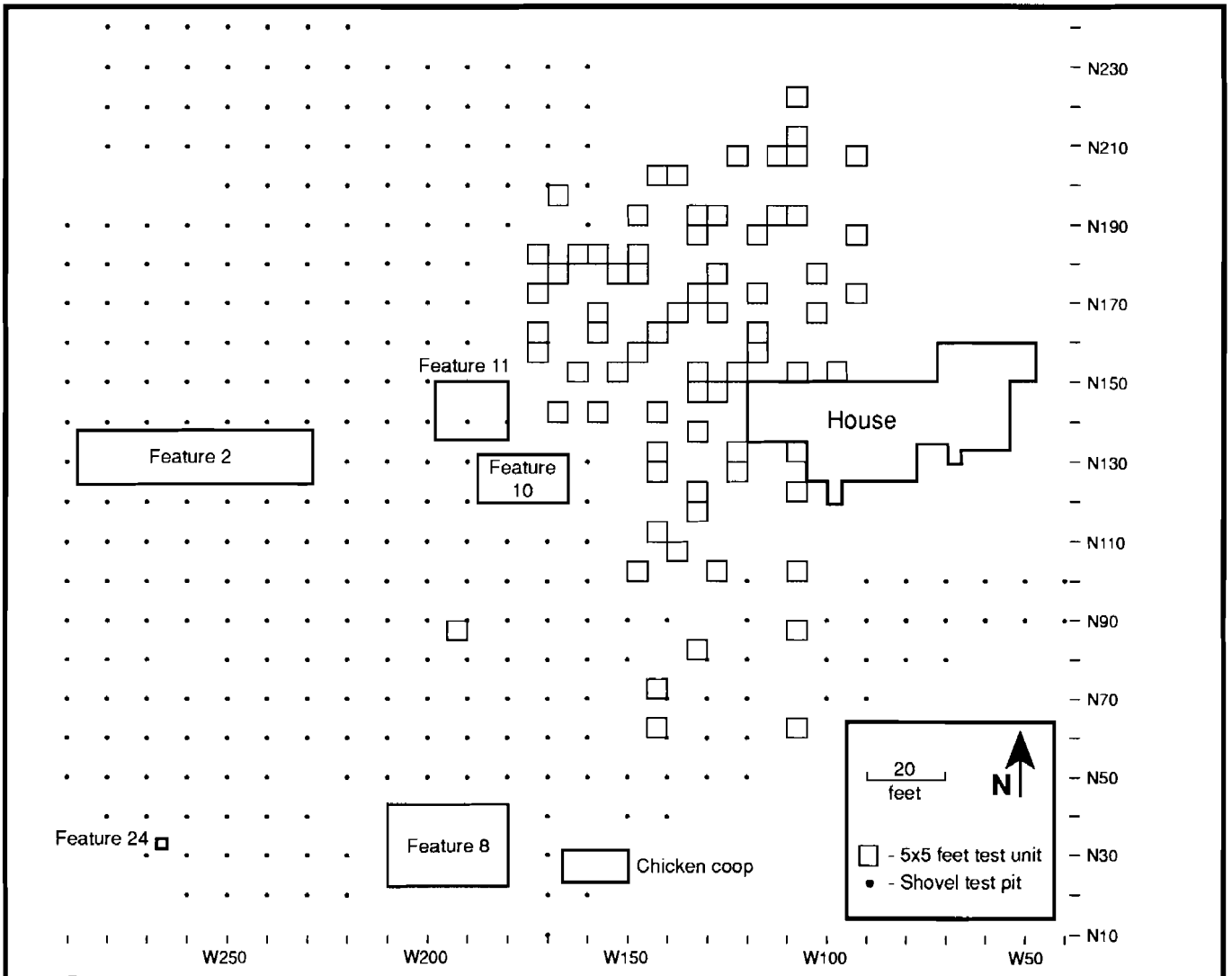
Results from all stages of the field data recovery program are presented below, beginning with the plow zone sampling and concluding with a description of the major feature groups.

Plow Zone Sampling

A total of 72 5- x 5-foot test units and 301 STPs were excavated at the site (Figure 13), providing a plow zone sample which could be used in artifact distribution and soil chemical analyses. For the majority of the site, the plow zone consisted of a brown silty sand, and the subsoil varied from a yellowish brown to a dark yellowish brown to a brown to dark brown clayey silt that was probably more than 15,000 years old. Thus, there was no possibility that these soils could contain buried archaeological deposits other than features which had intruded into them. The artifact and soil chemical distributions from the plow zone sampling are discussed later in this report.

FIGURE 13

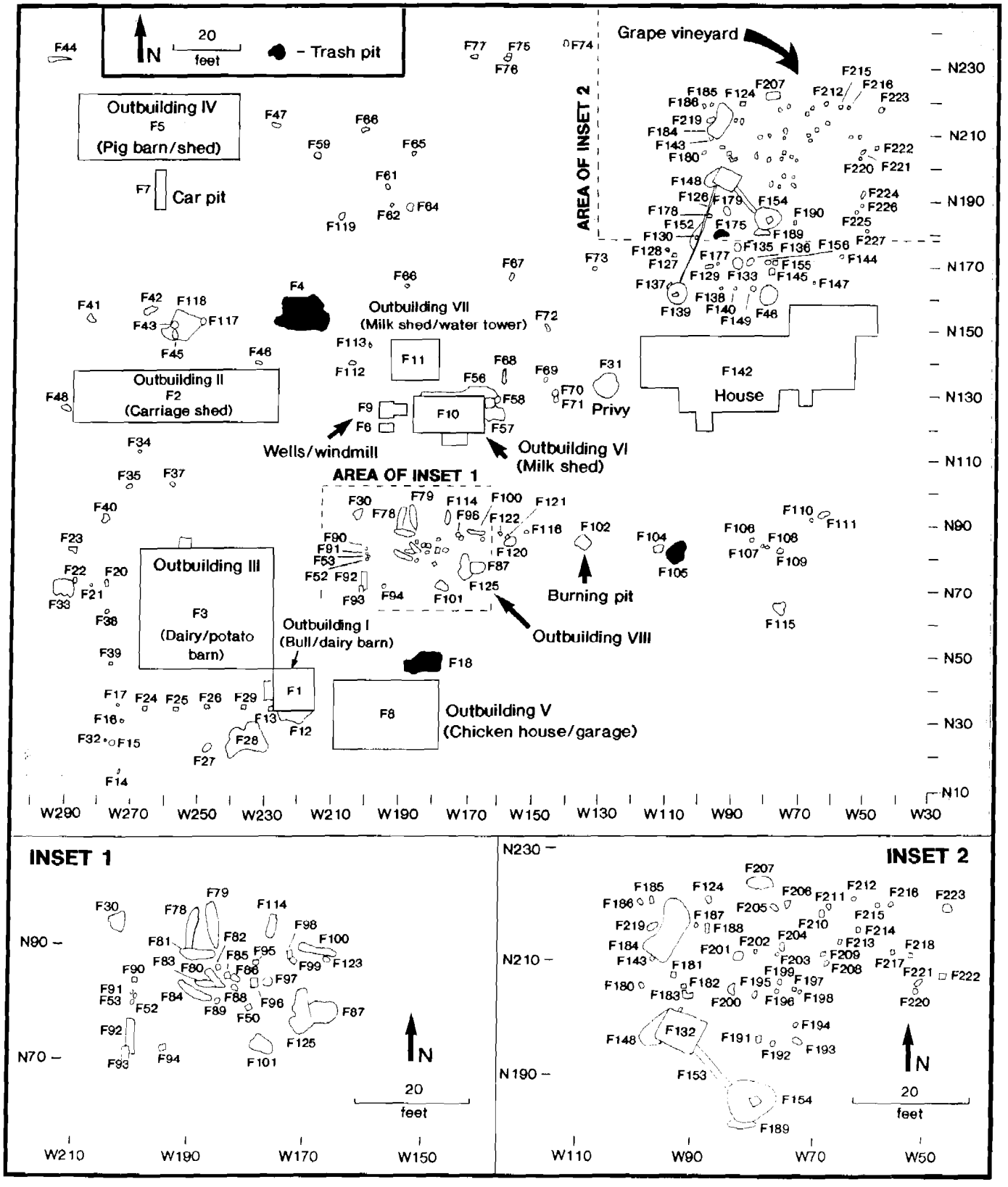
Phase III Plow Zone Sample Units



Note: Features 2, 8, 10, 11, and 24 were extant outbuilding structures at the beginning of the Phase III research.

FIGURE 14

Major Features and Their Functions



Feature Excavations

A total of 209 features were identified at the C. Kimmey Tenant Farm Site. Examination of the features and the results of the testing are presented below. The archaeological remains of these separate and distinct features are discussed under the headings of Structure I, Outbuildings I through IX, a water procurement area, privy, pit features, septic features, trash middens, a vineyard and post holes. Appendix II shows a base map of feature locations and provides a description of all features. Figure 14 shows the locations of the most important features and notes the inferred functions of the major outbuildings. Attachment II provides a larger-scale map of the most important features.

The majority of the features appeared to be fence post holes or other post holes of some type. Some of the features were irregular, circular, oblong, or oval stains of dark brown silty sand feature fill that upon excavation were found to be highly irregular in shape, depth, and size. Irregular features are interpreted as non-cultural root stains, deep plow scars, 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 16, 27, 28, 40, 41, 42, 44, 47, 77, 88, 101, 103, 111, 115, 118, 184, and 207 were determined be non-cultural.

House (Feature 142). The Kimmey farmhouse (Feature 142), consisted of a 33- x 16-foot, one and one-half-story frame addition attached to a 27- x 27-foot two-story brick house (Figures 14 and 15; Plates 12 and 13). The oldest component was of balloon frame construction which was invented in Chicago in 1832 as a quick and inexpensive way to erect a building. Unlike timber frame

FIGURE 15

C. Kimmey Tenant House Plan

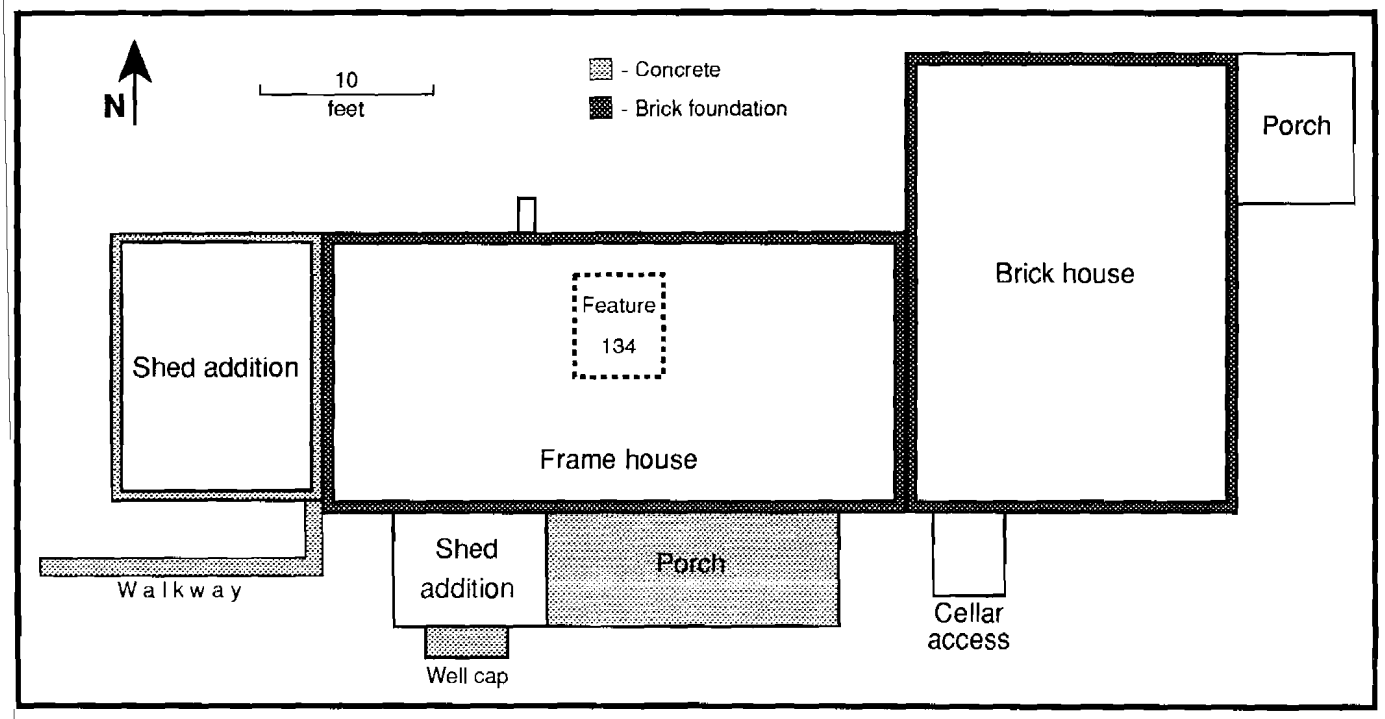


PLATE 13

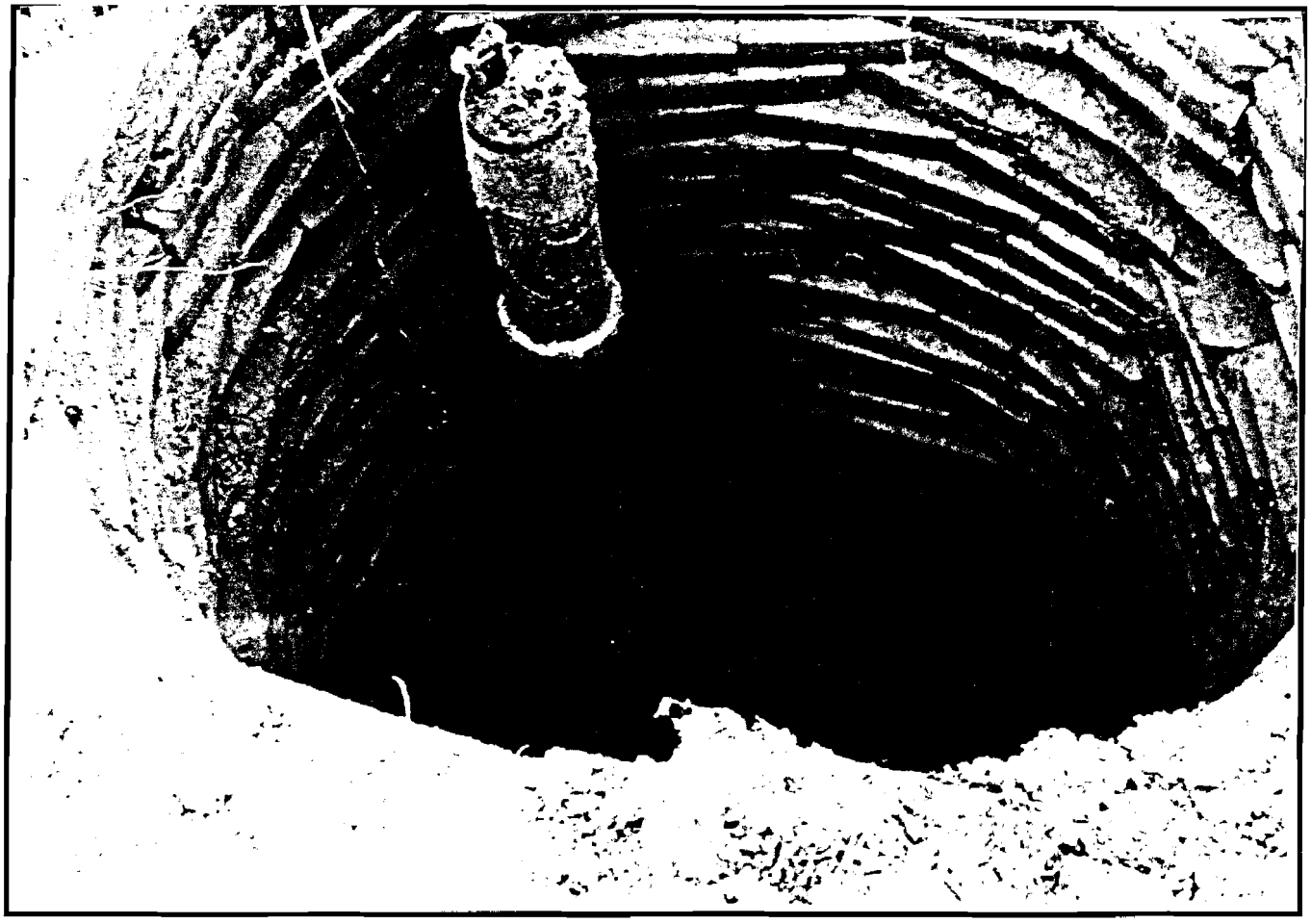
C. Kimmey Tenant House, ca. 1959

construction, also known as braced framing, which used wide heavy beams that were fastened by mortise and tenon at every joint, balloon framing made use of smaller, machine-sawn boards which were joined by cut metal nails at the joints. The use of nails eliminated the need for highly skilled carpenters in house construction. This fact, plus the use of smaller, standard boards, made construction move quickly and helped keep costs down (Sprague 1983:38). Balloon frame houses were usually built on brick sills, as is the case with the C. Kimmey Tenant Farm house. The brick section of the house was a Georgian style dwelling with a small Greek Revival portico added to the east facade (Plate 13). The foundations for both sections were brick.

