Chapter 3
Fieldwork

METHODOLOGY

Magnolia Plantation is recorded as 16NA295 in the Louisiana State Master Site Files. On June 4, 1996, we began our fieldwork here by selecting the location of a base line that would govern the placement and pattern of the auger tests and serve as the control line for all future investigations. In my career, I have faced innumerable situations where preceding investigators have not set permanent data points. I vowed long ago to place such points whenever I initiate archeological investigations. This method keeps everything straight and helps investigators avoid countless field hours trying to determine precisely where others have dug. In the laboratory, it enables reconciliation of the relationships depicted on site maps and plans, thereby reducing guesswork and indecision. The accuracy of our permanent grid system provides individuals from other disciplines with a tool to communicate easily and precisely about the location and features of a site. For example, landscape architects have used our Magnolia grid to inventory and map the flora, and architects and engineers have used it to map the structures. In the winter of 1996, a topographic map tied to the grid was created to illustrate both horizontal and vertical relationships across the park.

Before setting the base line, the plat prepared for transferring the land from Museum Contents Inc. to the National Park Service was carefully examined, and a visual inspection of the park was made. Both clearly showed that the configuration of the land and the locations of the structures impeded the desired single base line. Consequently, a steel axle found driven into the ground at the southeast corner of the park served as a survey monument and as our starting point designated N2000 E2000. From this point, we ran a line 1,000 feet north (N3000 E2000), then another line 225 feet west (N3000 E1775). Returning to the north, we established N3225 E1775 and turned west again to N3225 E1700. Turning north, we placed the final datum at N3600 E1700 (Figure 9).

The survey was done with a Sokia Total Station transit. The points were marked with one-half-diameter steel rods. (A licensed land surveyor subsequently replaced these with aluminum-capped rods.) Admittedly, our survey had errors. The ending point was 0.5 feet too far west, which created an east/west error of 0.016 percent; it was also 0.8 feet too far north, for a north/south error of 0.005 percent. For auger testing, these errors are insignificant. Each auger hole penetrated the designated grid point, although not always on dead center. Additional temporary control points at 250-foot (sometimes less) intervals were established perpendicular to the north/south lines to facilitate accurately placing pin flags over the entire park. This approach is acceptable when considering the cost and time required to establish transit points.

On June 4, we pin flagged the base line between N2000 E2000 and N3000 E2000. We sank the first auger test at N2025 E2000. Six auger tests were completed on this date. We continued auger testing up the E2000 line to N3000. As this work proceeded, a survey crew—using surveyors' tapes and chains and the auxiliary control points mentioned earlier—began to pin flag large blocks of the area. The first of these blocks was bound by grid points N2500 E1725, N2750 E1775, N2500 E2000, and N2750 E2000. Excavation of the auger tests proceeded in an east/west direction from the N2750 line southward. Subsequently, two additional blocks were laid out to the south boundary of the park—west of the cotton gin house—and tested. Next, we laid out blocks from the southern boundary and east of the cotton gin barn to the boundary line north of the slave cabins. As this work was completed, we shifted west of the E2000 line, returning to the N2750 line, delimiting and augering blocks until we reached the north bound-

