

Previous Archaeological Investigations

PREVIOUS WORK IN THE STUDY AREA

A variety of types of archaeological research have been conducted both within the general region and specific vicinity of Site 7NC-E-152. These investigations include the efforts of avocational archaeologists, university-sponsored projects, cultural resource management investigations, and academic syntheses. Collectively, these pieces of information help inform our knowledge of archaeological chronologies, settlement patterns, economies, and lifeways. Consequently, they also allow for the identification of gaps in the archaeological record, the development of research priorities, and the implementation of research designs that actively seek to advance our knowledge of the prehistoric period and Native American lifeways. This section provides a detailed review of the archaeological record in the immediate project area and extending north some 1.5 kilometers (0.9 miles) to include Churchman's Marsh. Diagnostic artifacts recovered from 7NC-E-152 suggest that occupations of this site range from the Early to Middle Archaic period through Woodland I and possibly into Woodland II. As such, greater emphasis is placed on comparative data and state management contexts for these time periods.

State Management Plans and Research Contexts

Management plans for the prehistoric cultural resources of Delaware occur in two versions (Custer 1986, 1994; Custer and DeSantis 1986). Due to the location of the current project area, in northern New Castle County, the latter of these management plans will be emphasized for its greater local specificity. This management plan espouses a cultural materialist research paradigm and was designed to delineate research goals pertaining to the prehistoric cultural resources of Delaware. Although somewhat out of date, this management plan still provides a backdrop for assessing the significance of archaeological sites based on spatial location, temporal affiliation, and archaeological site type.

The current project area lies within Management Unit I, for Churchman's Marsh and the lower Christina River. This management unit has a high probability for all varieties of Archaic, Woodland I, and Woodland II period site types. At the same time, none of the cultural periods within this management unit are expected to retain data quality that exceeds a ranking of poor to fair. With the exception of the Paleo-Indian period, Management Unit I has the highest aggregate ranking for significant site probability of any management unit within northern Delaware. Specific research priorities for each cultural period are reviewed below.

For the Archaic period (6500–3000 B.C.), Site 7NC-E-152 falls within Study Unit I, designated for the Hockessin Lowlands and Churchman's Marsh areas. Due to the low number of Archaic period sites, as well as the difficulties in separating out the Archaic components from multicomponent sites, the state management plan identifies basic data collection of site locations and documentation of material culture assemblages as major research activities for the Archaic study unit.

For the Woodland I period (3000 B.C.–A.D. 1000), Site 7NC-E-152 falls within Study Unit I, designated for the entire lower Christina drainage and Churchman's Marsh. Archaeological data pertaining to this time period are expected to be common within the study unit and the quality of these data is expected to be fair. Because the Woodland I study unit represents the best known of the cultural periods in northern Delaware, a wide variety of research questions may be applicable to these components of the archaeological record. Among the research priorities discussed in the state plan is the need for an assessment of the nature of microband base camp and procurement sites that occur in the vicinity of macroband base camps.

For the Woodland II period (A.D. 1000–1650), 7NC-E-152 falls within Study Unit I, again, designated for the lower Christina River and Churchman's Marsh areas. Data quality for this cultural period and study unit are expected to be fair. As is the case for Woodland I, the Woodland II period is characterized by great variety in settlement-subsistence systems. Consequently, one of the key research priorities is the generation of data related to Woodland II site distributions, site sizes, and community settlement patterns so that comparisons can be made to similar data for the Woodland I period. The extent to which these research priorities may be addressed through analysis and interpretation of data recovered from 7NC-E-152 may be limited in the sparse quantity of data stemming from this time period.

