

INTERPRETATIONS AND CONCLUSIONS

Prehistoric Component

Despite new findings that Site 7-NC-E-152 exhibits a more complex stratigraphy than previously thought, and that it has been impacted by both historic-era and naturally occurring factors, findings derived from this Phase II Archaeological Investigation indicate that this prehistoric occupation retains a substantial amount of potentially significant data regarding the Native American inhabitants of the region. The basis of this assertion rests largely on the detailed horizontal artifact patterning delineated throughout the present study area. While geomorphological examinations have indicated, and carefully controlled excavations have demonstrated that the vertical integrity of artifact deposits have been compromised through the combined actions of recent agricultural practices and bioturbational processes, horizontal patterning is sufficiently well preserved that spatially distinct activity areas within the site can still be identified. Whereas the unique relationships that once existed between individual artifacts within these activity areas may therefore have been altered the information contained in the collection of artifacts that comprise these higher density sections of the site should be able to impart insights regarding the range of behaviors performed by past prehistoric inhabitants. Understanding these site-specific behaviors is critical to any attempt at discerning how this area's Native American population interacted with each other, and with the natural world around them.

Artifact distributions delineated during this Phase II investigation suggests that 7-NC-E-152 is most likely the product of a small number of discreet short-term occupations, rather than representing a more intensive, longer-term inhabitation, or a site that was repeatedly occupied over a long period of time. Partial support for this position is manifested in the small number, limited size, and widely spaced nature of identified activity areas across the site. This pattern, along with the ephemeral scatter of artifacts between activity areas, is most consistent with, and indicative of the episodic usage of the site by small numbers of individuals. In contrast, longer-term, more focused occupation by larger groups, or frequent re-visitation by small groups, would tend to result in the creation of a more homogenous, higher density distribution of artifacts with multiple overlapping activity areas.

A second level of support for viewing this site as the product of periodic, short-term occupation lies in the overall limited variety of activities suggested by recovered tools and manufacturing debris. More intensive exploitation of this location should be manifested by a greater number and variety of tools associated with the performance of a wide variety of procurement and processing related behaviors, with retouched and utilized flake tools in evident abundance. At Site 7-NC-E-152 tools are limited to a virtual handful of finished projectile points and simple flake tools, suggesting that activities carried out here were not only of a comparatively short-term duration, but were also associated with the exploitation of a restricted range of resources readily available in the surrounding environment.

In terms of the specific activities performed, the Phase II artifact assemblage indicates that Native American occupants expended a substantial effort while on site in the reduction of lithic raw materials for the production of stone tools. Manufacturing debitage constitutes by far the single largest category of artifacts recovered and by its own composition tells us something the specific nature of lithic exploitation practiced. Analysis of the debitage sub-assemblage has identified large numbers of pieces bearing traces of cortex from the original exterior surface of the unmodified raw material. The appearance of this cortex indicates that the primary raw materials utilized were water worn cobbles and/or pebbles. Extensive sources of alluvially deposited cobbles are widely available within the Columbia Formation sediments that underlie this portion of the state, and that are commonly exposed in stream cuts along the Christina River and its tributaries. As noted by Custer (1989), many if not all of the lithic types represented at Site

7-NC-E-152 are contained within the Columbia Formation deposits, suggesting that the overwhelming majority of raw materials from the site were likely gathered locally. Taking these sourcing and debitage characteristics into account, it may be appropriate to consider this locus from the perspective of a quarry or quarry-related site, and that future analytical efforts should involve comparisons with similarly functioning sites documented in the surrounding regions of Pennsylvania, Delaware, and Maryland.

In a more specific sense, debitage from the site also contains information regarding the nature of lithic utilization and reduction practiced here. More than half of all manufacturing debris is represented by pieces of shatter, indicating the overall poor quality of the locally available lithic raw materials, and suggesting that the site's occupants spent a substantial portion of manufacturing time reducing cobbles and pebbles in search of suitable tool-grade "starting blocks". Once useable lithic cores and blanks were obtained further manufacturing sequences may have involved widespread use of bipolar reduction techniques. This manufacturing strategy has been posited by many researchers in the Middle Atlantic Region as an effective means of maximizing the utility of cobble and other limited potential raw material types. The fact that this technique frequently results in the production of snapped or broken flakes may help to explain the high percentage of flake fragments recovered from activity areas throughout the site. Continued research on this site may profit from more focused analysis of tool manufacturing sequences, and in particular on the nature and extent of bipolar reduction as an adaptive strategy for maximally exploiting Columbia Formation lithic resources.