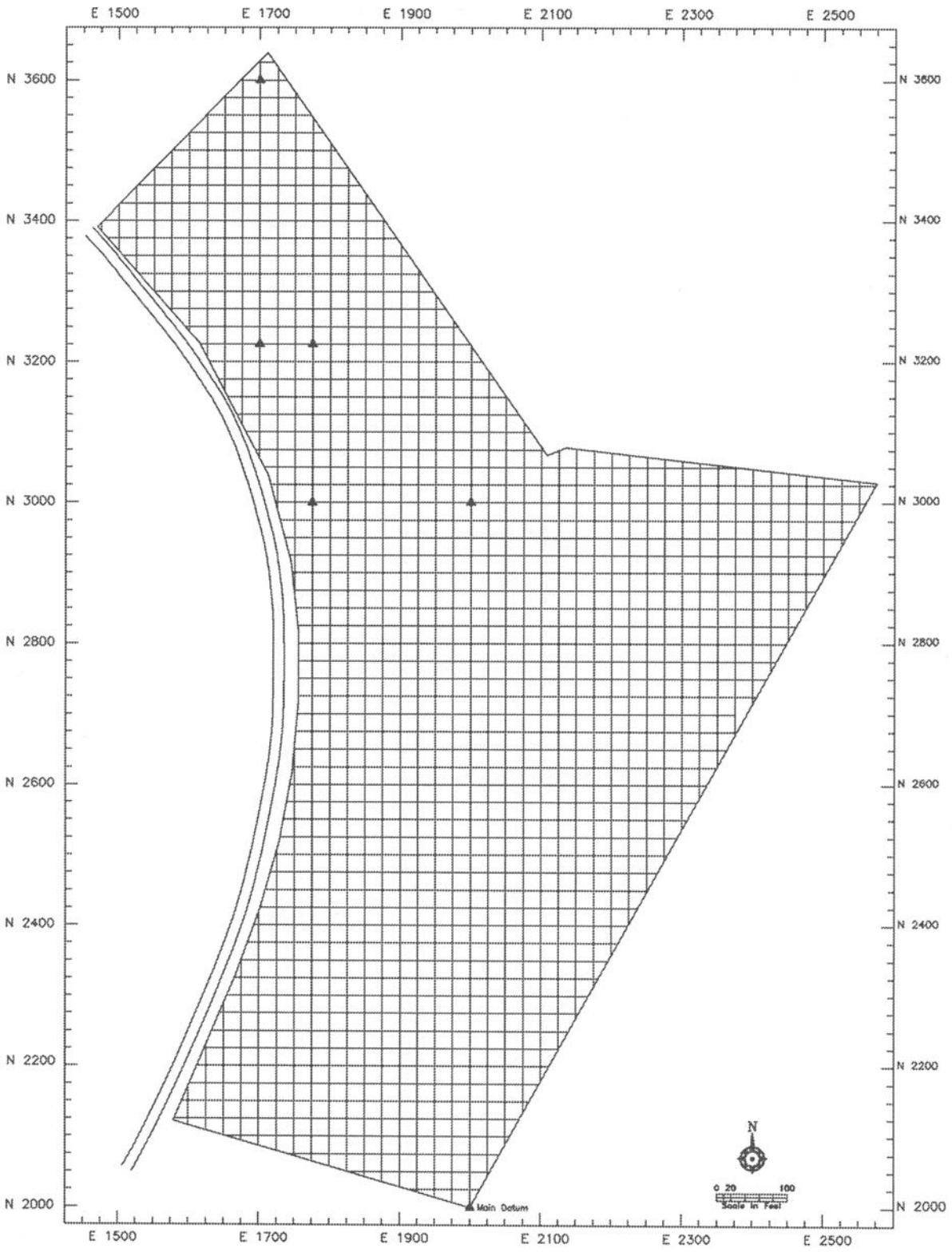

Figure 9 — Magnolia Plantation map showing the datum points and grid layout for auger testing (source: SEAC archeological survey map, Magnolia Plantation, 1996).

ary of the park. The final auger holes were drilled on lines east and south of the slave hospital/ overseer's house. The last of the 1,206 auger holes was completed just before lunch on July 10, 1996.

Once the auger test locations were determined, they were marked with pin flags inscribed with the grid coordinates (corners). The tractor-mounted auger (Figure 10) was placed over the pin-flagged point, and a one-foot-diameter hole was drilled to (1) the point of contact with in situ structural remains (brick piers or foundations), (2) the subsoil, or (3) the maximum depth to which the auger would reach (about four feet below the surface). One person positioned the auger over the intersection of the grid lines; a second person ran the auger. The material thrown out by the auger was sifted through quarter-inch hard-wire screen (Figure 11). A two-person crew collected and bagged the cultural material and other interesting items found in the screen. They recorded profiles of the auger test on a form designed to record soil texture, color, depth, thickness, and descriptive information of discrete layers or strata (Figure 12). Piers, foundations, brick and mortar rubble, and other significant characteristics were drawn to scale in plan view. Appropriate features were photographed prior to backfilling the auger hole.

RESULTS

We excavated and documented 1,206 auger holes between June 4 and July 10, 1996 (Figure 13). Cultural or scientific material was recovered from 1,170 (97 percent) of these tests. Fifty-two tests (4.3 percent) revealed data and produced material in sufficient amounts or in a context that warranted their designation as features. The rest of this report describes and interprets the data set obtained from the subsurface testing program.

PRODUCTIVITY

Field journals and employee time sheets detailing daily accomplishments, field specimen logs, and notes have been used to generate the following data. A total of 2,254 person-hours were devoted to all tasks associated with the subsurface testing program (not including the hours spent in the slave cabin investigations). These tasks included: doing a baseline transit survey; setting pin flags; clearing vegetation; augering, sifting, recovering, and rough-sorting material; backfilling holes and recording the data on forms, in notes, and by photography; completing the field specimen and photography records; and performing routine logistical chores. The number of auger holes completed on days devoted primarily to this activity ranged from 26 to 65, with an average of 47.6 holes per day. The daily totals varied widely for three reasons: rain interruptions; inconsistency in the number of features encountered daily; and reduced participation on days when one of the auger teams was pin flagging the next block to be investigated. On average, it required 1.9 person-hours per auger test for the fieldwork portion of the project.

STRATIGRAPHY

The sediments encountered across the plantation are composed of fine-textured sand and silt deposited by periodic flooding of the Red River Basin during the Pleistocene and Holocene periods of geologic time. We encountered no clear evidence of old developed land surfaces subsequently covered by more recent alluvium, although this does occur (Gregory, personal communication 1996; Martin et al. 1990:110). Consequently, the sedimentary column characteristics are the result of pedogenic (soil forming) and cultural processes. The pedogenic process combines the effects of climate, biological activity, slope, and time on the parent material to produce the specific characteristics of a soil (Jenny 1941). Cultural activity has produced the most clearly identifiable impacts on the physical characteristics of the sediments. These activities are expressed as plowed soil from agricultural industry, brick piers or footings of structures, and cisterns and mud holes filled with soil containing construction rubble and midden deposits. Except for the plow zone and some midden deposits, these situations were recorded as features. Stratigraphic profiles typical of the sediments and features are illustrated in Figure 14.