Previously Recorded Prehistoric Sites in the Vicinity of 7NC-E-152

Data relating to sites previously recorded in the vicinity of the Site 7NC-E-152 can be used to develop more specific expectations regarding the density, types, distributions, and age-range of the prehistoric deposits that occupy this portion of Delaware. Background research conducted at the Cultural Resource Survey (CRS) files and cultural resources report library maintained at DE SHPO in Dover revealed that 200+ prehistoric sites have been identified within an 8- to 16-kilometer (5- to 10-mile) radius of 7NC-E-152. Within a 1.6-kilometer (1-mile) radius, CRS files document a total of 15 previously recorded prehistoric occupations. Avocational archaeologists recorded all 15 of the prior documented sites, and thus the results tend to lack the level of detail required for comparative data. As discussed below, professional archaeologists have investigated a number of sites in the Churchman's Marsh area beyond one mile.

Research in the Churchman's Marsh Region

In order to establish a local context against which data from 7NC-E-152 could be compared and evaluated, a detailed review of the archaeological record for the broader project area was undertaken. The site is part of a complex of sites surrounding Churchman's Marsh, a tidal marsh that extends from the confluence of White Clay Creek and the Christina River to the mouth of the Christina River below Wilmington. The marsh was created via sea-level rise in the early Holocene and stabilized by 6000 B.C. (Custer 1982). Churchman's Marsh provided a variety of edible resources, making it a focus of prehistoric occupation.

Custer and Bachman (1984) propose a settlement pattern model for the Woodland I period in the Churchman's Marsh region involving base camps, procurement sites, and staging/processing sites. Large groups with multiple social units occupied macroband base camps. Features, including storage features, hearths, and living structures, as well as abundant discarded tools and

spatial patterning of activities, characterize these sites. Smaller social units occupied microband camps, resulting in similar sites that are smaller in size. The sites are located in less productive environments than macroband camps. Procurement sites are defined as having fewer artifacts and less varied tool assemblages, suggesting relatively short-term occupation. Procurement sites are located near poorly drained floodplains of ephemeral streams and generally consist of small surface artifact scatters. Larger procurement sites, intermediate between base camps and procurement sites, are interpreted as staging areas from which groups moved out to more distant locations for specific tasks.

Three sites in the vicinity of Churchman's Marsh have been interpreted as macroband base camps: Delaware Park, Newport, and Clyde Farm (Custer and Bachman 1984).

The Delaware Park Site (7NC-E-41) is situated on a well-drained knoll overlooking an oxbow of White Clay Creek (Thomas 1981). Occupations ranged from the Archaic through Woodland II, based on radiocarbon dates, and chronologically diagnostic points include Kirk corner-notched, Koens-Crispin/Savannah River, and Rossville. Diagnostic ceramics include Vinette I, Accokeek Cord Marked, Wolfs Neck Corded, Broadhead Net Marked, Albemarle Net Impressed, and Hell Island Fabric Impressed.

Although only a portion of the site was excavated, over 200 features were identified, most of which were interpreted as storage features. Two living surfaces, which Custer (1989) interpreted as pithouse floors, were also found; they were radiocarbon dated to 1850 and 790 B.C. (Custer 1989). A stemmed point was associated with the latter feature. Stemmed points were also associated with a feature dating between 480 and 10 B.C., falling within the Wolf Neck Complex (Custer 1989). Various stemmed and side-notched points were associated with features dating between A.D. 65 and 455. Custer (1989) defines the Delaware Park Complex of the late Woodland I (A.D. 500–1000) on the basis of dated storage features with Hell Island ceramics and stemmed and small corner-notched point types. The site continued as a macroband camp into the Woodland II period, as evidenced in a Levanna point and thin, plain or fabric-impressed ceramics.

The Newport Site (7NC-E-1) has been almost completely destroyed via modern development, but Custer's interviews (1989) with amateur archaeologists suggest that the site was large and that pit features were present. The entire range of Woodland I and II ceramics were found at the site, as well as steatite bowl fragments (Custer 1982). Woodland I and II points were also recovered. Groundstone tools include a celt fragment, pestle fragments, grooved axe fragments, and netsinkers, indicating a wide variety of activities. A gorget and a ceramic pipe bowl fragment were also found.