Based on the tools recovered from the site it would appear that manufacturing resulted in the production of both potentially diagnostic bifacial, as well as simple retouched flake tools. The presence of these tool forms suggests that other activities performed at the site included hunting and the processing of animal and gathered plant resources. More detailed study of edge wear patterns on tools may be able to provide clearer insights regarding the specific resources and activities site occupants were commonly exploiting. While no utilized, though otherwise unmodified, flake tools were identified within the site this absence may be more a function of lithic selection than anything else. Quartz artifacts were the most numerous recovered; unfortunately the nature of this material renders use-wear, much of which can be quite subtle, very difficult to identify.

With respect to determining approximate dates for the occupation of 7-NC-E-152, the range of potentially diagnostic projectile points recovered is somewhat problematic, and at first glance seems to point to the presence of both Archaic and Woodland Period occupations. Points are represented by at least four distinct morphological variations, including triangles and both notched and stemmed forms, with the triangles traditionally viewed as indicative of later Woodland cultures. However, excavations conducted at numerous locations throughout the Middle Atlantic Region over the past few years has produced widely accepted data indicating that triangular point forms have a much earlier origin, and extend back in time to at least the Archaic Period. In light of this comparatively new data, and based on information discussed below, it is KSK's position that Site 7-NC-E-152, and all activity areas within it, represents an entirely Archaic series of occupations.

While determinations regarding the increased antiquity of triangles at the majority of other sites are based largely on the recovery of such artifacts from undisturbed and well-documented deeply buried stratigraphic sequences, virtually the exact opposite situation is manifested at the present site. As presented in the previous chapter Site 7-NC-E-152 represents a shallow, non-stratified, and plow impacted occupation. Although this site lacks the clear vertical integrity typically seen as essential for making firm determinations for the presence of triangle-bearing Archaic components, KSK maintains that stratigraphic shortcomings can be effectively neutralized given the above-documented spatially discreet horizontal patterning of artifacts and activity areas. Whereas typical Archaic Period point types and triangles co-occur within at least two activity areas at the site (Cluster 1 and 4), a condition traditionally taken to indicate the presence of mixed artifact deposits or overlapping occupations, the restricted size

and wide spacing of artifact clusters in this instance strongly argue against such an condition. If the possibility of overlapping, temporally divergent occupations can be ruled-out, then this coexistence of triangles and notched/stemmed point forms can be logically assumed to be the result of individual, and in this case Archaic Period, occupations.

Additional support for this interpretation may also be gleaned from the unique characteristics of the points themselves. In recent years a number of researchers have begun studying Archaic triangles from stratified sites in an effort to discern morphological and/or technological features that may be used to distinguish the earlier points from those made by Woodland Period populations (e.g., Katz 2000; Stewart 1998). While these studies have met with some success they also note that there exists sufficient overlap and regional variations within and between both groups to thus far prevent the determination of any single, reliable identificatory feature. Despite this unresolved issue, triangles from Site 7-NC-E-152 were taken to Dr. Michael Stewart of Temple University for his input on their possible cultural/temporal affiliation. Based on his inspection Dr. Stewart determined that the Delaware points all appeared to fall within the range of morphological variation exhibited by the triangles he had studied from Area D of the Abbott Farm National Landmark in New Jersey. Although the majority of triangles showed no other features that could be used to otherwise distinguish them, a single jasper triangle from EU 8, in association with Cluster 4, exhibited an asymmetrical beveling pattern along its base. This treatment was formed by the execution of continuous, steep pressure flaking along one basal edge and centrally focused, deep, long pressure flakes on the opposite surface, and represents a distinctive manufacturing trait that Dr. Stewart had documented on approximately 40% of the Area D points (Michael Stewart, personal conversation, October 2002).