In previously farmed areas of the park, the stratigraphy was composed of a plow zone rang-

Figure 10 (above) — Augering a test hole.

Figure 11 (right) — Sifting dirt from auger test holes.

Figure 12 (below) — Recording auger test hole data.

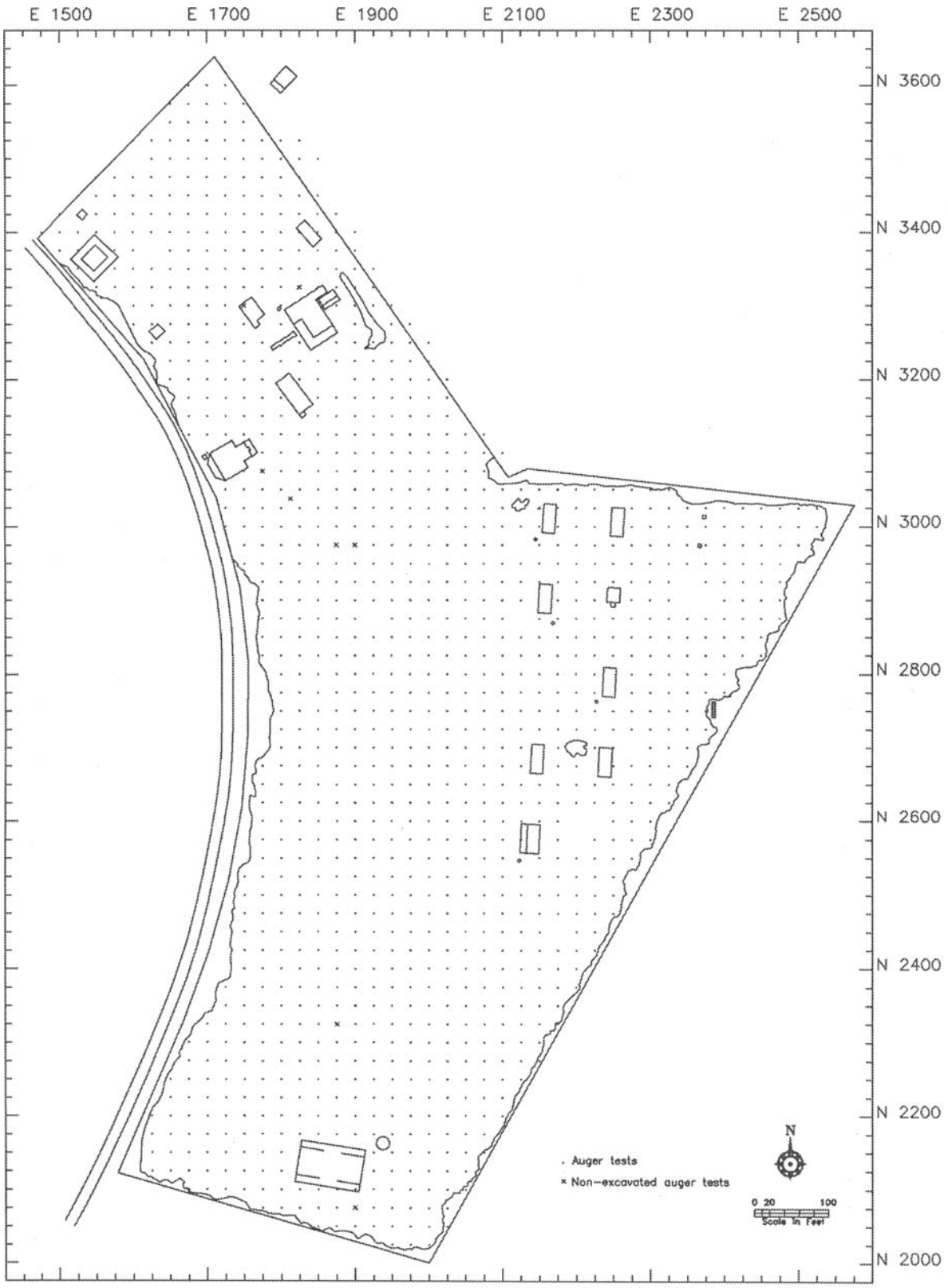

Figure 13 — Auger test holes.