The Clyde Farm Site (7NC-E-6A) covers an area of approximately 1 square kilometer (0.6 square mile), extending along White Clay Creek at the edge of Churchman's Marsh (Custer 1989). A bifurcate base point, indicating an Archaic occupation, was recovered there, but most of the diagnostic artifacts dated to the Woodland I period prior to 500 B.C. Point types consist primarily of stemmed types such as Bare Island, Poplar Island, and Lackawaxen (Custer 1982). Wolfe Neck and Hell Island ceramics were found in a shallow hearth, along with nine stemmed points. The Hell Island pottery and several Jacks Reef points indicated that occupation extended

into the later part of the Woodland I period (Custer 1989). Woodland II occupation is represented in Minguannan ceramics and triangular points (Custer 1982).

Most of the lithic materials at the site were locally available materials. Non-local materials, such as argillite and rhyolite, comprise only a small proportion (<5%) of the artifacts.

Features identified in Custer's test excavations (1982) included a platform hearth, possible storage pits, and a pithouse, interpreted as a household cluster. Charcoal from the platform hearth dated to circa 1005 B.C. Early ceramics, classified as Seldon Island and Dames Quarter, were associated with the household cluster. These findings suggest a relatively high degree of sedentism.

Several sites in the Churchman's Marsh area are interpreted as microband camps, including the Green Valley Complex, consisting of three sites located along the upper portion of White Clay Creek, and the Woods Complex, which includes four sites located across the Christina River from the project area. The Green Valley Complex sites are smaller than macroband base camps and do not contain features, but have tool types similar to those of macroband camps (Custer et al. 1981; Custer 1982). Artifacts related to lithic manufacturing skewed to the early stages of reduction, likely because of nearby cobble beds.

Custer and Bachman (1984) interpret the Hawthorn Site, occupied during the late summer or fall sometime between 1000 and 750 B.C., as a staging/processing site. The site produced three features, a hearth, a disturbed hearth or roasting pit, and a series of cobble concentrations, as well as postmolds indicating the presence of a house structure. Three activity areas were identified and interpreted as a butchering/processing area, a nut/seed processing area, and a habitation and retooling area that included the structure.

Procurement sites in the vicinity of Churchman's Marsh include three sites located on upland terrain overlooking White Clay Creek (Bachman and Custer 1983). Site 7NC-E-43 is a low-density artifact scatter that includes Minguannan ceramics, as well as notched and stemmed points. The site was assigned to Woodland I and interpreted as a hunting and food processing station. Site 7NC-E-45 produced diagnostic points placing it in the Woodland I period and was interpreted as a hunting and food processing station. Site 7NC-D-75 was a hunting and food processing station datable to the Woodland I and II periods.

Two procurement sites located along small streams have also been investigated (Custer et al. 1982). Site 7NC-D-70 produced a fluted point, as well as a stemmed point, bifaces, and tool rejects. Site 7NC-D-72 produced fewer than 10 artifacts and appears to represent an ephemeral occupation.

PREVIOUS INVESTIGATIONS AT 7NC-E-152

Phase I Site Identification

KSK conducted Phase I investigations of the larger Airport and Churchman's Roads Intersection Improvements Project area in the late fall and winter of 2000, as well as the spring of 2001.

Within the boundaries of Site 7NC-E-152, systematic, close interval (15-meter- [50-foot-]) shovel testing revealed that the site extended over an approximately 91.4-meter-long (300-foot-long) section of the project area (see Figure 1.4). Excavations produced a total of 64 prehistoric artifacts from 16 positive STPs. Artifacts were recovered primarily from what appeared to be undisturbed A-horizon soils and include both bifacial and unifacial tools, simple flake tools, manufacturing debris, cores, and fire-cracked rock (FCR). Temporally diagnostic artifacts recovered from the site are represented in a single quartzite triangular point fragment, and at that time served to tentatively date the occupation to the Woodland II culture period. More extensive Phase II testing of the site was recommended based on the apparent minimally disturbed nature of the cultural deposits, along with evidence of preserved internal artifact patterning suggesting the possible presence of temporally and/or functionally discrete activity areas.