The east side of the frame section showed signs of weathering. This observation along with archival evidence suggested that the frame structure had been free standing at one time. It was also noted that the section of the west side of the brick house that joined the frame section had an unfinished surface. Either the brick wall went up directly against the free standing frame structure or the builder knew that the frame structure was to be moved to this location and, therefore, did not waste time and money finishing the brick wall.

PLATE 14

Feature 63 (Well)

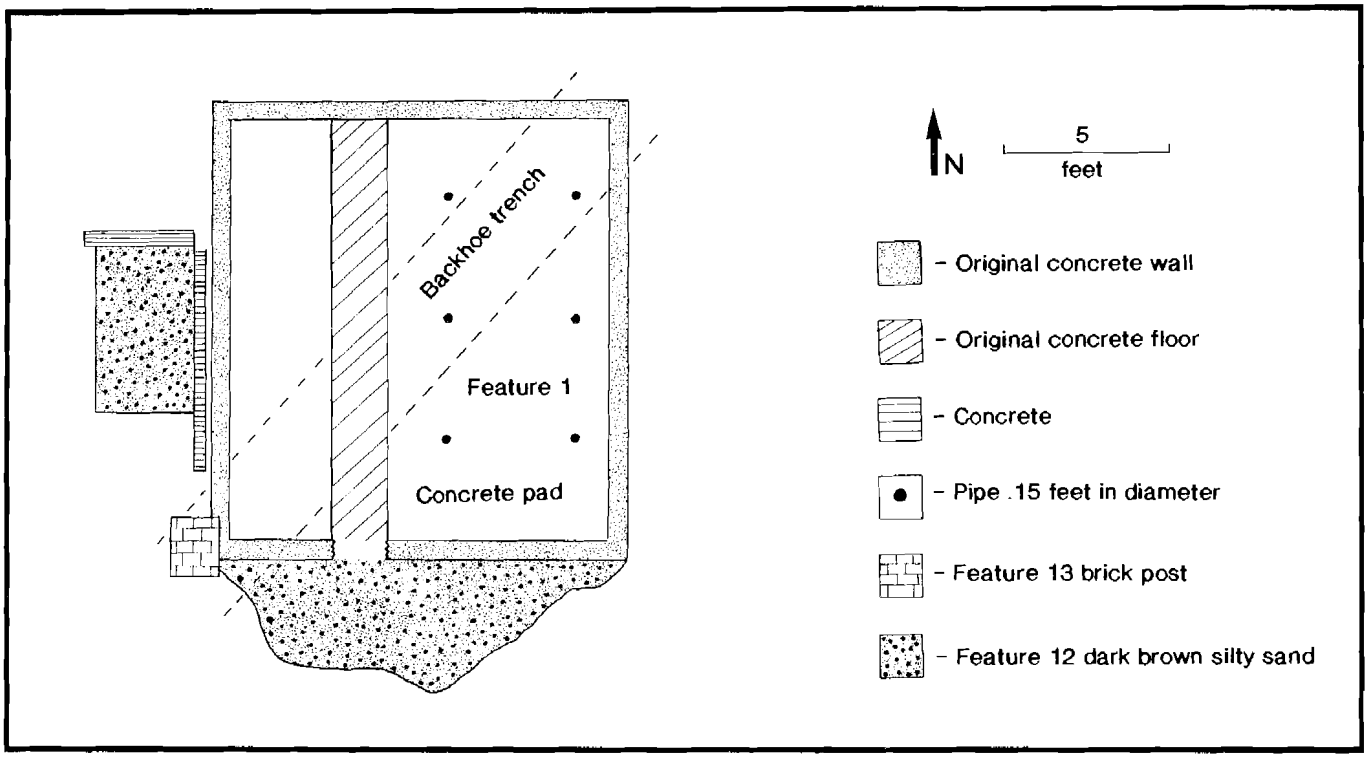


In 1991, the walls of the structure were razed by crews from the Delaware Department of Transportation to provide safer conditions for archaeologists during the Phase III excavations. Backhoe removal of the debris revealed a filled cellar/foundation under the floor boards. A test unit was placed in the foundation limits of the frame section exposing Feature 134 (Figure 15), a 5- x 5-foot square of laid brick, 1 to 1 1/2 courses wide. Five courses of brick extended in a yellowish sand subsoil, a depth of about 1.5 feet. The western wall of brick was still well-preserved, but bricks in the eastern portion of the feature were poorly preserved. The feature fill, as well as the brick, showed no evidence of burning and the absence of fire brick suggests that this was not a fireplace and most likely served as a root cellar.

A 21-foot deep dry brick well with no fill (Feature 63) was found off the south side of the frame section, centered on N125 W97.5 (Figure 15). The well shaft was approximately four feet in diameter and was capped with a 6- x 5-foot concrete slab. The porch along the south side of the house was built over the cap, leaving about two feet exposed as a step up to the porch. A backhoe was used to remove the cap, and photographs and measurements of the well were taken (Plate 14). No excavations were undertaken because of the absence of fill in the well.

FIGURE 16

Plan View of Outbuilding I (Feature 1 - Bull Barn/Dairy Barn)

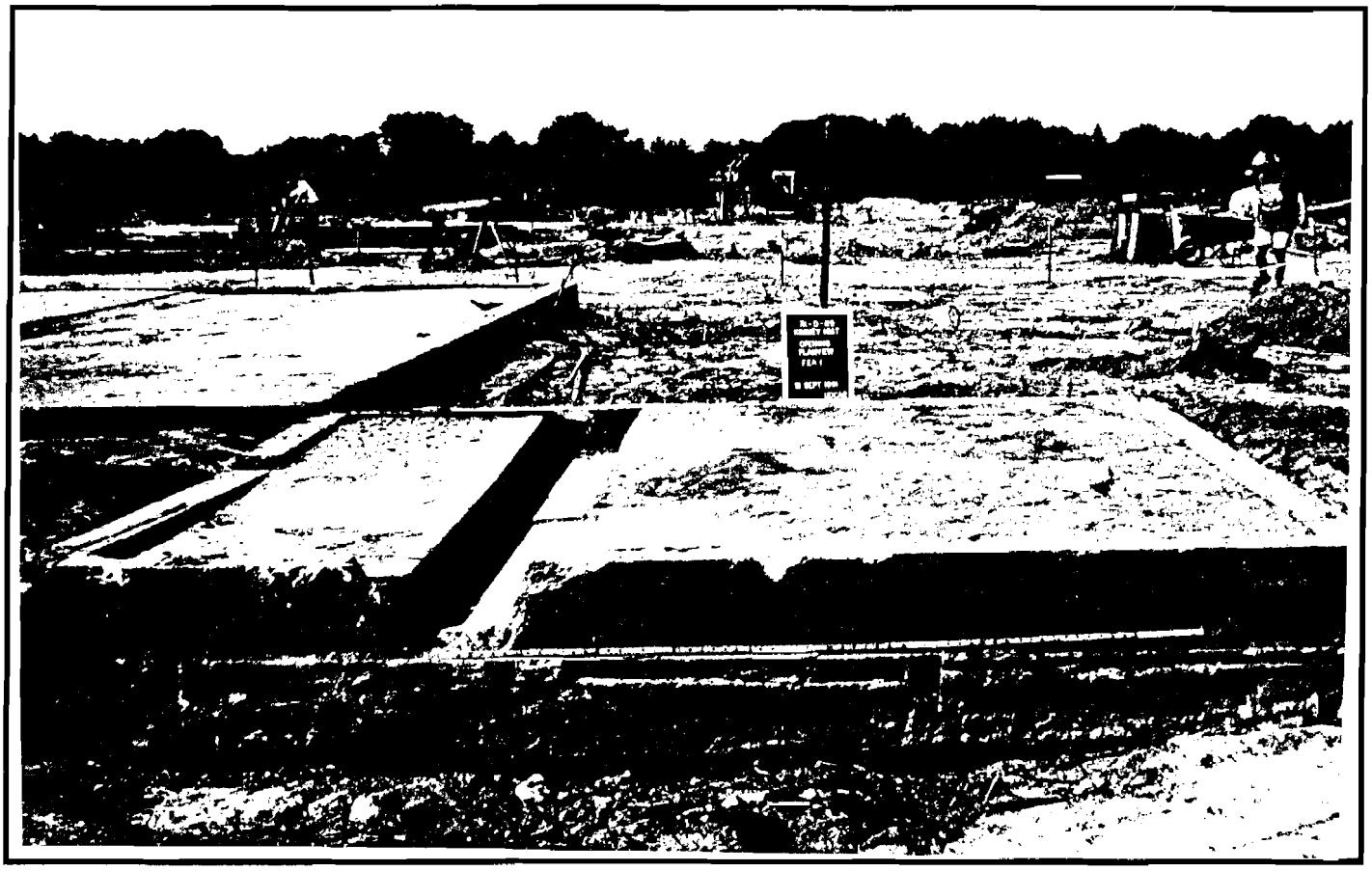


Outbuilding I (Feature 1). Outbuilding I (Feature 1) had a concrete foundation approximately 13 x 12 feet (Figures 14 and 16, Plate 15). The floor was a poured concrete slab added some time after the foundation walls. On the east side of the floor were the remains of three rows of two pipes at three-foot intervals, where two cow stanchions had been. Dividing the floor into two sections was a trough 1.5 feet wide and about 0.5 feet deep. The east side of the floor was six feet wide while the west side was 2.5 feet wide. The trough sloped slightly to the south. At the point where the trough met the south wall, a portion of the wall had been broken away to allow for the removal of material out of the building. Jay Hipwell originally used the building as a barn for his bull. The building was converted to a dairy barn for the Zimmerman family cows (Frank Zimmerman, personal communication).

At the southwest corner of Outbuilding I was Feature 13, a brick pier that supported a roof/ overhang associated with Outbuilding III, the dairy barn (Figure 16). It is clear that the foundation wall was poured around the existing pier since there is no evidence that the wall was broken to accommodate the pier.

PLATE 15

Outbuilding I – Feature 1 (Bull Barn/Dairy Barn)



Although no archaeological evidence remains, a bull pen associated with Outbuilding I and Outbuilding III was part of the farm complex at one time. Frank Zimmerman described this pen as a rectangular area, consisting of a concrete block wall, approximately 60 x 50 feet. The east and west walls ran south from the southwest corner of Outbuilding I and the southwest corner of Outbuilding III, respectively, and extended approximately 50 feet south of Outbuilding I.

Feature 12 located south of Outbuilding I, was initially thought to have been a builder's trench for Outbuilding I. Further excavation suggested a refuse pit. Feature 12, evident on the west and south sides of Outbuilding I, was tested in two sections: F12 West and F12 South. After excavations were completed, Frank Zimmerman explained that F12 West was the location of an outside spigot, which accessed the water tower and serviced the bull and dairy barns. Feature fill was removed from F12 West using the concrete west wall of Outbuilding I as a section line. The Level 1 feature fill was a dark brown silty sand and contained an abundance of glass, nails, plastic and other recent artifacts. At two feet below the surface, excavators came to a yellowish-brown sand. At this point a shovel test was dug in the center of the excavated area to determine the merits

of continuing. The yellowish brown sand continued for one foot and contained only a few metal fragments. Below the sand was a medium brown silty clay (Level 3) which contained the same type of modern artifacts as Level 1. No evidence of the spigot or pipes was uncovered. It was determined to stop the west section and investigate F12 South.

Once again the concrete foundation was used as a section line. The fill in F12 South was primarily yellow-brown and reddish-brown clays (Figure 17). The artifacts were much the same as F12 West, including spark plugs, doorknobs, gas caps and a 1950 penny. Artifact types present in this fill that were not present in F12 West were cinder blocks and rectangular concrete posts. At a depth of 2.8 feet below the surface a row of cinder blocks was uncovered (Figure 17). The feature fill at this depth contained charcoal flecks. At 3.5 feet below the surface, a hard packed lens, approximately 0.2 feet thick, of reddish-brown sand and clay was exposed. The cinder blocks rested on the sand. Below the sand was a subsoil of yellow sand with gravel. The cinder blocks in F12 South have no apparent association with Outbuilding I; however, because they were laid out in a regular formation, it is possible they were meant to define and shore up a small space such as a refuse pit. The presence of charcoal at the bottom of F12 South suggests prior use as a trash burning area.

After Outbuilding I was fully documented, a backhoe removed a section of the concrete foundation. A diagonal swipe from the southwest corner to the northeast corner was stripped in order to determine the function of Feature 12 (Figure 16). The feature was an irregularly shaped, rodent disturbed pit containing more glass, cinder block and concrete posts. F12 West and F12 South appeared as two separate features at this point. The backhoe also removed fill from F12 South because several of the concrete slabs were too heavy to remove by hand. This procedure was also done to test the soils below the cinder blocks that were still in place on the floor of the feature. The removal of this slab exposed a subsoil composed of yellow sand with gravels at a depth of 3.5 feet. No further excavations were conducted after reaching this level.

Portions of 29 glass vessels were reconstructed from Feature 12. Two of these are headlights, and three are miscellaneous tablewares. Twenty-four vessels are containers including beer and soda bottles, for example, Rolling Rock, Pepsi, Coca-Cola, 7-UP, Nehi, and ginger ale. The assemblage also contains a milk bottle, ketchup bottle, several Clorox bottles, and two one-gallon jugs. These jugs are the terminus post quem (TPQ) vessels for Feature 12. Both jugs date after 1954. While many of the vessels are datable based on marks or method of production, most of the containers could not be assigned an end date and these containers could still be in use today. Considering only the datable glass vessels, the average beginning date was 1936, the end date was 1982, and the mid-point was 1959. With the above information, plus the TPQ date of 1954 from the jugs, we can determine that Feature 12 was used for dumping at least until 1954, and very possibly for some time thereafter.