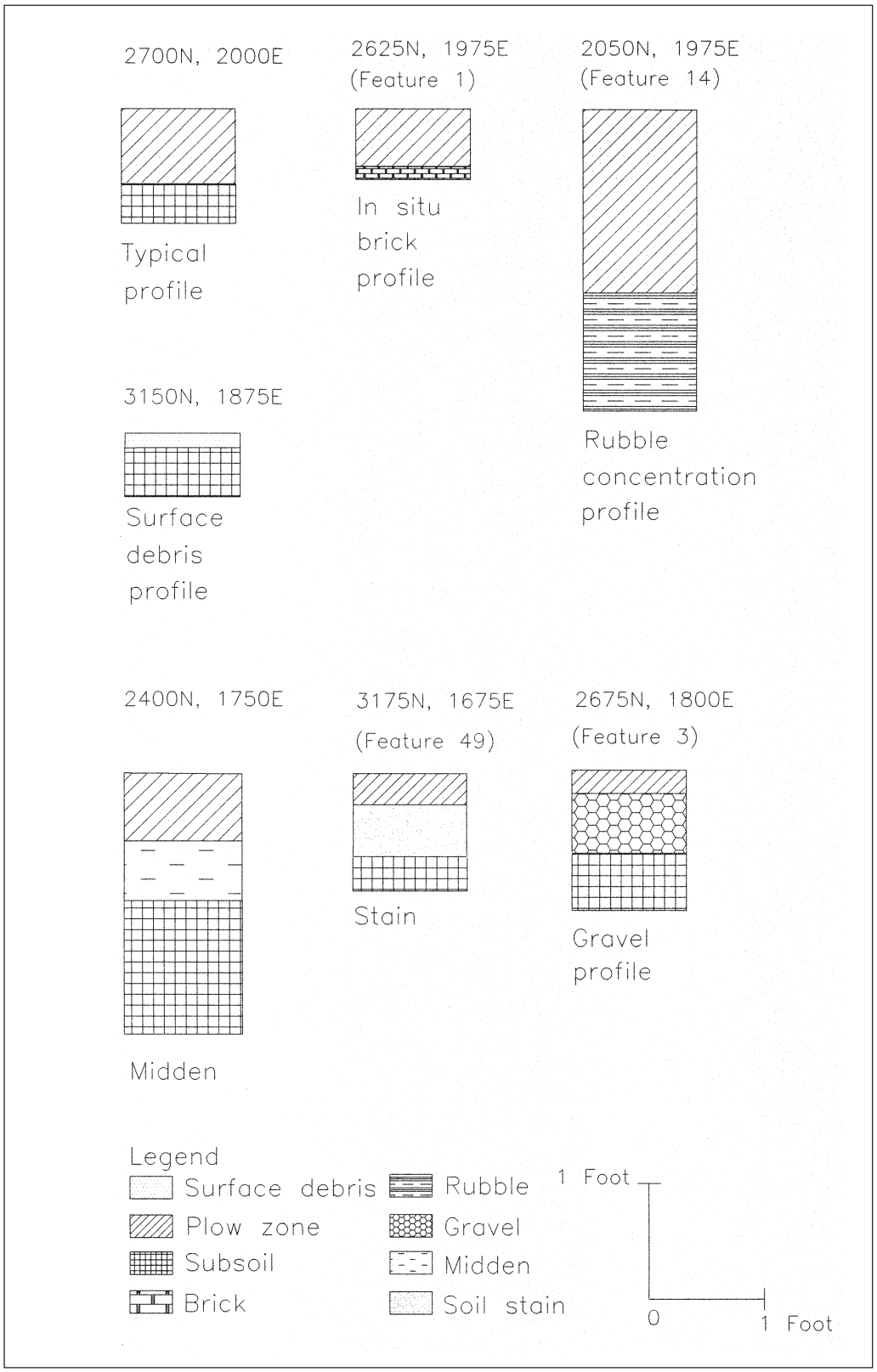

Figure 14 — Stratigraphic profiles of selected auger holes.

ing in depth from 0.5 to 1.1 feet and in color from dark brown (7.5YR3/3) to reddish brown (5YR4/3). This layer rested on culturally sterile subsoil of the same parent material, which contained less humic material and ranged in color from reddish brown (5YR4/3) to yellowish red (5YR3/6). Frequently, color changes were observed in auger hole profiles and recorded as Zone 1 or Zone 2. In unplowed areas, the uppermost unit was recorded as Zone 1. These instances represent the unmodified A-soil horizon. In eroded areas around the store, where no organic enrichment was noted, the upper unit was also recorded as Zone 1. Traffic, rain, and wind have clearly kept these areas bare. Three distinct areas of the park exhibited accumulations of midden (an organically enriched stratum created by intensive human occupation or use, containing a fairly high frequency of artifacts). These deposits are discussed next, under *Features*.

Figure 15 — In situ Feature 1.

FEATURES

Fifty-eight features were recorded during the 1996 investigations. Six features (18, 29, 30, 56, 57, and 58), assigned to deposits within Slave Cabins 1 and 3, will not be reported here. The other fifty-two features were grouped into five categories: In Situ Structures, Construction Rubble, Midden, Soil Stains, and Gravel (Table 2).

IN SITU STRUCTURES

Remnants of structures (articulated brick, either dry lain or bonded with mortar) were found and recorded in eleven auger holes (see Figure 17). These features are evidence that some type of buildings once stood at these points on the landscape (Figure 15). Individually they represent the remains of piers, like those supporting the slave hospital/overseer's house and the store, or foundations, like those of the slave cabins. Some are situated in space relative to structures depicted on the historic plat. Feature 7 is in the vicinity of the stable to the north of the cotton gin barn. This structure was likely a substantial building sitting on piers. Features 22 and 23 are the remains of a slave cabin located directly east of Cabin 8. Feature 34 is situated relative to the other extant structures near where the "nursery" stood during the mid-nineteenth century. Feature 48 may mark the sawmill site. The assignment of these features to buildings shown on the plat is hypothetical, except for

Table 2 — Feature numbers by category (total = 52).