Phase II Significance Evaluation

Phase II testing of the project area employed a testing strategy based on the excavation of a series of 1-x-1-meter (3.3-x-3.3-foot) excavation units (EUs), along with a series of supplemental, close-interval STPs. EUs were placed within the site based upon the results of the Phase I testing results. Some of the EUs were clustered within identified high-density sections of the site in order to target posited discreet occupations or activity areas. EUs were also distributed uniformly throughout the lower-density areas of the site. Soil profiles exposed in EUs were subjected to detailed geomorphological examination, and the data generated in that study used to develop more specific environmental and taphonomic contexts for the site, as well as to assist in the interpretation and evaluation of recovered archaeological deposits.

Completion of the above testing program resulted in the excavation of 25 1-x-1-meter EUs (1–25) and 27 systematically and judgmentally placed STPs (see Figure 1.4). The Phase II investigations at Site 7NC-E-152 produced a prehistoric assemblage comprised of a total of 806 items. Native American artifacts are represented in pieces of lithic manufacturing debitage, a number of both formalized (diagnostic bifaces and unifacially worked pieces) and expedient tool forms (utilized flakes, hammerstones, etc.), and quantities of FCR. No prehistoric pottery was identified in any portion of the site.

The basic stratigraphic sequence encountered is represented in an upper organic-rich horizon of varying thickness directly overlying undisturbed subsoil deposits. Though minor local variations were noted, the uppermost stratum across the site generally consists of two distinct components: a westward thinning upper level that includes recent colluvial soils, likely derived from the erosion of the adjacent Churchman's Road bed and berm (Ap1), and an underlying horizon that had experienced variable degrees of prior disturbance (Ap2). Variations within this lower horizon occur predictably across the APE, with areas in the south half showing the abrupt Ap/B-horizon transition typical of plowed fields and areas in the north having been impacted by plowing to a less extensive degree. In this northern area, the Ap2 horizon exhibits a comparatively indistinct interface with the underlying subsoil and appears to have been used less intensively for agricultural pursuits, or perhaps for a shorter period of time. Both parts of the upper stratum have been impacted by both tree root development and by the actions of burrowing animals (worms/rodents). Prehistoric artifacts were recovered from both soil horizons

within the Ap stratum, though the largest proportion was derived from the lower Ap2 horizon component (Figures 3.1 and 3.2).

Subsoil (BE, Bt, and B/C) horizons across the site have weathered from Pleistocene-age sediments belonging to the Columbia Formation and contained small quantities of artifacts comprising approximately 18% of the prehistoric assemblage. Most (83%) of the artifacts from the subplowzone deposits occurred in the upper 10 centimeters (3.9 inches) and none were found below 30 centimeters (12 inches) in depth. Artifacts in these B-horizon deposits appear not to have originated in this lower stratum, but most likely migrated downward from overlying Ap1/Ap2-horizon soils as the result of commonly occurring bioturbational processes.

Prehistoric artifacts recovered from the site are represented in a large variety of lithic raw material types, including (in order of decreasing frequency) quartz, chert, quartzite, quartz crystal, jasper, ironstone, sandstone (predominantly hammerstones and FCR), and chalcedony (Table A.1, Appendix A). Lithic debitage constitutes the single largest artifact category ($n=697$; 91.2%) and consists of items representing the full range of stone tool manufacture, from the initial testing of unmodified raw material to the refined flaking of finished, formalized tool forms. Of the identified manufacturing debris, biface-thinning flakes comprise the largest category (36.4%). Decortication flakes, early reduction flakes, percussion flakes, flake fragments, and shatter are represented in lower quantities. Cores and tested cobbles number 16 and are of quartz, quartzite, and chert, materials common in Columbia Formation gravels. Hammerstones used in the reduction of raw material are present in modest numbers ($n=14$).

Formalized and simple flake tools from the site are represented in bifacially and unifacially worked pieces. A total of 22 bifacial tools or tool fragments were recovered, including pieces abandoned in the early through late stages of manufacture, as well as examples of seven finished projectile points or point fragments. Of the recovered points, three are triangles (two of jasper, one of chert), one quartz point is side notched and heavily resharpened, one is a straight-sided stem fragment of chert, and one is a heavily resharpened, elongated, lozenge-shaped quartz piece with pronounced beveling along one edge. Unifacially worked and simple utilized flake tools are present in only very small numbers ($n=11$) and include one finely made endscraper manufactured from quartz crystal. Cobble tools other than hammerstones include an abrader, two anvils, and a pitted cobble.