Outbuilding II (Feature 2). Outbuilding II (Feature 2) was a carriage house approximately 60 x 16 feet (Figure 14). It was a rectangular structure with a central 40-foot open facade to the south. At each end of the building were 10- x 16-foot storage areas with hinged double doors to the south. These two areas housed irrigation pipe and other farm tools and equipment (Plate 16). The roof of Outbuilding II was supported on the south side by three posts placed at 20-foot

FIGURE 17

Plan View and Profiles of Feature 12 South (Trash Pit)

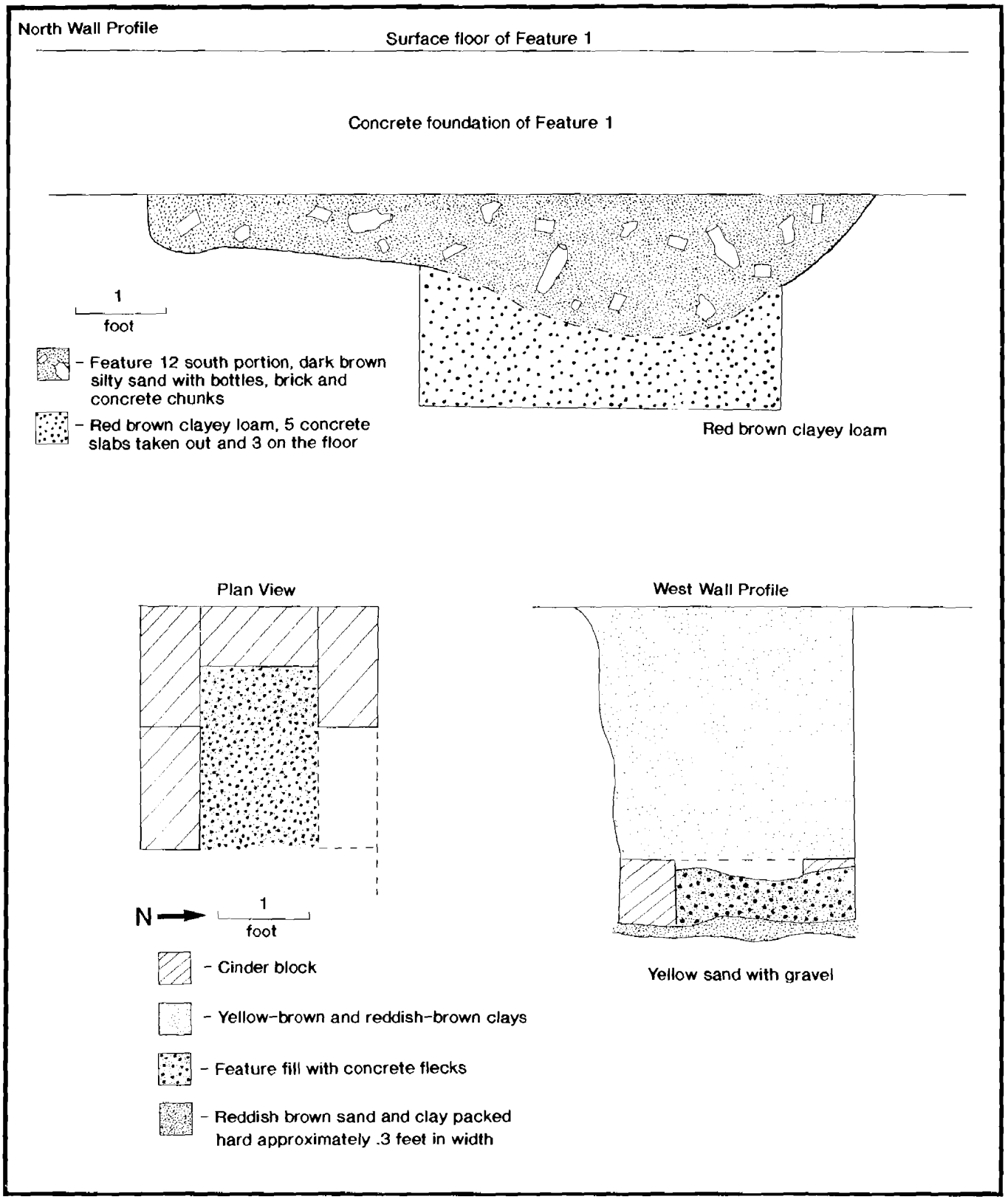


PLATE 16

Outbuilding II – Feature 2 (Carriage Shed)

intervals and 10 feet from each of the side walls. The foundation of the west, north and east walls was a combination of concrete on top an older brick phase. The floor was composed of brown silty sands.

A 10 percent sample of the floor was tested for the presence of artifacts and additional features through the excavation of six randomly placed test units (Figure 18). Artifacts recovered from these units were typical for the site and included shell, nails, brick, ceramic wares, bottle glass, metal, coal, and plastic. The majority of artifacts from the six units were architectural; nails, window glass, shingling, and brick. Test Unit 2-SS-1 had a rectangular post hole located along the south wall and Test Unit 2-SS-33 had a rectangular post hole located in the southeast corner (Figure 19). Both post holes were 2 x 1 feet, and approximately 0.8 feet deep, and contained architectural artifacts, primarily nails. Feature 2-1-1 also contained small quantities of brick.

Outbuilding III (Feature 3). Outbuilding III (Feature 3) was a 40- x 36-foot frame barn built on a concrete foundation with a concrete slab floor (Figures 14 and 20; Plate 17). The building originally served as a dairy barn (Frank Zimmerman, personal communication), but in 1944, the Zimmerman family converted it to a potato barn. A 0.5-foot concrete trough ran through the center of the building, dividing the floor into east and west sections. The east half still showed evidence of the metal pipes that made up stanchions for 10 cows. The stanchions ran along the east edge of the trough and would have been about five feet deep and four feet wide. If there were more stanchions, later concrete pourings on both the east and west halves of the building have hidden any evidence of them. The later pourings post-date the concrete foundation walls. The concrete in the west half was badly cracked, and decayed in

FIGURE 18

Test Grid for Outbuilding II (Feature 2--Carriage House)

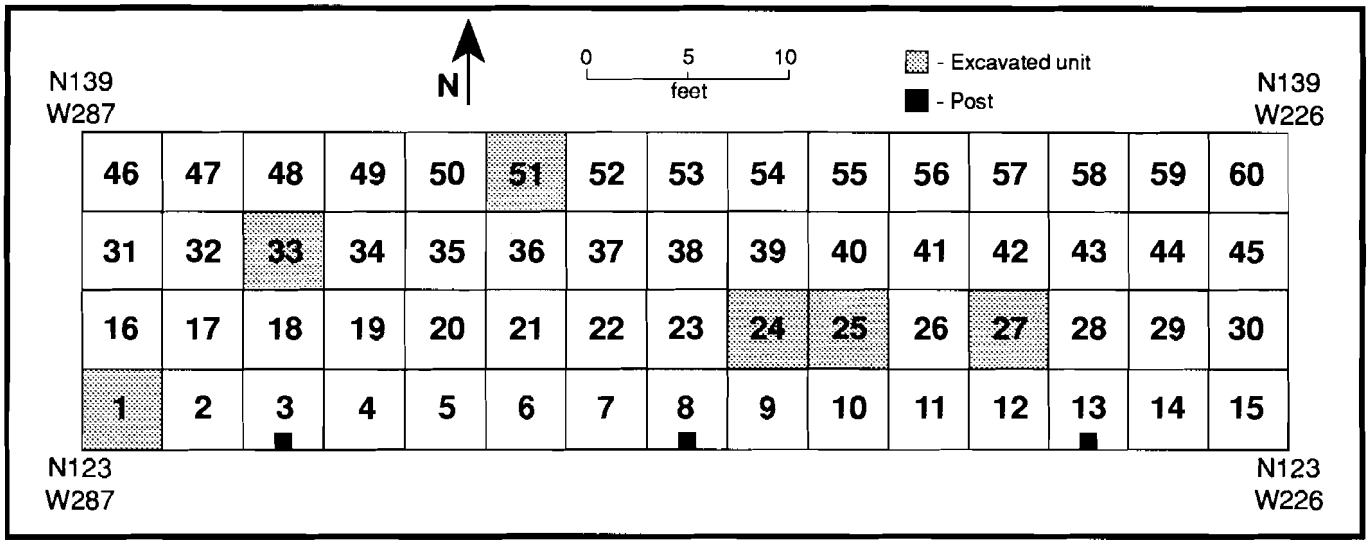


FIGURE 19

Plan Views and Profiles of Features 2-1-1 and 2-33-1 in Test Units 2-55-1 and 2-55-33, Outbuilding II (Feature 2)

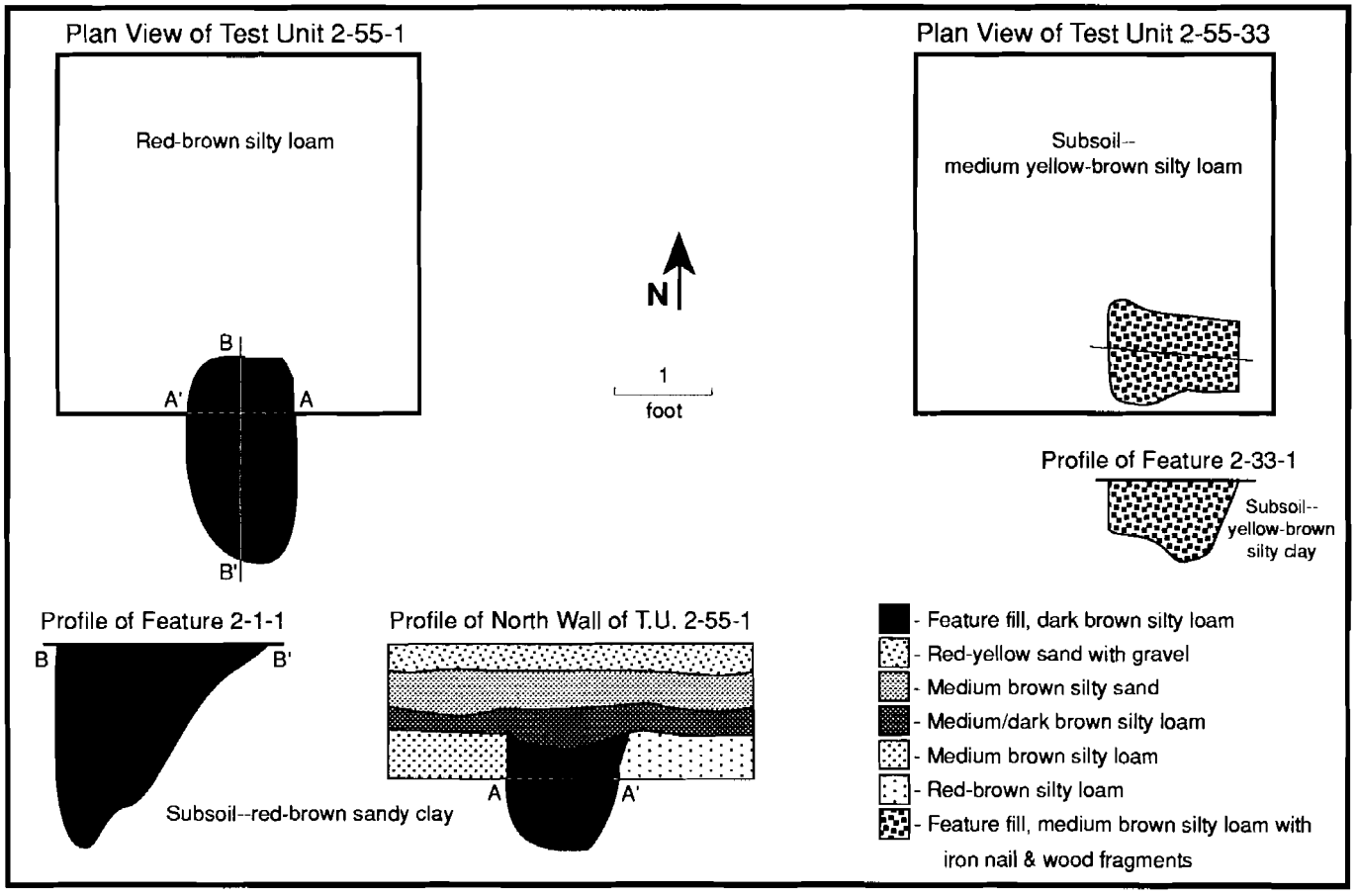
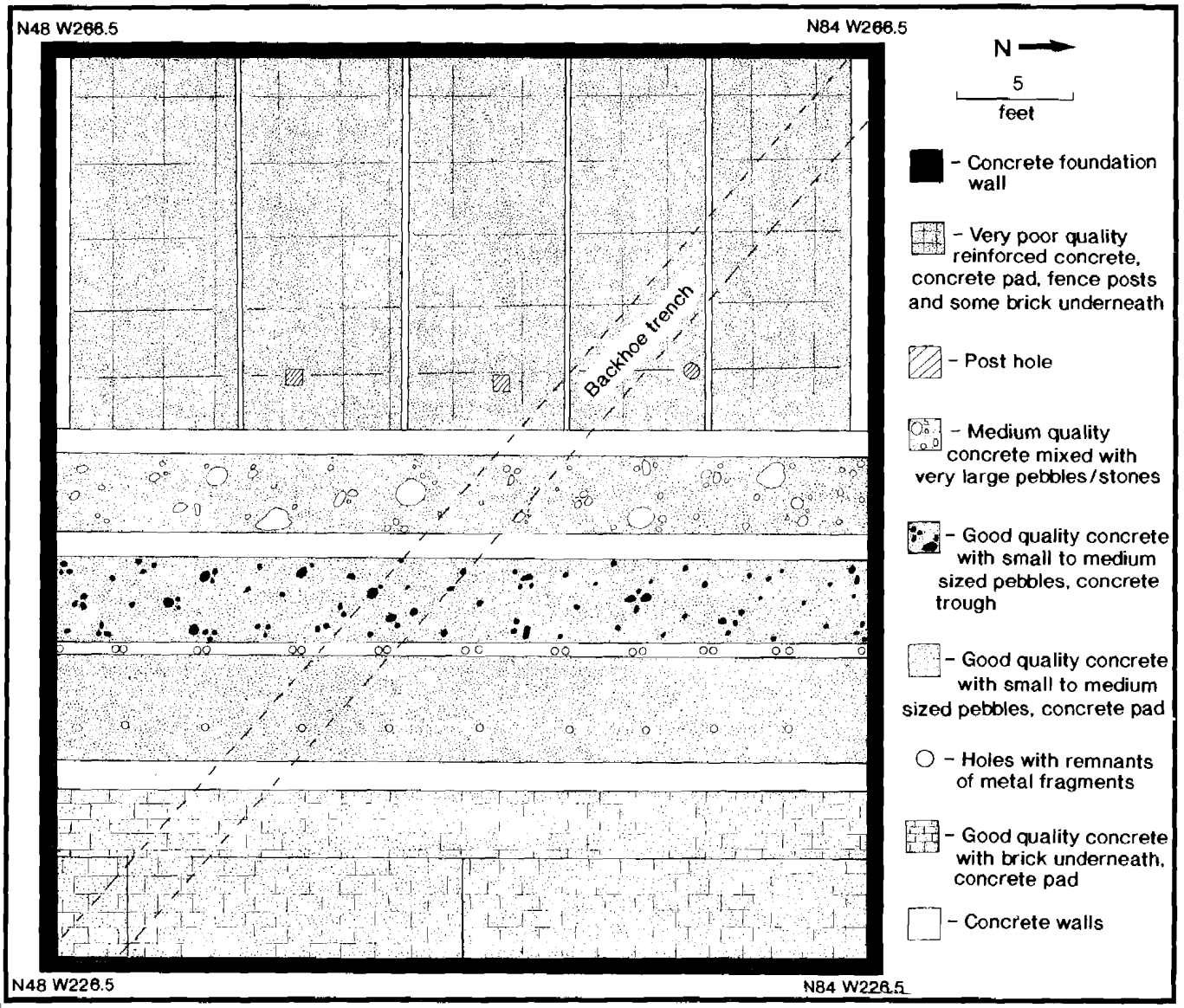


FIGURE 20

Plan View of Outbuilding III Foundation (Feature 3 - Dairy/Potato Barn)

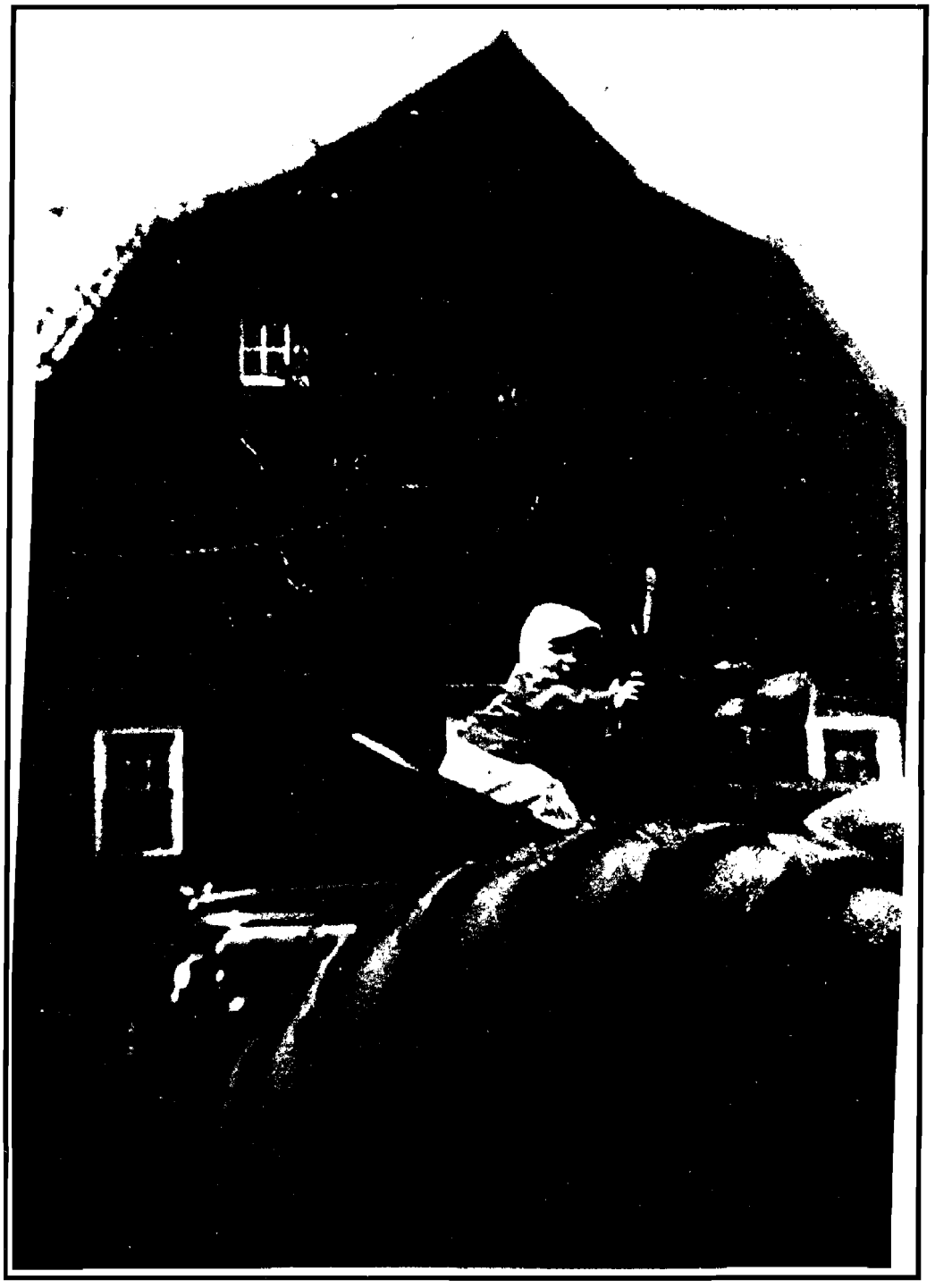


sections. The concrete pads were poured when the Zimmermans owned the farm and were part of the conversion of the structure from a dairy barn to a potato barn. In the west half of the barn, a row of three post holes, 11 feet east of the west wall and at 10-foot intervals, marked the location of support posts for a loft.