In Situ Structures	1, 4, 7, 8, 22, 23, 34, 36, 37, 38, 48
Construction Rubble	5, 6, 11, 13, 16, 20, 21 24, 25, 31, 32, 33, 35, 43, 44, 45, 46, 47, 49, 50, 52, 53, 54
Midden	9, 10, 12, 14, 26, 40, 41, 51, 55
Soil Stains	2, 15, 17, 19, 27, 28, 39, 42
Gravel	3

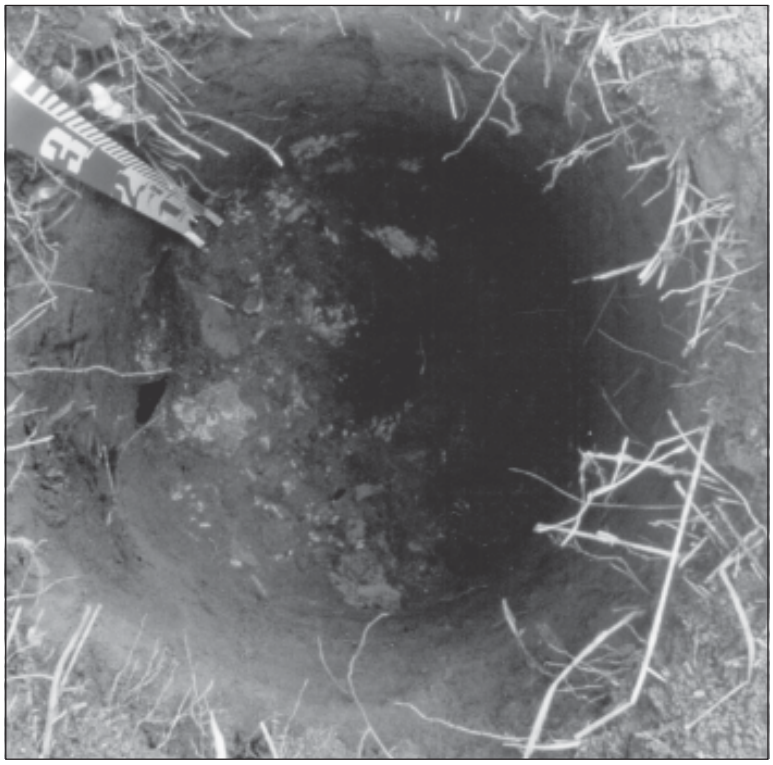

Figure 16 — Feature 32, a typical construction rubble feature.

Features 22 and 23. Verifying the speculations will require additional archeological investigations.

CONSTRUCTION RUBBLE

Auger tests encountered twenty-three instances (see Figure 18) of deposits characterized by the presence of jumbled brick, brick and mortar (Figure 16), or concrete. The articulation of the materials precluded any original construction events. Some features represent rubble from a structure razed in the immediate vicinity; others probably represent rubble carted away from a razed structure and used to fill mud holes (Ambrose Hertzog, personal communication 1996). Features 21, 24, and 25 represent remains of at least three slave cabins demolished in the late nineteenth or early twentieth centuries. Feature 33 is in the vicinity of the "nursery," and Feature 45 is in the area once occupied by the sawmill.

MIDDEN

Dark humic-enriched soil encountered below the plow zone was recorded as a feature in nine auger holes (Figure 19). Once certain this dark soil represented a midden deposit, we no longer recorded it as a feature but noted its presence on the auger test recording form. Tests containing midden materials had a greater number of artifacts compared to nonmidden auger holes. (The mean specimen count from midden feature auger holes is 29.2 compared to 3.4 from random samples of nonmidden auger holes.) As expected, midden occurred in the slave village. However, it was a surprise to discover midden deposits around the gin house and blacksmith shop. These occurrences may evidence sustained use of industrial areas by workers involved in ginning during the autumn and by farm hands who lingered at the blacksmith shop while equipment was being repaired.

SOIL STAINS

This category is defined as auger tests that exhibited soils with color changes produced by cultural activities as opposed to pedogenic processes. The cultural activities responsible ranged from digging post holes and disposing of ash or charcoal, to apparently filling abandoned cisterns. Eight soil stain features were recorded (Figure 20). Feature 15 may be related to the disposal of ash from the steam engine boiler at the cotton gin barn. Features 27 and 28 may represent fences associated with the slave quarters, whereas Features 39 and 42 represent fences associated with the slave hospital/overseer's house and possibly the sawmill.

GRAVEL

A single occurrence of gravel representing a former location of Highway 119 was found at N2675 E1800.

A more comprehensive interpretation of these features appears in Chapter 5.