Regarding the horizontal distribution of prehistoric artifacts, Phase II testing confirmed the earlier Phase I conclusion that Native American cultural materials were present throughout the site area in the form of a generally light scatter of debitage. Four areas of significantly more concentrated artifact deposits were identified and designated Clusters 1–4 (see Figure 1.4). Three of the artifact clusters were located in the southern half of the site, adjacent to a small tributary stream, while the fourth lay at the extreme northern edge of the study area. Spatially distinct, aerially limited, and non-overlapping, all of these concentrations were marked by the presence of one or more pockets of significantly higher artifact density within the larger cluster, and likely represented the remains of individual activity areas. Despite past impacts from plowing and bioturbational processes that have no doubt affected vertical artifact dispositions to varying extents, this demonstrated high degree of horizontal artifact patterning serves to largely offset concerns regarding depositional integrity and the site's potential for imparting significant

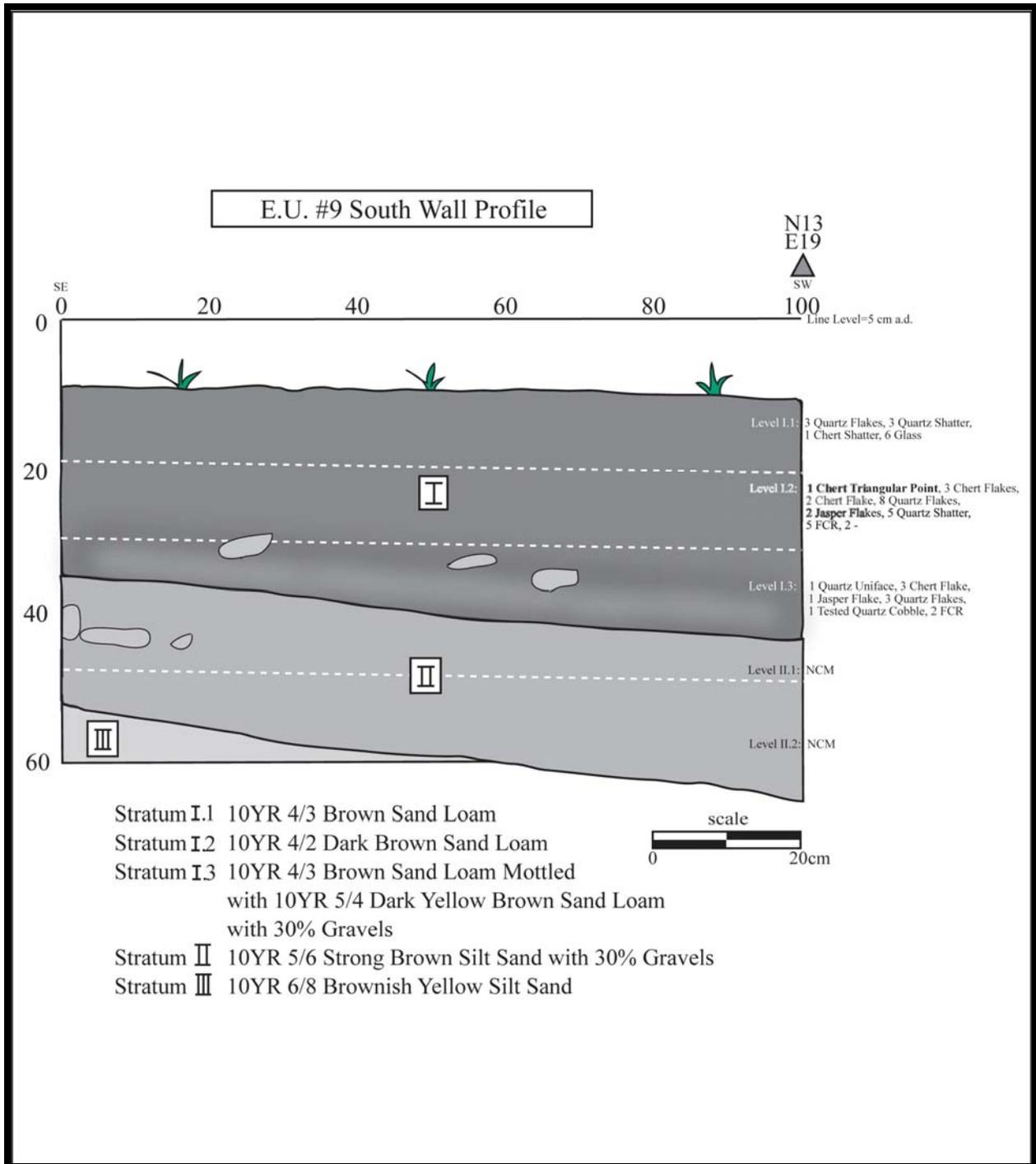


Figure 3.1 Soil profile, Phase II Excavation Unit 9.