Likewise, specific characteristics exhibited by the notched and stemmed points from Site 7-NC-E-152 leave little doubt as to their assignation to the Archaic Period. The single notched example from the site (EU 12) was initially identified as a possible Hardaway (ca. 8,000-6,000 B.C.); however, that determination has since been questioned given the incomplete nature and crude appearance of the artifact. Despite this reversal, the point retains an overall shape consistent with an Archaic age determination and has been extensively asymmetrically re-sharpened, another decidedly Archaic Period trait. Moreover, this point was found in close proximity to a quartz crystal snub-nosed end scraper, a tool form not commonly manufactured or used after approximately 6,000 B.C. (snub-nosed scrapers were also found in association with triangles within the Middle Archaic component at Abbott Farm; Stewart 1998).

Other non-triangular points from Site 7-NC-E-152 include a single straight-sided point base and a small lozenge-shaped quartz point. Of these two, the former is substantially incomplete though strongly reminiscent of the basal treatment associated with Neville points (ca. 6,000-5,000 B.C.). The lozenge-shaped artifact has been heavily re-sharpened but appears to fall within the range of variation exhibited by expended Morrow Mountain (ca. 5,000-4,000 B.C.) and similar stemmed and tear-drop shaped points. More importantly, re-sharpening of this point has resulted in the pronounced beveling of one of the blade edges. Again, this characteristic is considered to be a hallmark of the Archaic Period.

As a final note, it should be pointed out that 7-NC-E-152 appears to share a number of general characteristics, in terms of site form, function, and artifact content, with Archaic Period deposits documented at Area D of Abbott Farm. The latter site contains Archaic triangles, is also interpreted to represent the remains of a series of short-term occupations, and is comprised of a number of spatially restricted artifact scatters centered within 6-10 feet (ca. 2-3 meters) of small, simple hearth features. This pattern of artifact and activity area distribution is not significantly different from that documented during the present Phase II investigation, and may indicate that the Area D finds could serve as a useful model against which Site 7-NC-E-152 data can be interpreted and compared. While no hearths were identified during this investigation fire-cracked rock was recovered in modest quantities, and nearly always in direct association with, or close proximity to identified potential activity areas and tool concentrations. It is

possible that more extensive excavations at the site may result in the documentation of such distinctive features. Although sub-surface features are often not encountered within briefly occupied prehistoric sites the identification of at least one possible feature (of currently unknown function) suggests that others may also be present, and may contain important information related to site function, period of occupation, and probable age.

Historical Component

That scatters of historic artifacts are present in low numbers throughout the site is not surprising given that geomorphological data indicates that this area was formerly part of an agricultural field. The occurrence of historic artifacts in plowed fields is an endemic and intrinsic characteristic of farmsteads throughout this region, and is not necessarily indicative of either past occupations or of significant patterned behavior. Considering the uniform, essentially random, low-density nature of these artifacts they most likely represent refuse deposits gradually accumulated as a result of one or more centuries of farm operations. As such it is unlikely that significant information about any particular past occupants of this vicinity can be gained by further studies of this material.

Conclusions

Based on the above interpretations it is the opinion of KSK that prehistoric artifact deposits contained within Site 7-NC-E-152 represent a potentially significant archaeological resource that should be considered eligible for listing in the National Register of Historic Places. Posited to represent an Archaic Period short-term quarry related and/or procurement camp, this site is likely to offer a wide range of opportunities to obtain information associated with a poorly understood period of Delaware's prehistoric past. If current interpretations are correct this site may represent a unique occurrence within the state and all possible efforts to gain a full understanding of its associated archaeological resources should be made.

Based on conversations with Whitman, Requardt and Associates it appears that at least some impact to this site is unavoidable, though efforts are being made to limit any construction-related disturbance to the greatest extent possible. Given that some impact to the site is likely to occur during the improvement of the Airport and Churchmans Roads intersection KSK recommends that Phase III Data Recovery investigations be performed within those parts of the site that will be impacted by roadway construction. A formal proposal outlining the scope of work and projected budget for those investigations is currently being prepared and will be submitted to DelDOT at the earliest possible opportunity.