Associated with Outbuilding III were a series of brick piers off the south side of the building (Features 13, 29, 26, 25, 24, 17, 39, 19; Figure 14). Features 39 and 17 were repair posts, while the other features were the remains of actual brick piers. The piers were set approximately 0.3 feet into the subsoil and supported an overhang under which trucks and wagons could drive to be loaded for delivery of crops to market.

PLATE 17

Outbuilding III – Feature 3 (Dairy/Potato Barn)



After Outbuilding III was documented, a backhoe was used to cut a diagonal trench through the foundation from the southwest corner to the northeast corner. No evidence of an earlier building was uncovered; however, the soil profile of the backhoe trench showed that on the east half of the barn floor the better quality concrete was poured over brick and medium sized pebbles. The poorer

PLATE 18

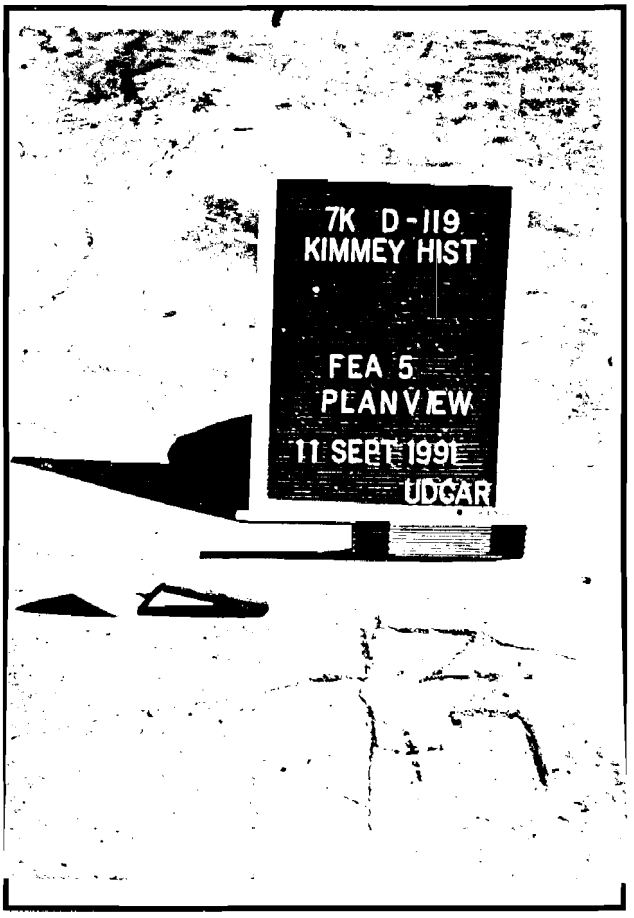
Corncrib

PLATE 19

Initials in Floor of

Outbuilding IV -- Feature 5

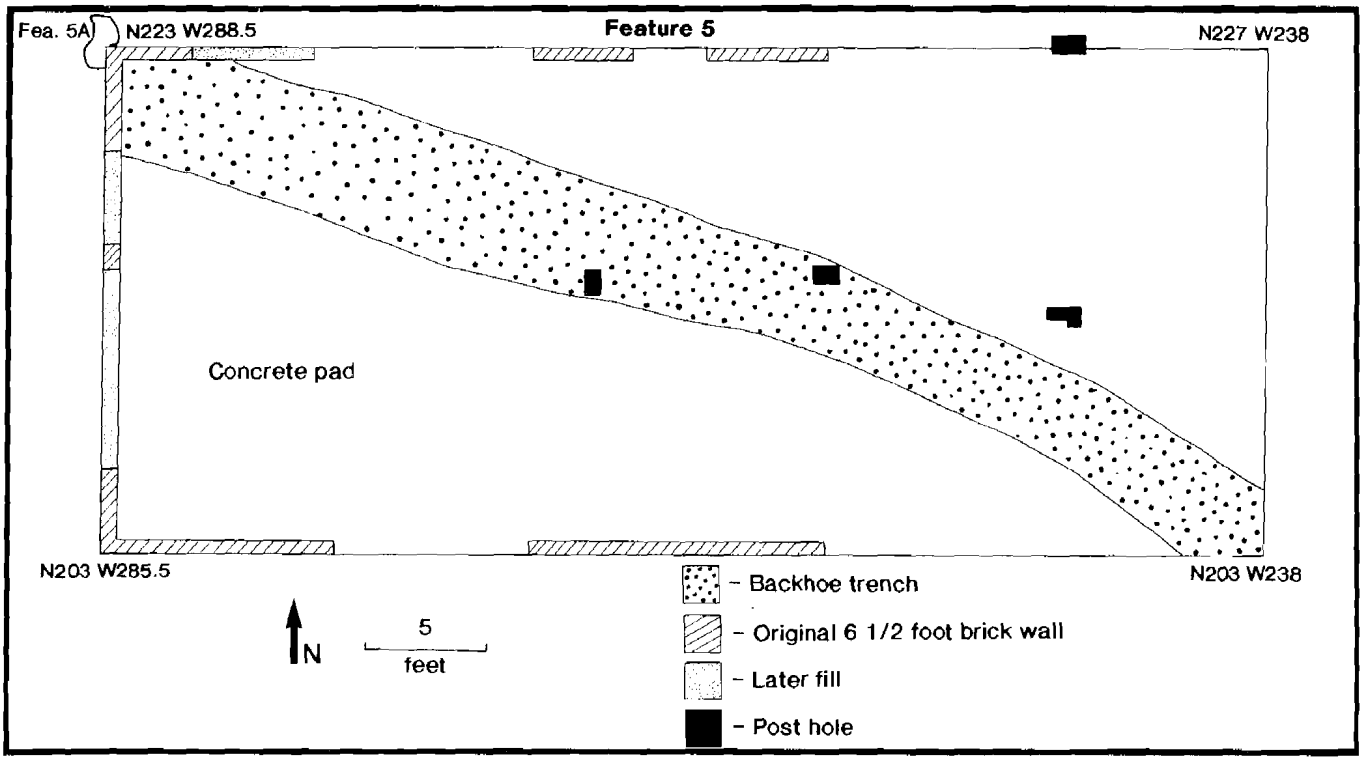
(Pig Barn/Shed)



quality concrete in the west was poured over large stones, reinforced concrete fence post, and some brick. These differences indicate that the east floor was laid with some care and attention to durability, while the west floor was laid quickly and inexpensively. A 1952 photograph of the farm shows a double corncrib adjacent to the barn along the west side (Plate 11) (Frank Zimmerman, personal communication). The crib appeared to be a 20- x 10-foot frame building which did not attach to Outbuilding III (Plate 18). Two post holes 20 feet off the west side of Outbuilding III, Feature 23 and Feature 22 (Figure 14), may have been the northwest and southwest cornerposts, respectively, for the crib. Feature 23 was a 3.5- x 2.0-foot rectangular post hole. Feature 22 was

FIGURE 21

Plan View of Outbuilding IV Foundation (Feature 5 - Pig Barn/Shed)



1.8 x 0.8 feet and measured 0.7 feet in depth. Two other post hole features, Feature 20 and Feature 21, may also have been internal support posts associated with the crib. Feature 20 was 3 x 1 feet and approximately 1.1 feet deep. Feature 21 was one foot in diameter and 1.65 feet deep. No other archaeological evidence for the building was uncovered by excavations.

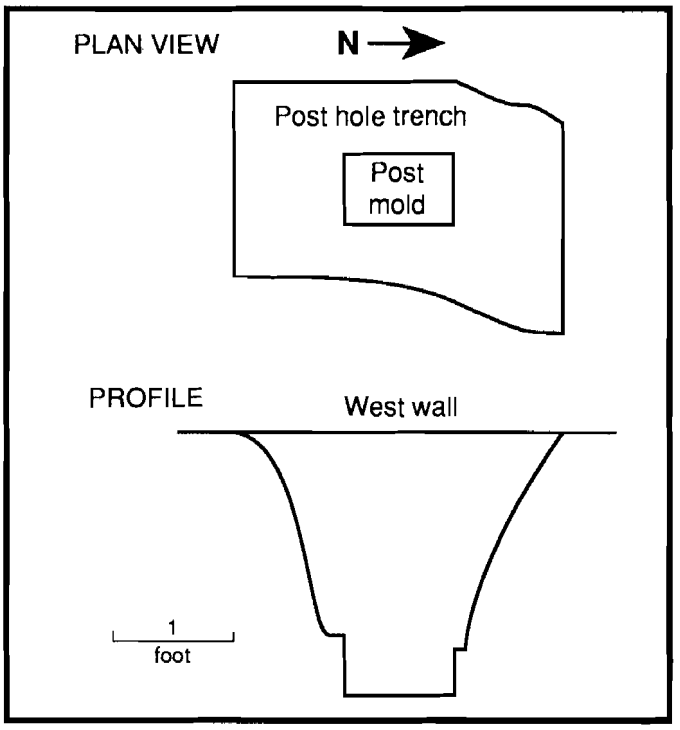
Outbuilding IV (Feature 5). Outbuilding IV (Feature 5) was a 20- x 47.5-foot rectangular foundation consisting of at least two phases of construction, a western 20- x 29.5-foot brick foundation and an eastern 20- x 18-foot post construction (Figures 14 and 21). The western portion of the structure was a pig barn with a dirt floor. In the 1940s, this function ceased when the pole addition was built as a garage. At that time the entire floor was poured with concrete and the building was used to store farm chemicals (Frank Zimmerman, personal communication).

Excavations of Outbuilding IV began with removal of debris above the concrete floor. This cleaning exposed three sets of initials with the date 1947 in the concrete floor: H.Z., F.T.Z., and J.Z. (the Zimmerman brothers - Plate 19).

Portions of the western foundation wall were removed in search of a builder's trench. Because no trench was found, the building appeared to have been built on brick sills that either rested on the surface or were set no deeper than the plow zone. Portions of the wall showed evidence of expedient repairs, such as shoring with stacks of bricks placed in random patterns. Just outside the northwest corner of Outbuilding IV, was a rectangular post hole with a post mold (Feature 5A - Figure 22). The post hole measured 2 x 1.5 feet and was 2.4 feet deep. This post may have been a support for an enclosed lean-to addition described by the Zimmermans that was located off the north and east sides of the building (Plate 11). However, further investigations along the north edge of Outbuilding IV, as well as those at the northeast corner, revealed no other posts. The north wall showed signs that portions of the wall had been removed. This was confirmed by Frank Zimmerman who stated that the wall was removed in order for trucks to be backed into the building for easy loading.

FIGURE 22

Plan View and Profile of Feature 5A



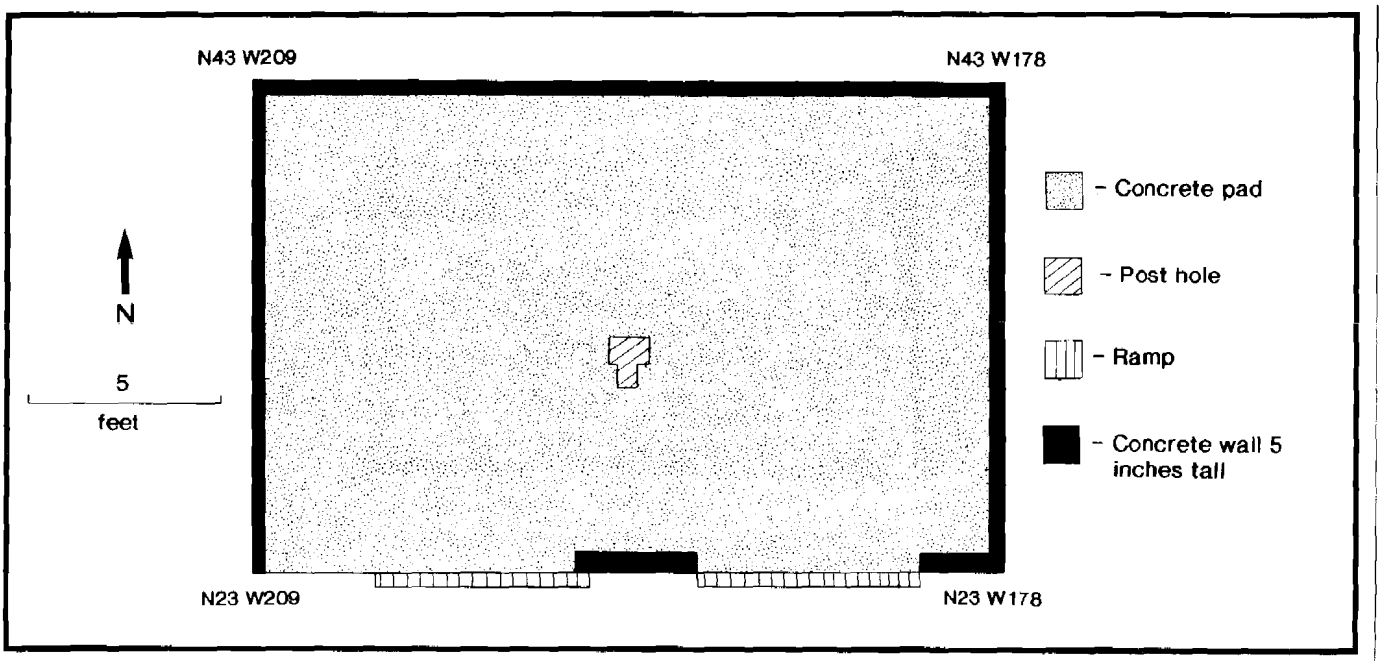
A backhoe was used to cut a diagonal trench across Outbuilding IV from the southeast corner to the northwest after the feature was fully documented. The backhoe trench exposed a wooden beam, possibly a floorboard, that was partially visible through the deteriorating concrete floor. However, the backhoe trench exposed no other boards, and root disturbance obscured any other evidence of wooden flooring that may have existed.

The east portion of Outbuilding IV, used as a garage, was supported in the center by three posts set at 10-foot intervals. The entrance to the building was along the south side where the floor was slightly sloped to the south resulting in it being flush with the ground.