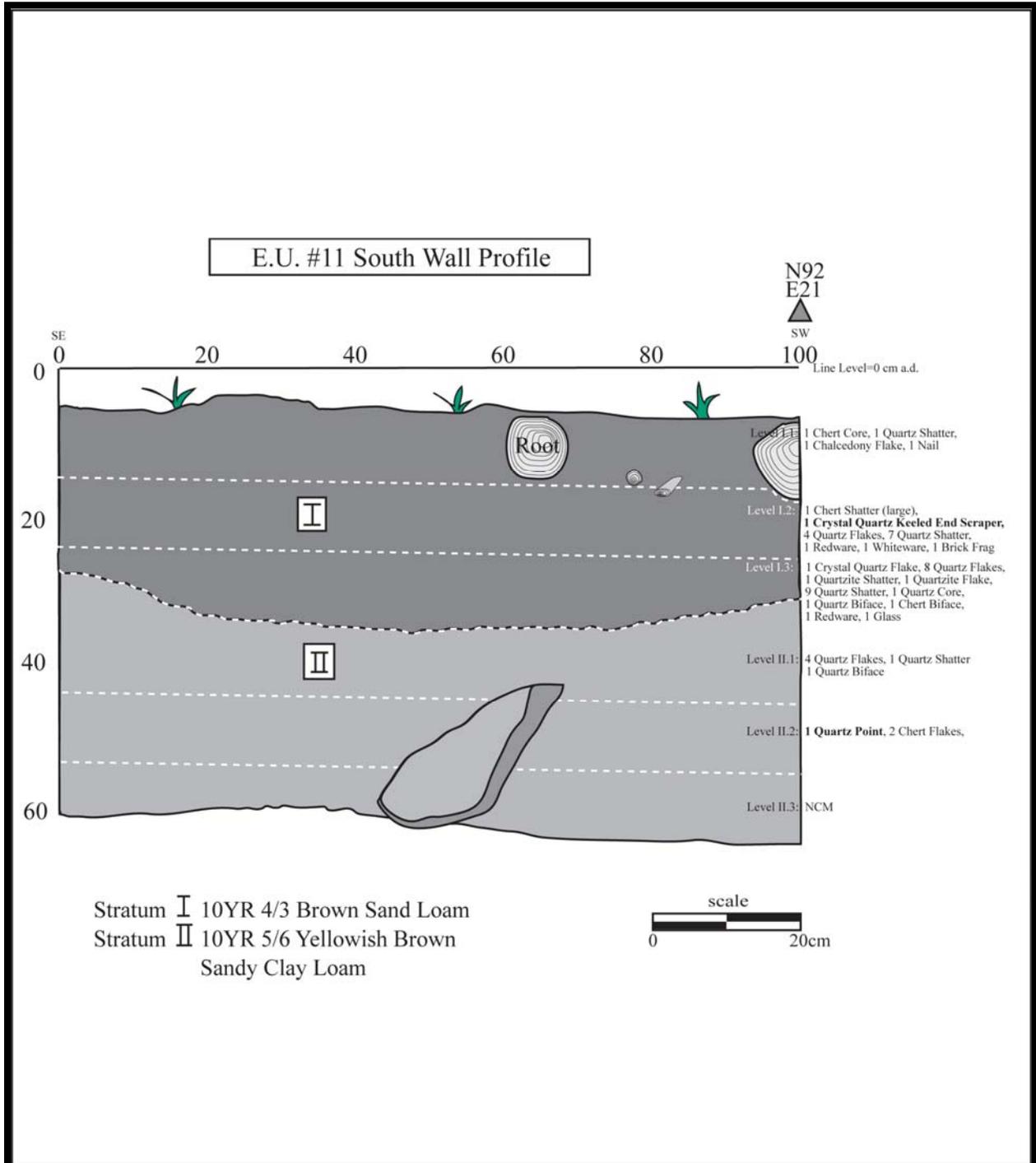


Figure 3.2 Soil profile, Phase II Excavation Unit 11.

new archaeological data. All the four clusters were comprised of a very similar assortment of artifact deposits, including a common suite of diagnostic pieces, such as Archaic period notched and stemmed projectile points, endscrapers, and triangles. Tentative dating of the site to the Middle Archaic period was based on the co-occurrence of these diagnostic forms within multiple, non-overlapping artifact concentrations.

Only a single possible subsurface feature was identified in the Phase II survey. It consisted of a small, deep basin-shaped pit. Soils from the feature produced a single probable hammerstone. No evidence of charcoal or other non-lithic artifacts were noted within the feature fill. Two posthole-like features were also identified in the same area, though no prehistoric artifacts were recovered from either stain, which appear to have been non-cultural in origin.

Based on the Phase II data, Site 7NC-E-152 was initially interpreted as likely representing a series of distinct, non-overlapping, short-term Native American occupations associated with the past exploitation of locally available resources. Considering the diagnostic artifacts recovered, along with an absence of pottery, the site was thought to potentially date to the Archaic through Early Woodland I culture periods (circa 6000–1000 B.C.). Given the apparent preservation of intrasite horizontal artifact patterning, along with the association of possible Archaic-period triangular projectile points, this locus was believed to exhibit high research potential related to Delaware's prehistory and was recommended for Phase III data-recovery investigations.