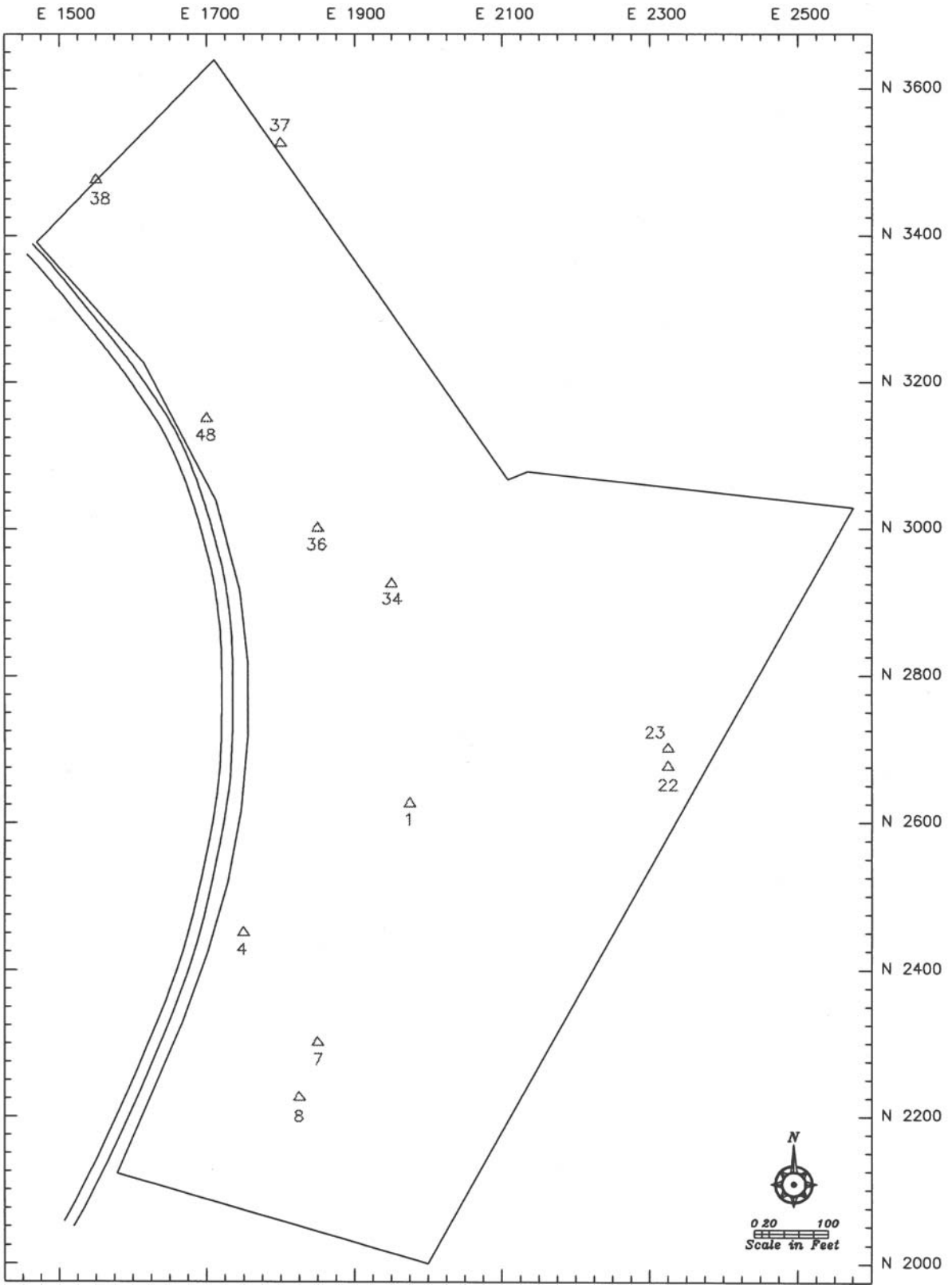

Figure 17 — Distribution of in situ features.