Outbuilding V (Feature 8). Outbuilding V (Feature 8) was a 30.6- x 20-foot rectangular foundation with openings along the south wall (Figures 14 and 23). Frank Zimmerman identified the building as a chicken house converted by his family to a two-door garage. The floor was a poured concrete slab with a 0.5-foot tall sill, 0.5 feet wide around all sides except along the south where two side-hinged wooden garage doors had been hung. A center sill on the south side effectively divided the structure into a two-car garage, with evidence of a support post in the center of the floor of the building. The floor was sloped to the south to make the entrances flush with the ground surface. The wooden structure had a corrugated tin roof.

FIGURE 23

Plan View of Outbuilding V Foundation (Feature 8 - Chicken House/Garage)

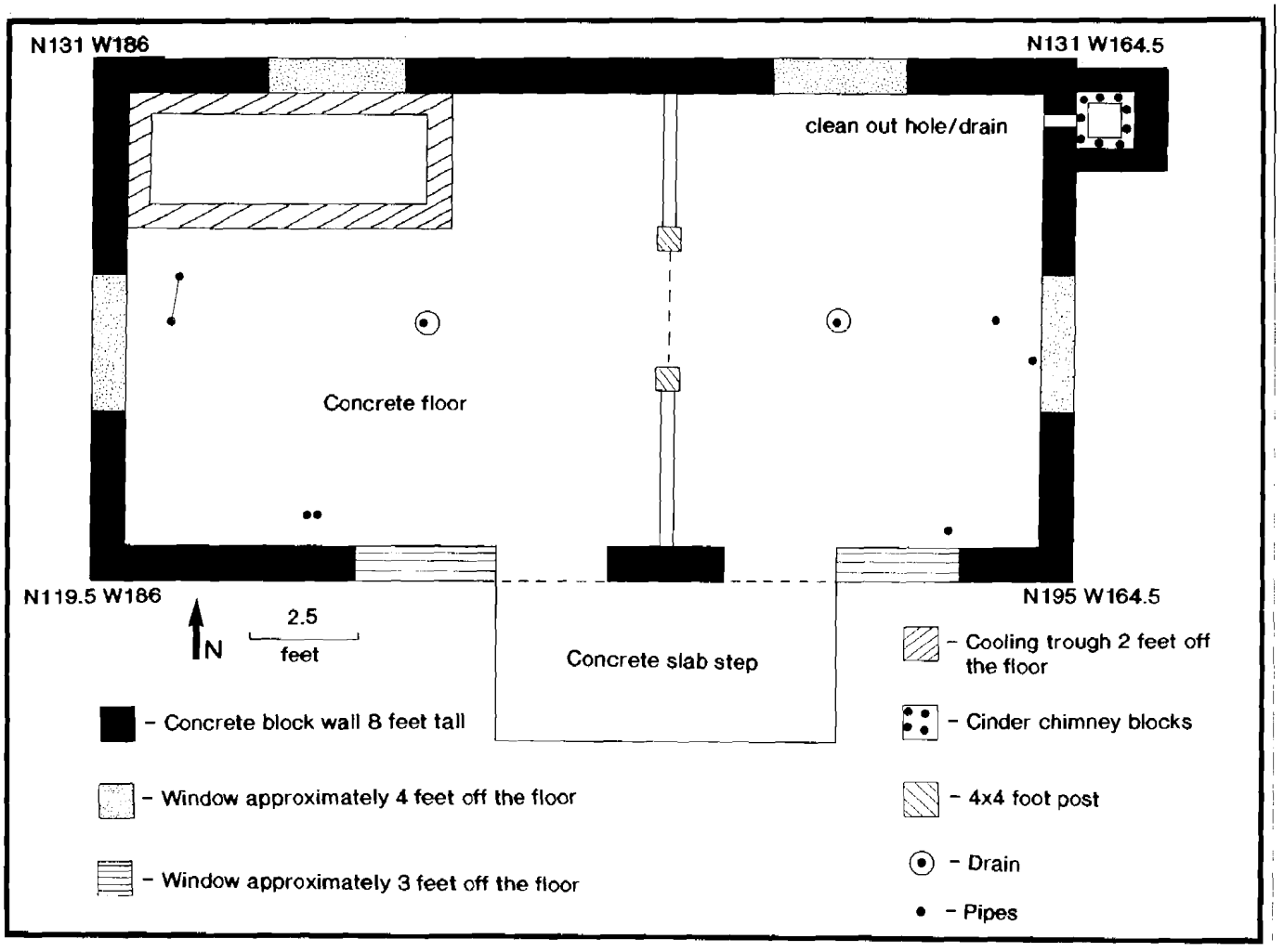


Approximately 10 feet to the east of Outbuilding V was a chicken coop that was visible prior to backhoe stripping. After the stripping, no archaeological remains were evident. The 10- x 12-foot structure, built by the Zimmerman family, also had a small chickenwire fenced area to the north side (Frank Zimmerman, personal communication). No archaeological evidence of the wire pen survived.

Outbuilding VI (Feature 10). Outbuilding VI (Feature 10) was located approximately midway between Structure I and Outbuilding II (Figure 14, Plate 20). The building, centered on N125W175.5, was a milk cooling shed that was constructed of concrete block with a cement floor and measured 11.5 x 21.5 feet. Two 0.5-foot square post holes, set in the concrete floor approximately 3 feet off the north and south walls, divided the building into two rooms (Figure 24). In the northwest corner of the west room, which measured 13.5 x 10 feet, was a 7- x 3-foot concrete cooling trough. In the center of the floor was a 1.5-inch circular drain. The east room, which measured 8 x 10 feet, also had a 1.5-inch drain in the center of the floor. In the northeast corner of the east room, a .70-foot diameter clean out hole in the east wall fed into a catch drain just off the northeast corner of the building. Two doorways positioned side by side on the south wall of Outbuilding VI gave separate access to the individual rooms. A 2.5-foot passage between the two interior posts also allowed

FIGURE 24

Plan View of Outbuilding VI Foundation (Feature 10 - Milk Shed)

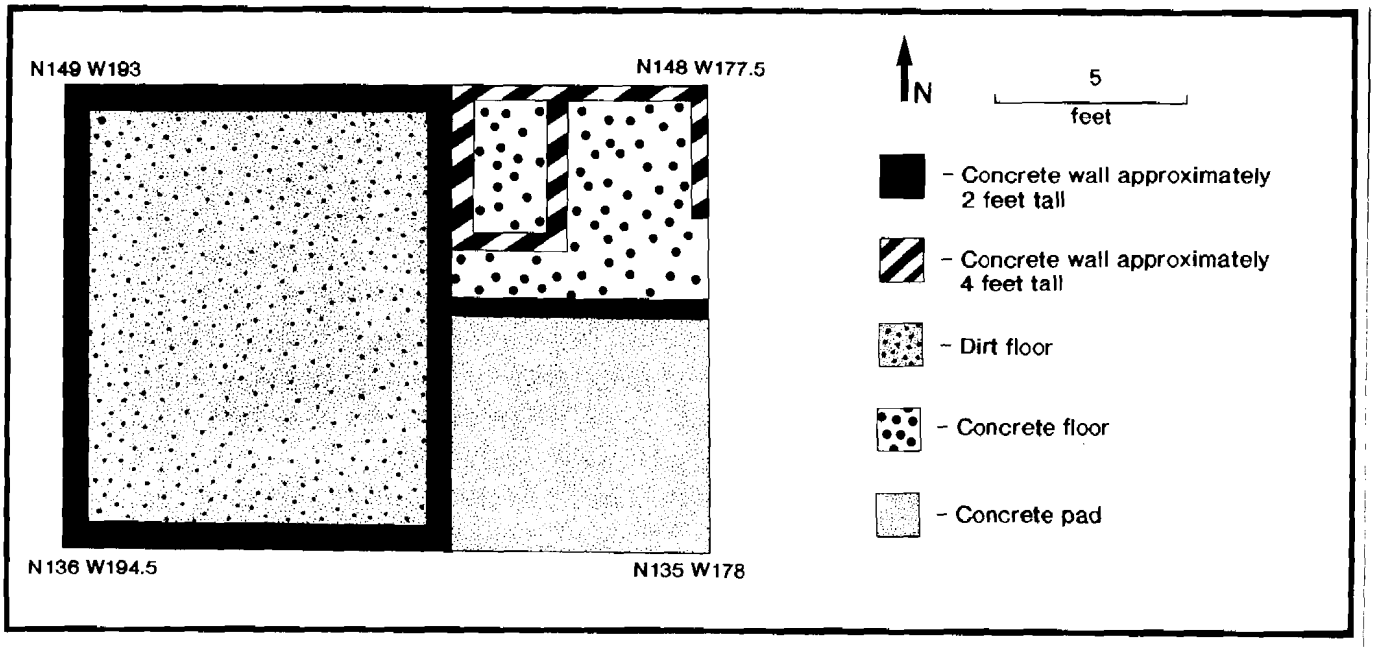


access between rooms. Two windows, one on the east wall and one on the north wall, provided light to the east room. Two additional windows, one on the north wall above the cooling trough and one on the west wall provided light for the west room. The building was the later of two milk sheds built by the Hipwells, both extant when the Zimmermans bought the farm in 1943 (Frank Zimmerman, personal communication).

Evidence of a builder's trench was visible along the outside of the north wall of Outbuilding VI. A mid-section was removed to see if more information about the building construction could be ascertained. The trench, about a foot wide, was flat bottomed, and averaged 0.8 feet in depth. Within the tested portion of the trench was a 0.9-foot diameter, dark brown feature centered on

FIGURE 25

Plan View of Outbuilding VII Foundation (Feature 11 - Milk Shed/Water Tower)



site, namely modern bottle, jar, and window glass, unidentified nails and metal, whiteware and white granite stoneware. Testing of Feature 57 on the east side of the building was conducted, revealing a continuation of the builder's trench.

On the east side of Outbuilding VI, against the east edge of the outside drain discussed above, was an oval feature (Feature 58) measuring 2.3 x 2.0 feet, approximately 0.7 feet deep. The feature was a pet burial containing, along with a few nails and glass fragments, 173 articulated dog bones and fragments. Surviving connective tissue between the tarsals and metatarsals of one foot suggested that the burial was probably no more than 50 years old. It was later discovered that this was the burial of the Zimmerman family dog, "Futz" (Plate 12). Futz was a mixed breed, part chow, approximately the size of a small collie. The dog had been in a dog fight and he died outside the milk shed, where he was buried.

Outbuilding VII (Feature 11). The earlier milk shed, Outbuilding VII (Feature 11), was a frame construction on a cinderblock foundation (Figure 14, Plate 21). It measured 16.5 x 12 feet and was divided into two main sections (Figure 25). The west portion, which was 12 x 10 feet with a dirt floor, housed the gravity-fed water tank approximately 15 feet above the ground. The east portion of the shed, the original milk cooling shed, was also divided into two rooms. The north room, which measured 6 x 6.5 feet contained a 4.5- x 3-foot cooling trough set in the northwest corner along the west wall. A drain pipe in the northeast corner of the floor exited into a drain on the exterior of the east wall.

PLATE 20

Outbuilding VI – Feature 10 (Milk Shed)

N131W178. Within the feature was a 0.3-foot diameter pipe. The feature was excavated to a depth of 1.5 feet. It was suggested that the feature might be a lightening rod, but no evidence confirming its function was uncovered. The artifacts recovered from the trench excavation were typical of the

PLATE 21

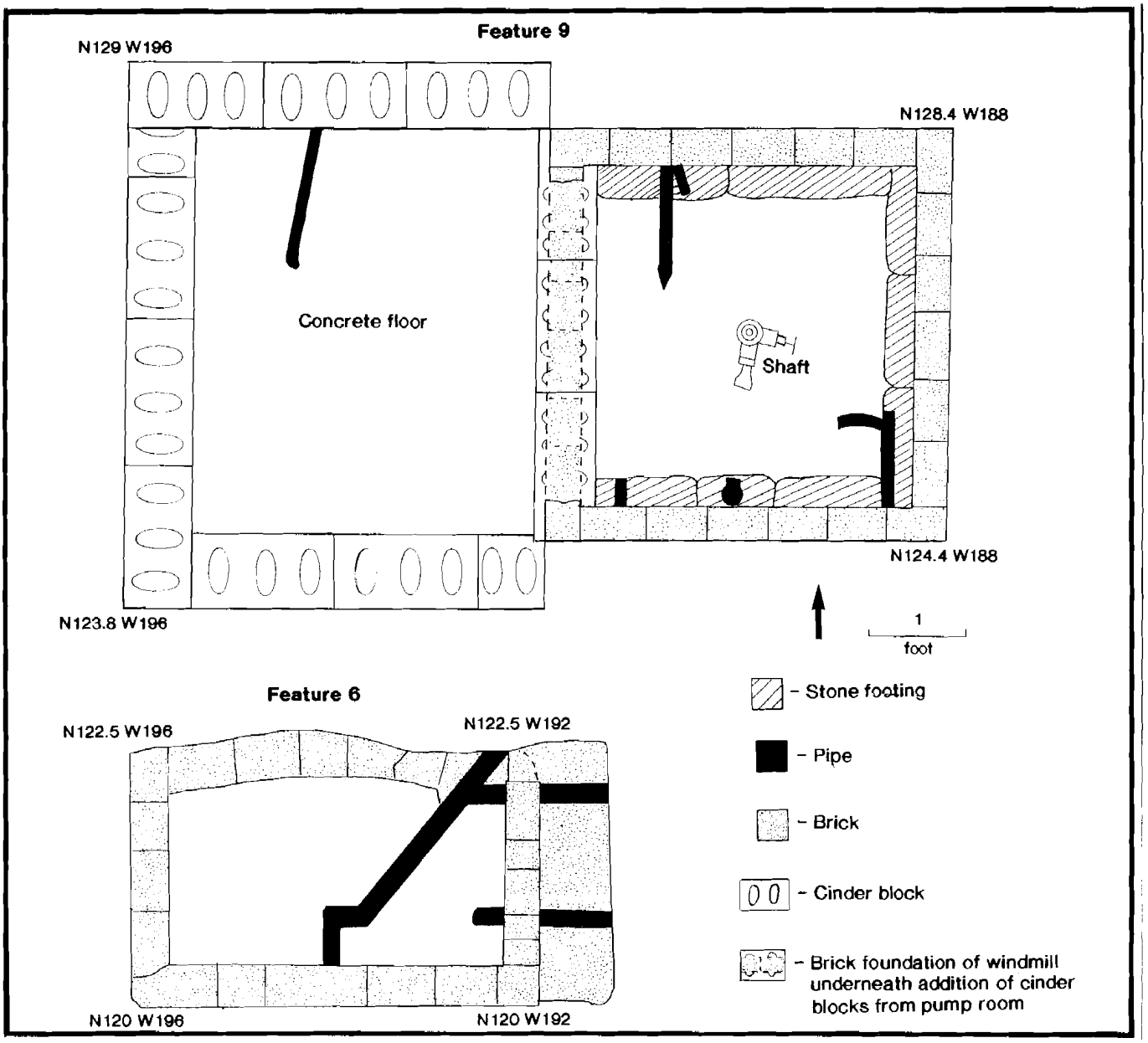
Outbuilding VII – Feature 11 (Milk Shed/Water Tower)

room, which measured 6 x 6.5 feet contained a 4.5- x 3-foot cooling trough set in the northwest corner along the west wall. A drain pipe in the northeast corner of the floor exited into a drain on the exterior of the east wall.

A 0.5-foot thick sill divided the east portion of Outbuilding VII into two rooms. The sill ran the width of the east portion with a 1-foot gap between the sill and the east wall of the building. The south room measured 6 x 6.5 feet. Both rooms had poured concrete floors. A single doorway on the east side of the building provided outside access only to the north room of the milk shed portion of the building. The tin roof on the east portion was only seven feet high and did not extend to the full height of the water tower.