Historic artifact deposits within the site formed an expansive and uniformly light scatter of debris, with individual pieces contained in both the Ap1 and Ap2 soil horizons. This assemblage consists of fragmentary ceramic and machine-made glass domestic refuse, along with smaller quantities of architectural debris, such as brickbats and nails (predominantly machine-cut). Historic ceramic sherds ($n=60$) were dominated by redwares (unglazed, black and brown glazed, trailed-slip decorated) and whitewares (plain, transfer-printed, and blue shell-edged), with significantly smaller quantities of pearlware (undecorated, hand-painted), creamware (undecorated), and stoneware. Given the low density of these materials, historic deposits from the site are believed to represent gradually accumulated field scatter deposits that are of no research value, and that do not constitute a resource that is eligible for listing in the National Register of Historic Places.

Sponsor (DelDOT) and agency (DE SHPO) concurrence with KSK's Phase II recommendations—as well as the determination that materials recovered from Site 7NC-E-152 constituted a resource eligible for listing in the National Register of Historic Places—set the stage for Phase III data-recovery investigations. Research issues identified in the National Register Nomination Form include Archaic period cultural expression as indicated by triangular points, lithic technology, and intrasite artifact patterning (Appendix F). Overall goals of the data recovery were to refine the chronology, taphonomy, cultural stratigraphy, social function, and spatial organization of each artifact cluster and for the larger site as a whole. Information relating to these concerns was to be generated through the recovery of temporally and functionally diagnostic artifact types, the delineation of internal artifact patterning, and the identification and complete excavation of any subsurface features that may have been present.