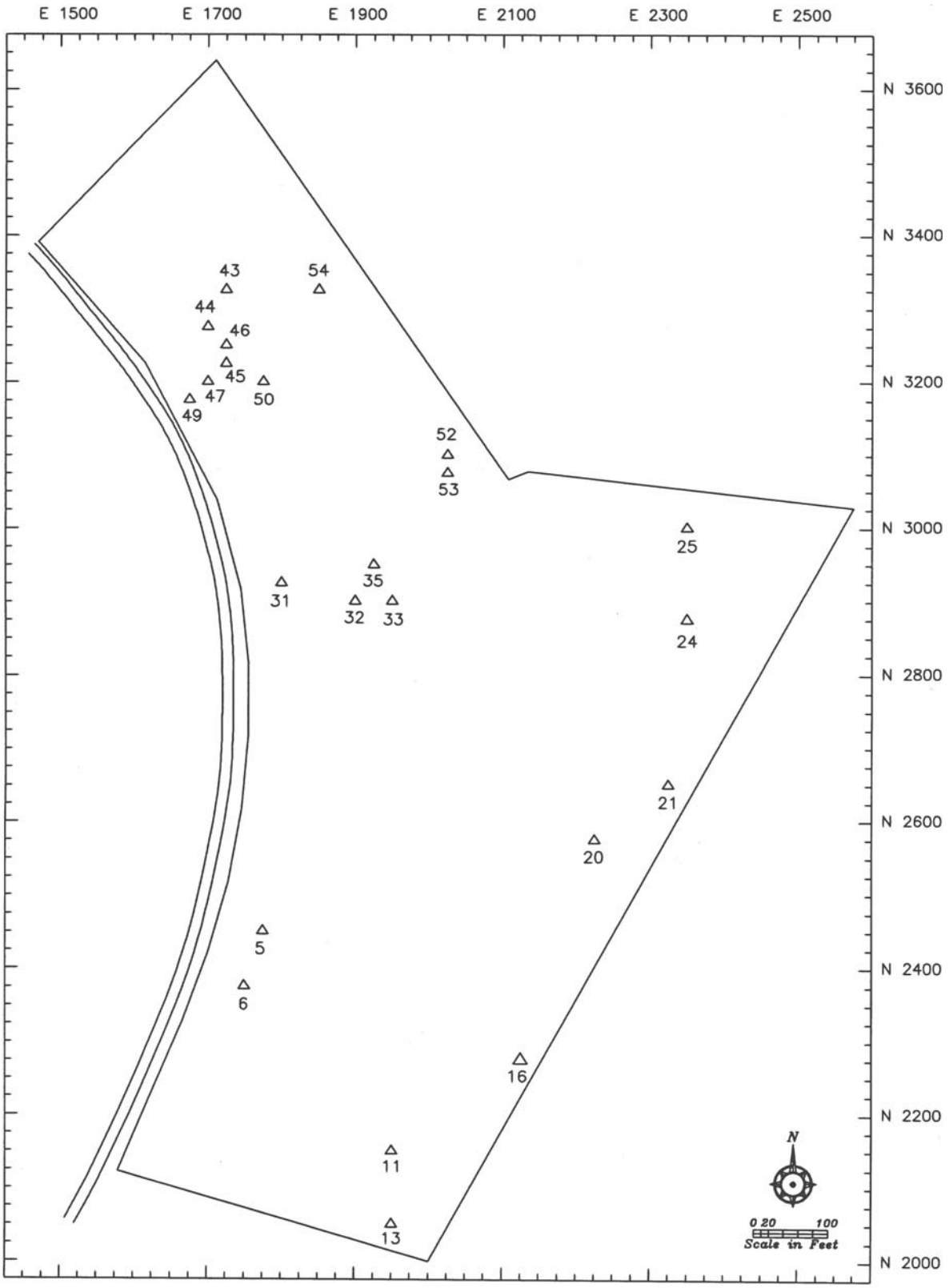

Figure 18 — Distribution of construction rubble features.