FIGURE 26

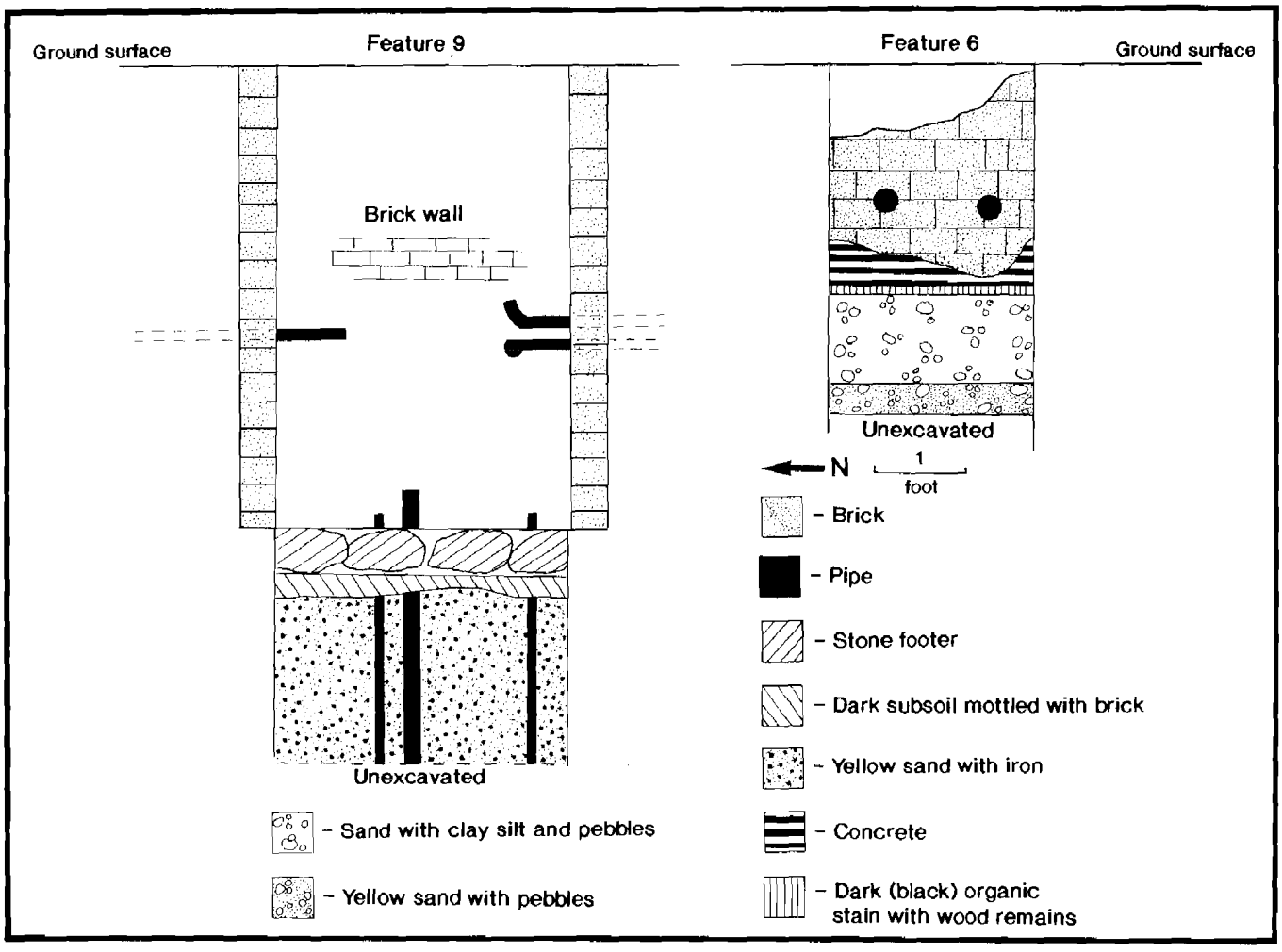
Plan View of Feature 9 (Windmill) and Feature 6 (Water Relay Station)



Windmill. About two feet off the west side of Outbuilding VI, the bases for a windmill and an electric generator (Feature 9) were located, as well as an auxiliary water relay station (Feature 6) (Figures 14 and 26). Feature 9 showed two phases of construction. The east phase, which was four feet square, was shored up by brick walls. Metal pipes protruded from the north and south walls. In the center of the floor, the main shaft pipe which drew water from the well below was visible. This area was the location of the windmill (Figure 26). This portion of the feature was excavated to a depth of five feet at which point the size prohibited further testing. The primary artifacts found were, again, bottle and window glass and unidentified metal, suggesting mid-twentieth century fill.

FIGURE 27

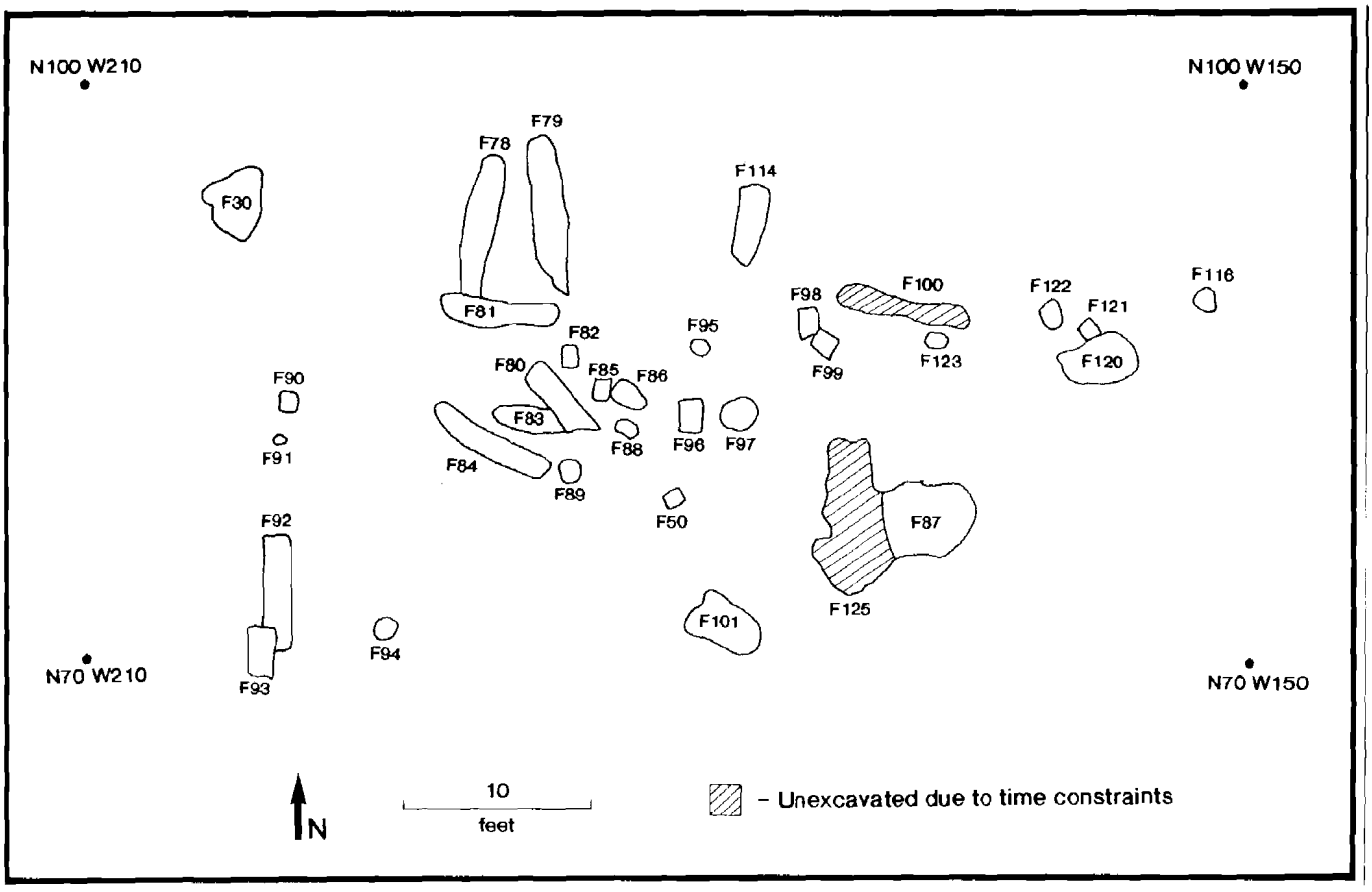
Profile of Feature 9 (Windmill) and Feature 6 (Water Relay Station)



The west portion of Feature 9 measured 5 x 4 feet and was shored up by cinder block on the north, west and south walls. A common brick wall joined the west and east portions of Feature 9. This area was the location of the electric generator. A single metal pipe, protruding from the north wall ran underground toward the water tank. At five feet below the ground surface, a broken concrete floor was visible. The floor was removed and the west portion of Feature 9 was excavated to a depth of about 7.5 feet, at which point it was deemed unsafe to continue excavations by hand. Located five feet below the surface, a 0.7-foot thick lens of stone footer and dark brown sand mottled with brick contained artifacts including twentieth century bottle glass and nails. Below the lens the soil was sterile yellow sand with iron concretions (Figure 27).

FIGURE 28

Plan View of Outbuilding VIII Feature Cluster

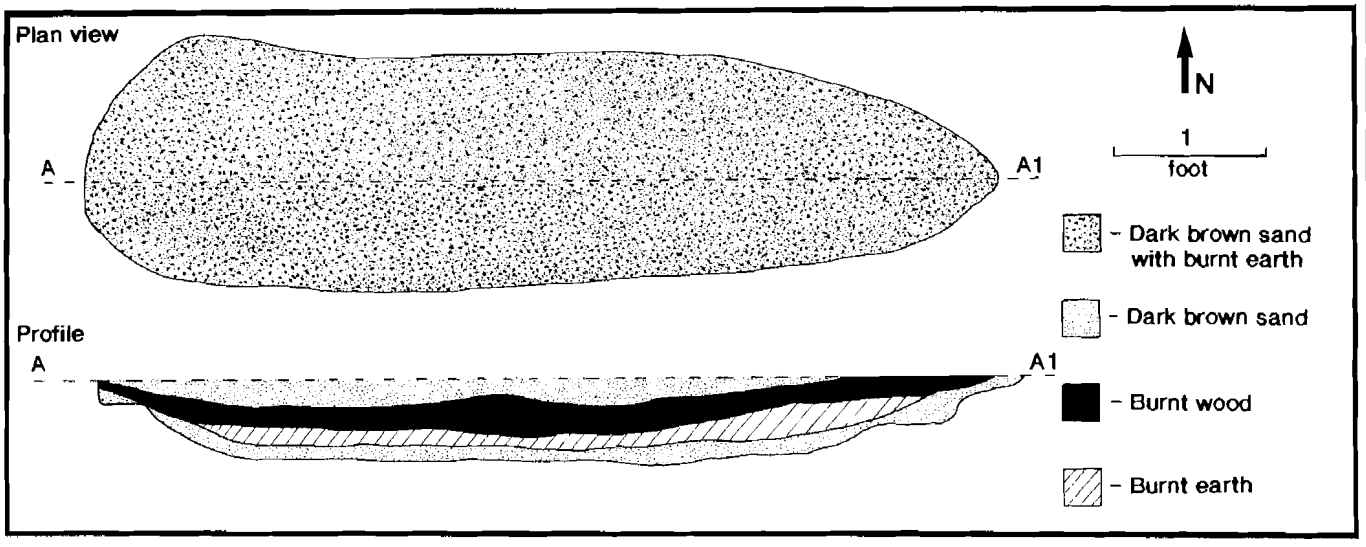


Feature 6 was located approximately one foot south and to the west of Feature 9. Feature 6 measured 4.7 x 2.5 feet and was shored by brick, matching the east portion of Feature 9. A metal pipe, protruding 0.5 feet from the center of the south wall, turned to the east and exited the feature from the northwest corner. The pipe appeared to run underground at an angle toward a pipe fitting protruding from the south wall of the brick section of Feature 9. The pipe link, plus the similar brick placement, suggested that Features 6 and 9 were constructed at the same time. Feature 6 was most likely a water relay station. This conjecture is further supported by the presence of two straight metal pipes protruding from the east wall of Feature 6 and running underground toward the house. Feature 6 was excavated to a depth of 3.3 feet until the small size of the feature and the protruding pipe made excavation impossible. A greater number of artifacts similar to Feature 9 were recovered in Feature 6. Unlike Feature 9, Feature 6 contained quantities of oyster shell.

Outbuilding VIII (Feature Cluster). Outbuilding VIII is composed of a number of features just north of Outbuilding V that appear to be the remains of a frame building that had burned down (Figures 14 and 28). This outbuilding may be the frame structure described in the 1862 insurance

FIGURE 29

Plan View and Profile of Feature 68



application by Charles Kimmey as a 10- x 49-foot frame shed used for cows. Several of the features have the same general shape, an oblong trough with burned wood lining a dark silty sand fill. Features 30, 114, 80, 79, 81, 83, 84, 92, and 93 were all excavated to about one foot below subsoil. All but one had a layer of burned wood, with burned soil around it, and had charcoal and dark stained soils as the feature fill. Feature 92 did not have a layer of wood, but did have burned soils and charcoal.

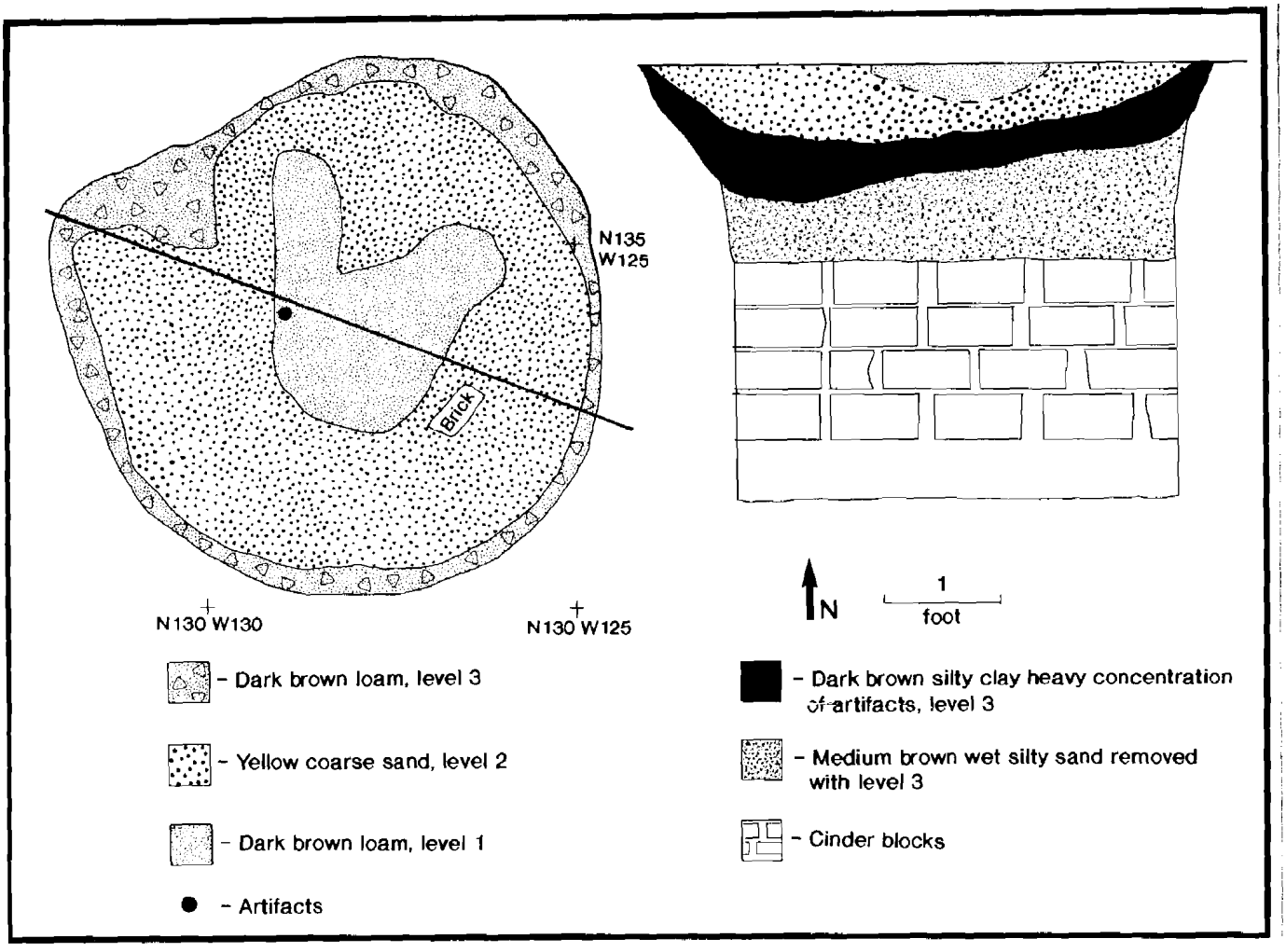
Approximately 75 percent of all artifacts recovered from the seven features were wire nails. Other artifacts recovered included glass sherds, a couple of ceramic sherds, metal fragments, and a whole bottle. The bottle, found in Feature 83, can be considered the TPQ artifact for the feature, dating the feature to around 1870. The wire nails also date these features to after the mid-1800s, which would coincides with the date of the insurance application.

The trough-shaped features (Figure 29) can be interpreted as either the remains of a sill that burned, or as structural beams that fell and burned in place. The charred earth found around the layers of charred wood supports the latter hypothesis of burning in place. It is possible that Features 81 and 100 represent sills of the structure, while the rest of the oblong features are beams that fell down. The soils analysis showed some general peaks of potassium in this area, which may have been caused by the burning episode.

Privy (Feature 31). Feature 31, five feet west of the southwest corner of the frame portion of the tenant house, was a circular feature 7.5 feet in diameter (Figure 14). Three distinct soil types were evident in the opening plan view (Figure 30, Plate 22). In the center of the feature was an irregular, circular concentration of dark brown loam approximately three feet in diameter. The

FIGURE 30

Plan View and Profile of Feature 31 (Privy)

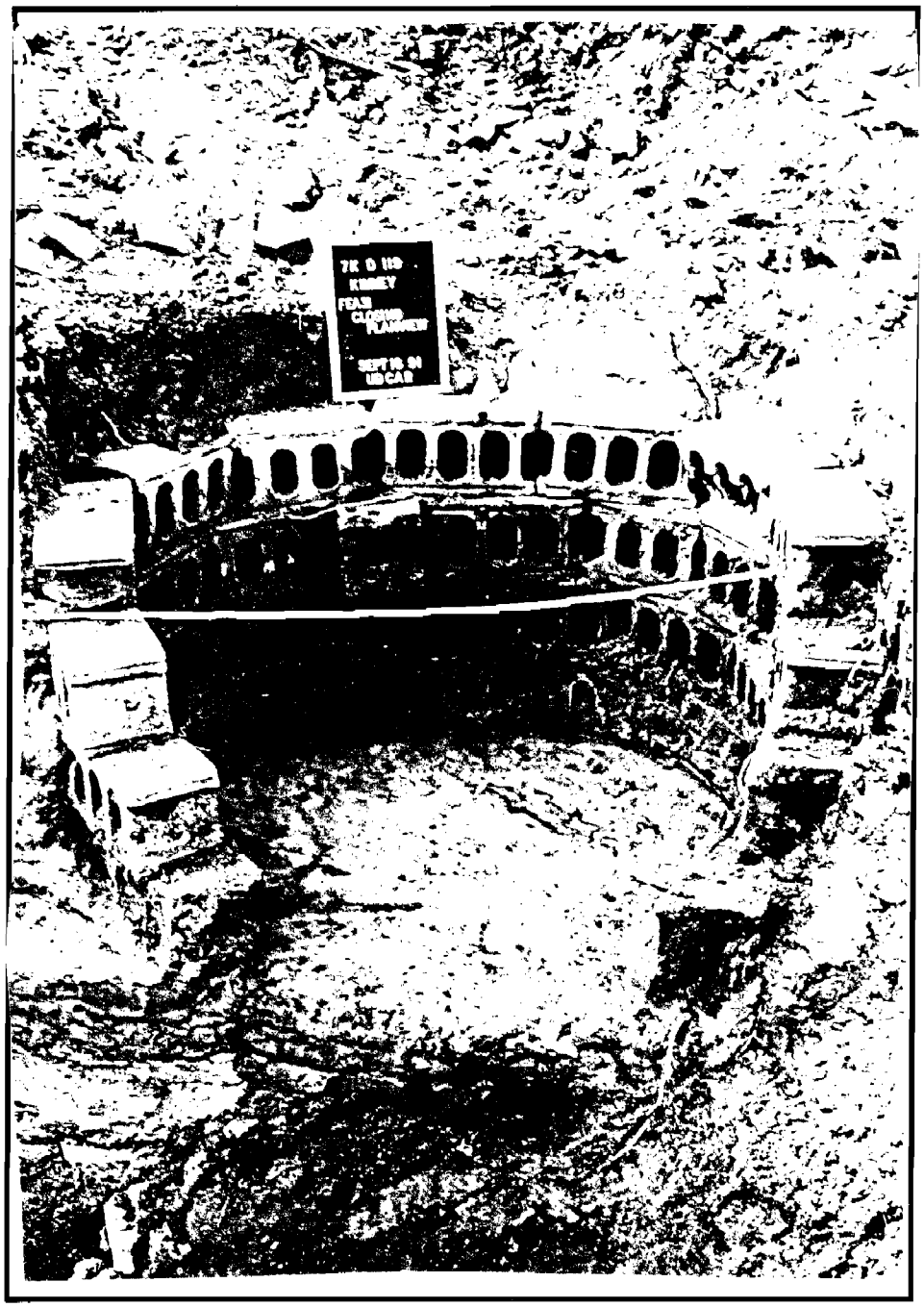


concentration was surrounded by a yellowish-brown coarse sand which in turn was surrounded by a narrow band approximately 0.3 feet wide of dark brown silty clay (Figure 30). The narrow band continued one foot below the yellow coarse sand and it is here that a heavy concentration of artifacts was observed.

The privy was bisected along an east-west axis, and excavated by levels based on changes in soil type. Level 1, a dark brown loam concentrated in the center of the feature, was 0.5 feet deep and contained only a nail and two metal fragments. Level 1 was a pocket of plow zone soil that was left during the backhoe stripping. Level 2 was composed of the yellow coarse sand which surrounded Level 1 in plan view (Figure 30). Level 2 was excavated to one foot where a thin lens of asbestos shingle was encountered. Under the shingle lens was Level 3, the dark brown silty clay which on the surface appeared as the 0.3-foot wide lens that encompassed the entire feature. In Level 3 was a concentration of nineteenth and twentieth century artifacts including bottle, window, lamp, and milk glass, a spoon, two toy cars, a toy wrench, white granite stoneware sherds, a whiteware sherd, and burnt and unburnt bone. Level 3 covered the entire floor of the feature.

PLATE 22

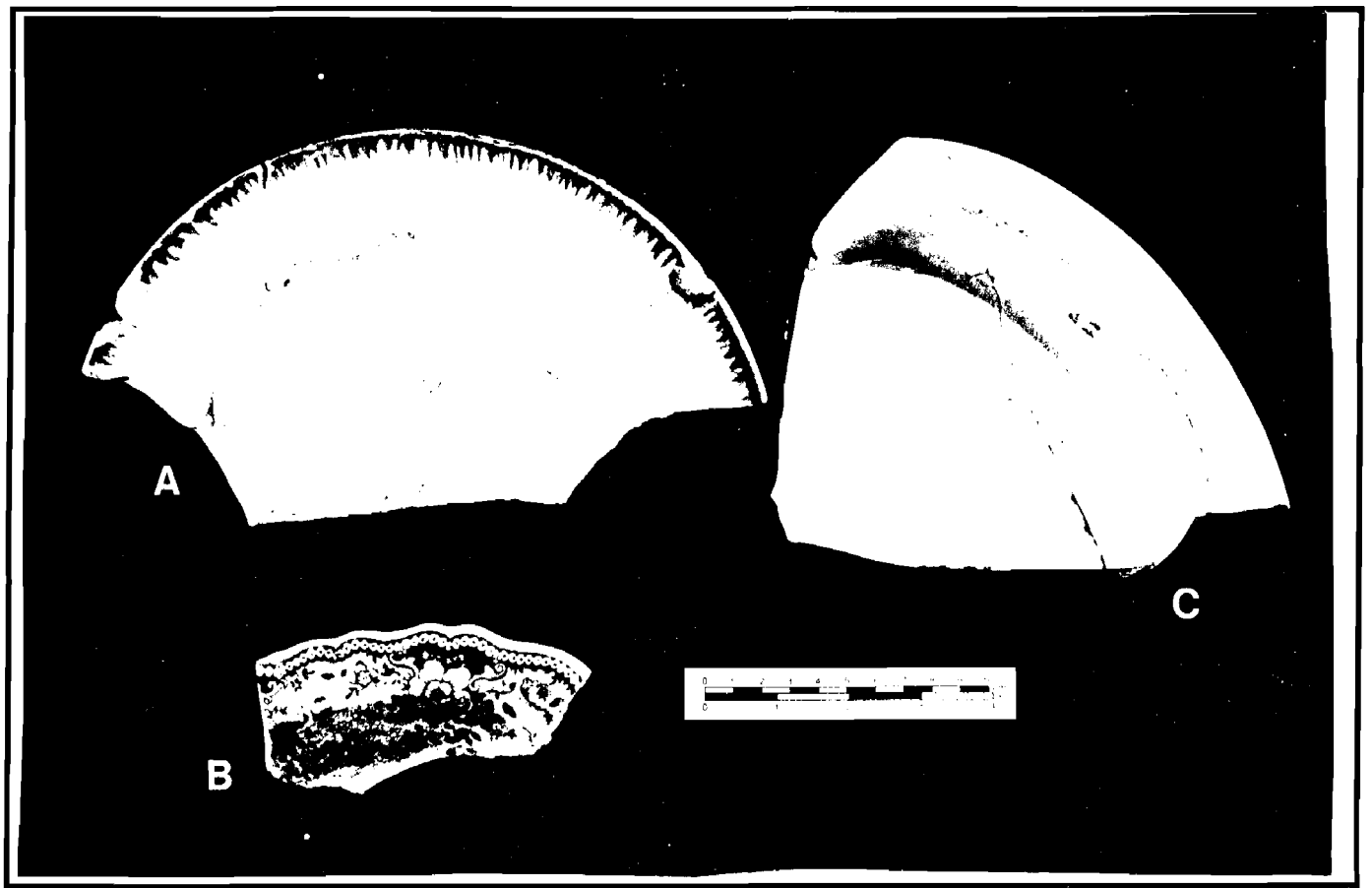
Profile of Feature 31 (Privy)



Removal of Level 3 brought the depth of excavation to 1.9 feet. There the soil changed to a moist, medium brown silty sand containing the majority of artifacts. This soil continued to be removed as part of Level 3. The types of artifacts in this level differed little from Level 3 above. Thus, it is likely that the filling of the feature occurred essentially in one episode (Figure 30). The soil of this artifact-laden level also produced strong odors suggesting high levels of decomposed organic matter.

PLATE 23

White Granite Ware and Pearlware (Feature 31)



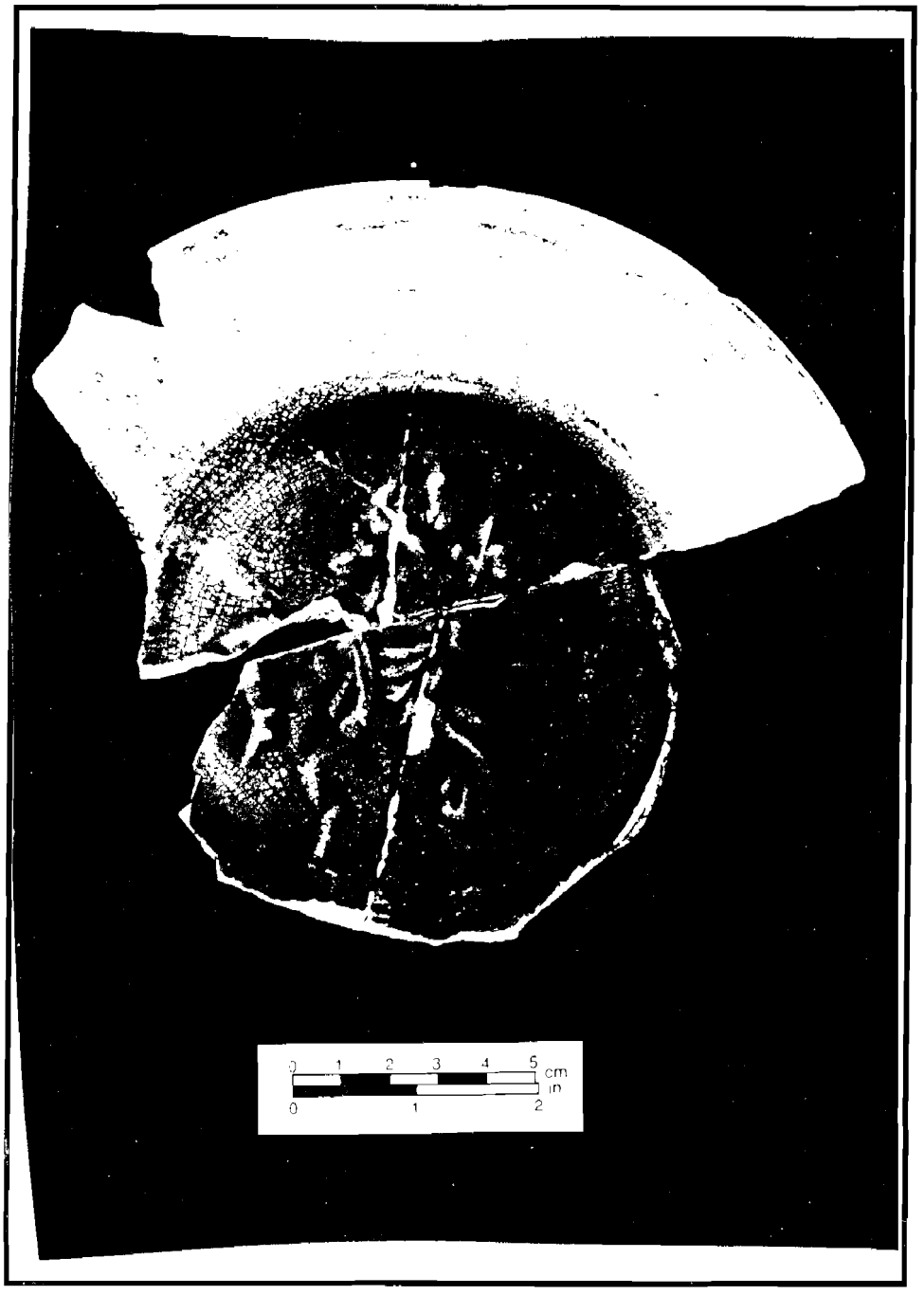
A - Vessel 47 (White Granite Ware) B - Vessel 46 (Pearlware) C - Vessel 100 (White Granite Ware)

At three feet below the surface of Feature 31, the first of four courses of cement block shoring was exposed. The blocks were set without mortar with the hollow opening of the blocks facing the side walls rather than the floor (Plate 22). The blocks formed a circular wall along the edge of the feature. The six-foot diameter of the feature suggests that the privy was cleaned out at some point, then enlarged and shored with cement block to improve drainage. Although the shoring wall maintained a six-foot diameter feature and there was no narrower central shaft evident, manual excavation stopped at four feet below surface in the event that there was a false bottom. A backhoe removed the surrounding subsoil flush with the point where excavation stopped in order to provide a safe area in which to continue manual excavations. Excavation of Level 3 continued in arbitrary one foot stratum. After two more levels were excavated, to a total depth of six feet below surface, the floor of the feature was reached. The north half of Feature 31 was hand excavated by cultural levels and all soils were screened.