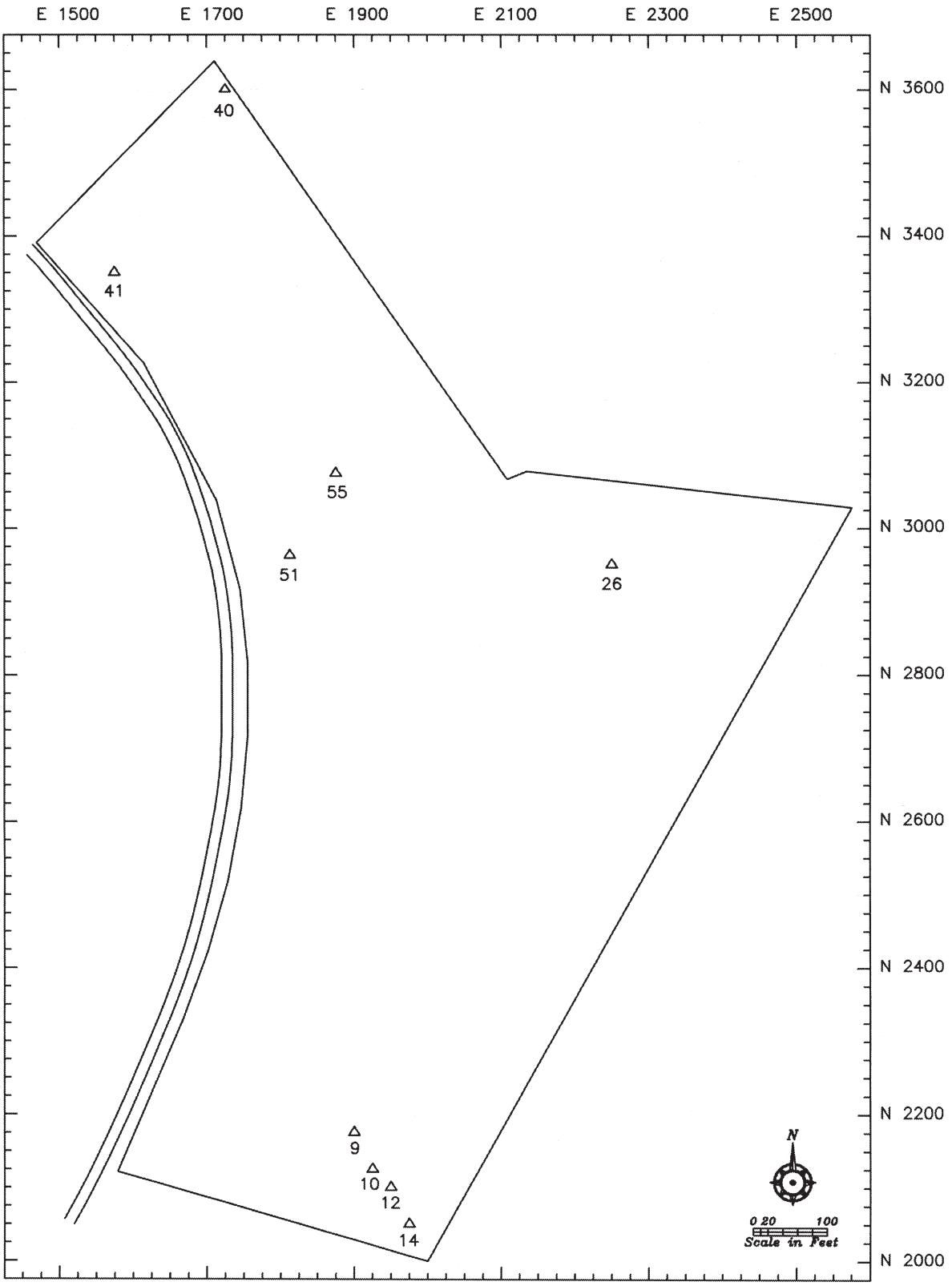

Figure 19 — Distribution of midden features.

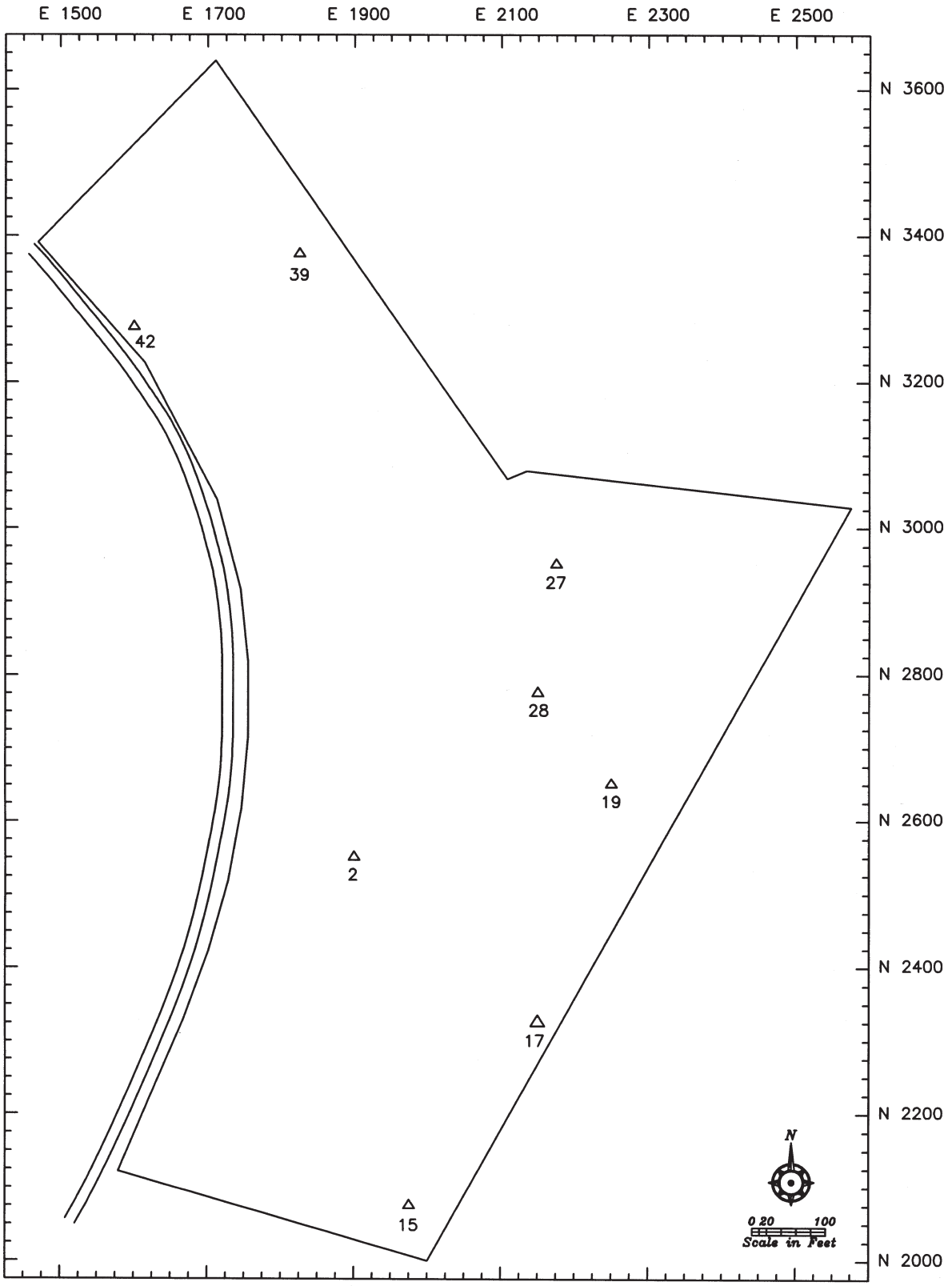

Figure 20 — Distribution of soil stain features.