Artifact analysis of Feature 31 showed that more than half of the reconstructible vessels at the Kimmey Site came from Feature 31. White granite stoneware and table wares accounted for 41 of the 47 ceramic vessels from Feature 31 (Plate 23). Tablewares included mostly undecorated or shell-edged plates and bakers. The other vessels were either molded or transfer-printed. A Victorian majolica plate

PLATE 24

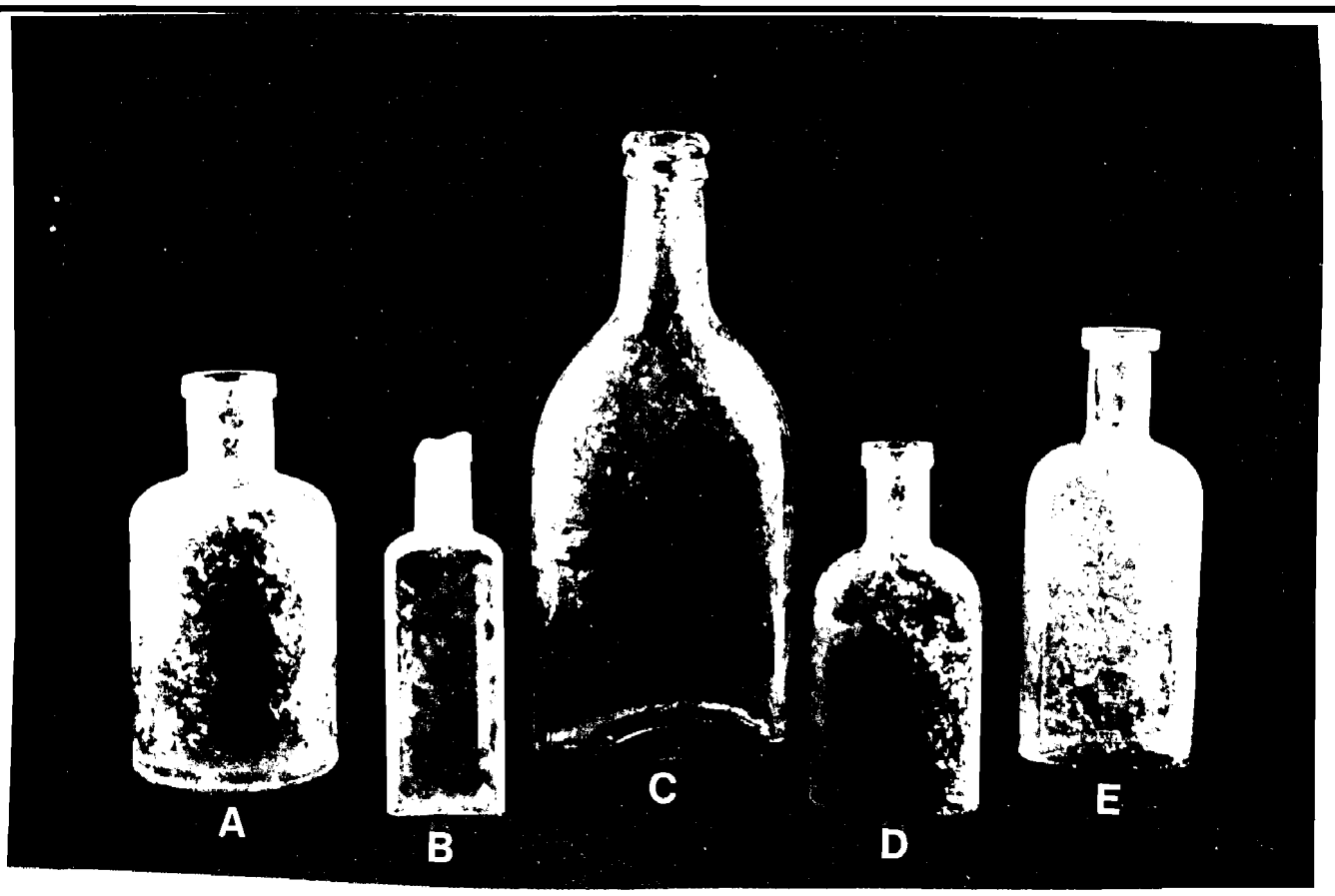
Victorian Majolica Plate (Feature 31 – Vessel 38)



was also recovered (Plate 24). The tea and table wares date mostly from the second half of the nineteenth century, some extending into the first three decades of the twentieth century. The other five ceramic vessels from Feature 31 included two redware vessels (a bowl and a pie pan), two white granite vessels (a molded bowl and a chamber pot), and a stoneware storage crock. The chamber pot recovered from this feature was the only one recovered from the Kimmey Site.

PLATE 25

Glass Vessels (Feature 31)



A - Vessel 14 (Baking Soda Bottle)
B - Vessel 11 (Medicine Bottle)
C - Vessel 10 (Beverage Bottle)
D - Vessel 12 (Medicine Bottle)
E - Vessel 7 (Medicine Bottle)

1 inch

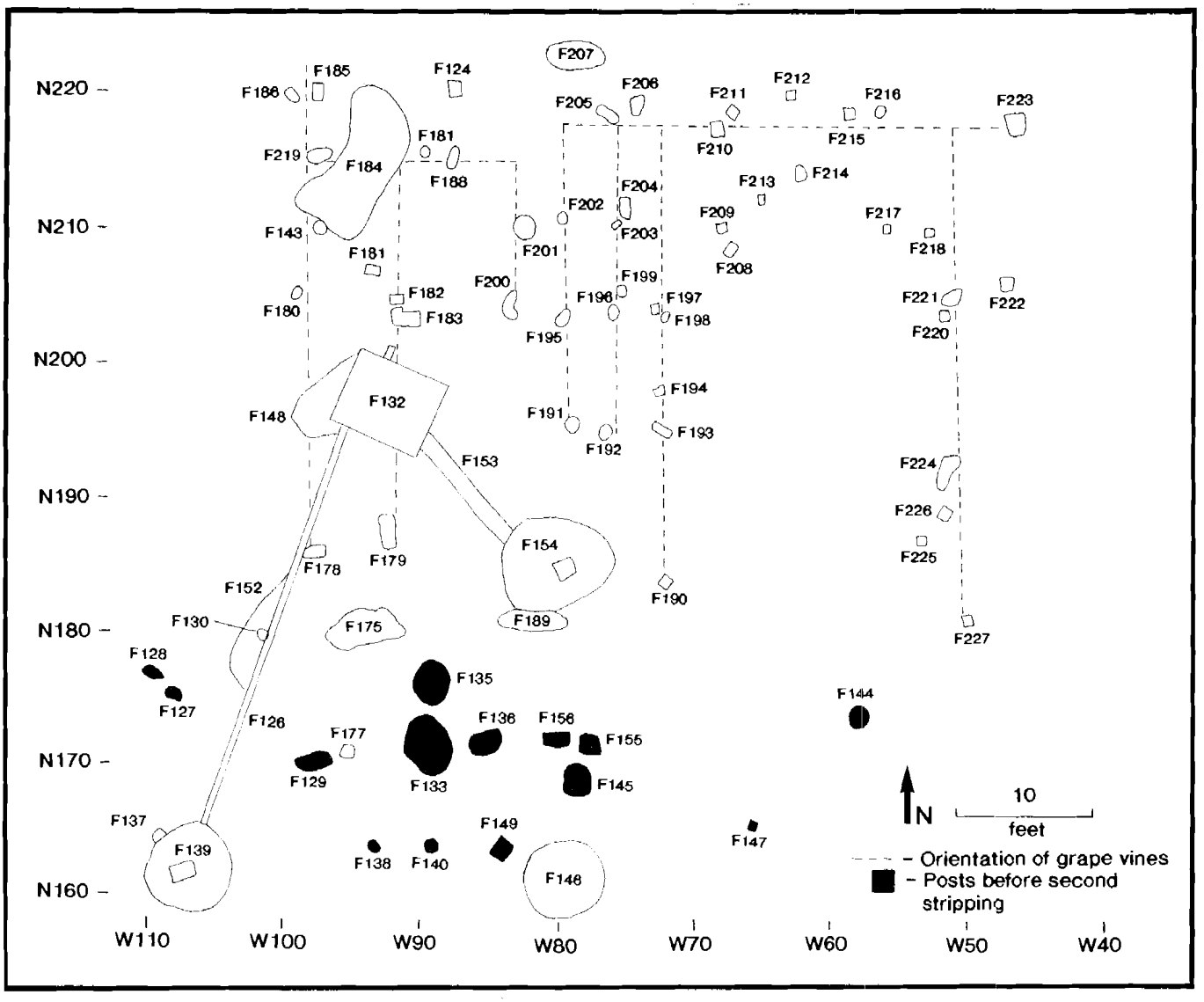
Fifty-four glass vessels were recovered from Feature 31, including: beverage, medicine, canning, food, chemical, tableware, and lighting. Forty-three of the vessels were containers (Plate 25). The vessels were dated using either marks present on the container or by the method of production. Based on the presence of a Clorox bottle (Vessel K-H-G-91), made between 1951 and 1954 (Toulouse 1971), a **terminus post quem** (TPQ) of 1950 was given to Feature 31.

Twenty-nine percent of the glass containers found in the privy were machine made which correlates with the expected percentage of machine-made versus mold-blown containers for 1905 (Miller and Sullivan 1981:8). The low percentage of machine made containers reinforces the inference that the primary use of the privy dated to as early as the turn of the twentieth century.

In conversations with Frank and Henry Zimmerman, neither had any recollection of a privy located so close to the house. Since their father, Christian, had insisted that the house be equipped with indoor plumbing before his family moved in, it is possible that the Hipwells used the privy to collect trash from around the farm yard some time before the Zimmermans bought the property in 1943. Concrete blocks recovered from the privy came into use after the turn of the century, dating this construction to

FIGURE 31

Plan View of Grape Vineyard



after the early 1900s (Simpson 1986). The range of dates in the ceramic assemblage reinforces the early twentieth century date, and suggests at least two uses of the privy as a refuse area. One assemblage, which includes the late nineteenth/early twentieth century vessels, indicates that a major cleanup effort of the property may have taken place, perhaps representing a single incident. The large amount of window glass and nails supports the idea of a cleanup period during the use of the privy as a refuse dump. The other artifacts reflect a continued use of the privy for trash disposal until the early 1950s.

Grape Vineyard. The feature cluster just north of the tenant house (Figures 14 and 31) has been associated with a historical vineyard which was located just beyond the boundaries of the excavated area. Frank Zimmerman recalls the trouble the family had with plowing here, because of the presence of iron reinforced posts still in the ground. Thus, the vineyard area was rarely plowed and predates the Zimmermans' occupation of the site. Mechanical stripping of this area revealed a septic system, some posts, and large scatters of brick and sand.

The concentrations of brick and sand were interpreted as the remains of the cellar fill and building debris from the construction of the brick portion of the tenant house. The majority of features seemed to be clustered south of the septic system (Figure 31). The size of Features 133 and 135 may indicate that these posts were replaced. In general, the posts varied from 0.4 to 1.0 feet in depth. The posts were closer to the house, perhaps so close that they were a part of the vineyard that was not covered with the house cellar fill.

The features buried below the sand fill were generally post holes, laid out in seven lines running north/south. One line of posts ran east/west, along the N220 line of the grid (Figure 31). This pattern is similar to modern vineyards observed in the Delaware and Pennsylvania regions. The gap in features between W50 and W70 may have been the location of a small garden area, or open space to facilitate access to the vines. Peaks in potassium in the soils analysis corroborate the interpretation of this area as a vineyard.

Miscellaneous Pit Features. Feature 7 was associated with Outbuilding IV in the northwest corner of the site (Figure 14) and measured 2.5 x 11 feet. The walls of the pit were made of cinder block and had been capped by iron reinforced concrete slabs along the edges of the pit. Initially, the feature was thought to be a trough for slopping of hogs. However, when the depth approached five feet and the artifacts, mostly modern ceramics and metal, and soils were found to be coated with grease, an alternative interpretation was sought. Frank Zimmerman then told us that the feature was a pit which had been dug by Zimmerman's father to facilitate access under the cars and farm machinery when making repairs. Zimmerman also revealed that he kept the pit clean, but that occupants of the farm, after he had sold it in 1958 to the Bituminous Construction Company, continued to use the pit to work on cars and motorcycles. The presence of grease and oil in the soils indicated that the artifacts were all deposited in Feature 7 after the Zimmerman occupation. Upon discovering the primary function of Feature 7, excavation was halted.

Feature 102 is an oval dark brown stain, approximately five feet in diameter located southwest of the house (Figure 14). The feature fill was a dark brown, fine silt with heavy ash and coal deposits, and there was a circular deposit of ash and shell around the darker feature fill. A scatter of brick, bottle glass, nails, metal, bone, shell, and ash was found within the feature, which was less than 0.5 feet deep. The high levels of coal and ash suggested that the pit had been used for burning. The shell deposits may reflect the dumping of kitchen refuse into the fire pit to help dispose of the wastes. The high number of unidentified nails is probably due to the burning of old boards from the outbuildings after they fell into disrepair. The pit also may have been the dumping spot for ashes, described in the 1862 insurance application as "a place well away from the house."

Feature 105 was an oval, approximately 9 x 6 feet and between 0.4 and 0.7 feet in depth, located south of the house (Figure 14). The irregular feature had a dark brown sandy loam fill. A total of 530 artifacts were recovered from the fill, including a variety of ceramic wares, glass, and metal objects. Included in the metal category were a horseshoe from a large work horse, a wrench, and 92 nails. The range in type and age of artifacts suggests the continual use of the feature as a trash pit.

TABLE 7

Average Dates for Ceramic and Glass Assemblages from Features 105 and 175

FEATURE	MEAN BEGINNING	MEAN END	AVERAGE OF THE MEANS
105			
Ceramics	1851 (18)	1909 (25)	1880 (14)
Glass	1857 (28)	1916 (03)	1886 (13)
175			
Ceramics	1826 (21)	1872 (38)	1849 (26)
*	1838 (04)	1887 (35)	1863 (17)

*Pearlware vessels removed (#) - Standard deviation

Eleven fragmentary ceramic vessels were reconstructed from the sherds from Feature 105. Six of the vessels were teawares, including all three of the teapots recovered from the site. The other five vessels included two kitchen wares (a yellowware bowl and a redware pie pan), one shell-edge twifler, an American stoneware storage crock, and a redware milk pan. The average beginning, end, and mean dates for the ceramic assemblage of Feature 105 are shown in Table 7.

Seven mold blown glass vessels were recovered from the feature; therefore, they were most likely made before 1917 when 95 percent of containers were made on fully automated machines. One vessel was a medicine bottle marked as "Warner's Safe Cure" used to package the "cure" between 1900 and 1910. Another bottle, also for medicine, was made by the Whitall and Tatum Company between 1892 and 1917. These two bottles were the only ones with datable marks. One other undated medicine bottle was found. The remaining four bottles consisted of two wine bottles, a possible bluing bottle or general container, and a base fragment too small to indicate a specific function. The glass assemblage dates are listed in Table 7.

The combination of artifacts suggests that the general use of this midden was for all trash, including household and kitchen refuse. The ceramic wares date within the late nineteenth century to early twentieth century, during both owner and tenant occupations. The range of ceramic wares and glass overlaps the Kimmey, Mayer, Murphy and Perkins occupations. Although the artifact amounts are low, it is possible that the trash midden was used by tenants and owners alike.

Feature 175 was an oval stain approximately 2.3 x 1.3 feet in size, and 0.35 feet in depth located north of the house (Figure 14). The fill was a uniform medium brown silty loam with oyster shells. Twelve ceramic vessels were recovered from the feature, five of which were tablewares. All are white granite stoneware with the exception of one Willowware print on a pearlware plate. There is also a handpainted pearlware cup, which is the only teaware from Feature 175. The rest of the vessels are utilitarian, including a yellowware bowl, four redware crocks, and a redware milk pan. The average beginning, end, and mean dates for the ceramic assemblage, with redware removed, are listed in Table 7.

Sherds of the pearlware cup and plate from this feature represent the earliest ceramic wares found at the Kimmey Site. It is possible these items were the possessions of one of the early tenants on the property. Thus, dates in Table 7 were generated without the pearlware data to separate the assemblages. The TPQ artifact, a white granite vessel, shows that Feature 175 was open at least as late as 1842. The small size and depth of the feature suggests that it was a secondary trash midden, used mainly for kitchen refuse.

Post Holes. The remaining features at the site have all been interpreted as post holes. Some of the post holes seem to represent an older orientation across the property contrary to the structures recorded by Phase III investigations. The configuration may represent an old fenceline stretching across the site, from the northeast corner of the pig barn (Outbuilding IV) down across the privy area, and south of the house. It is possible that the fenceline relates to an older occupation, perhaps to the very first structures built on the property. No archaeological evidence of the early structures were found, nor were many late eighteenth century artifacts recovered.

The remaining post holes (Features 14, 15, 32, 34, 35, 37, 38, 43, 45, 46, 48, 74, 75, 76, 112, 113, 117) present at the site cannot be identified to function or dated. The C. Kimmey Tenant Farm Site did not have easily discernible fencelines or post positions. The recorded post holes may be related to fencelines that were obscured by the activities of the different owners and tenants of the land.