BACKGROUND INFORMATION

In order to understand the methods utilized in the test excavations at 7NC-D-70 and 7NC-D-72, it is necessary to look at the general prehistory of northern Delaware. Similarly, previous research at the sites will be considered.

Regional Prehistory*

The prehistoric archaeological record of northern Delaware can be divided into four large blocks of time: The Paleo-Indian Period (ca 12,000 B.C. - 6500 B.C.), The Archaic Period (6500 B.C. - 3000 B.C.), the Woodland I Period (3000 B.C. - A.D. 1000), and the Woodland II Period (A.D. 1000 - A.D. 1650). A fifth time period, the Contact Period may also be considered and spans from A.D. 1650 to A.D. 1750, the approximate date of the final Indian habitation of northern Delaware in anything resembling their pre-European Contact form. Each of these periods is described below.

Paleo-Indian Period (12,000 B.C. - 6500 B.C) - The Paleo-Indian Period encompasses the time period of the final retreat of Pleistocene glacial conditions from Eastern North America and the establishment of more modern Holocene environments. The distinctive feature of the Paleo-Indian Period is an adaptation to the cold, and alternately wet and dry, conditions at the end of the Pleistocene and the beginning of the Holocene. This adaptation was primarily based on hunting and gathering with hunting providing a large portion of the diet. Hunted animals may have included now extinct megafauna and

---

*This summary of the regional prehistory is abstracted from Custer (1980,1981,n.d.)

moose. A mosaic of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for these game animals in northern Delaware and watering areas would have been particularly good hunting settings.

Tool kits of the people who lived at this time were oriented toward the procurement and processing of hunted animal resources. A preference for high quality lithic materials is noted in the stone tool kits and careful resharpening and maintenance of tools is common. A mobile lifestyle moving among the game attractive environments is hypothesized with the social organizations being based upon single and multiple familybands. Throughout the 5500 year time span of the period, the basic adaption remains relatively constant with some modifications being seen as Holocene environments appear at the end of the Paleo-Indian Period.

Numerous Paleo-Indian sites are noted for northern Delaware including a hunting and processing site near Hockessin, possible quarry sites near Iron Hill, and isolated point finds.

Archaic Period (6500 B.C. - 3000 B.C.) - The Archaic Period is characterized by a series of adaptations to the newly emerged full Holocene environments. These environments differed from earlier ones and were dominated by mesic forests of oak and hemlock. A reduction in open grasslands in the face of warm and wet conditions caused the extinction of many of the grazing animals hunted during Paleo-Indian times; however, browsing species such as deer would have flourished. Sea level rise is also associated with the beginning of the Holocene in northern Delaware. The major effect of the sea level rise would have been to raise the local water table, which helped to create a

number of large swamps such as Churchmans Marsh. Adapations changed from the hunting focus of the Paleo-Indians to a more generalized foraging pattern in which plant food resources would have played a more important role. Large swamp settings such as Churchmans Marsh apparently supported large base camps as indicated by the remains at the Clyde Farm Site. A number of small procurement sites in favorable hunting and gathering locales are also known from northern Delaware.

Tool kits were more generalized than earlier Paleo-Indian tool kits and showed a wider array of plant processing tools such as grinding stones, mortars, and pestles. A mobile lifestyle was probably common with a wide range of resources and settings utilized on a seasonal basis. A shifting band level organization which saw the waxing and waning of group size in relation to resource availability is evident. Known sites include large base camps (Clyde Farm Site) and smaller processing sites located at a variety of locations and environmental settings.

Woodland I Period (3000 BC-AD 1000) - The Woodland I Period can be correlated with a dramatic change in local climates and environments that seem to be a part of events occurring throughout the Middle Atlantic region. A pronounced warm and dry period sets in and lasts from ca. 3000 BC to 1000 BC. Mesic forests are replaced by xeric forests of oak and hickory and grasslands again become common. Some interior streams dry up; however, the overall effect of the environmental change is an alteration of the environment, not a degradation. Continued sea level rise also makes many areas of the Delaware River and bay shore the sites of large brackish water marshes which are especially high in productivity. The major changes in environment

and resource distributions caused a radical shift in adaptations for prehistoric groups. Important areas for settlements includes the major river floodplains and estuarine swamp areas. Large base camps with fairly large numbers of people are evident in many areas of northern New Castle County such as the Clyde Farm Site, the Crane Hook Site, and the Naamans Creek Site. These sites seem to support many more people than previous base camp sites and may have been occupied on a year-round basis. The overall tendency is toward a more sedentary lifestyle.

The took kits show some minor variations as well as some major additions from previous Archaic tool kits. Plant processing tools become increasingly common and seem to indicate an intensive harvesting of wild plant foods that may have approached the efficiency of agriculture by the end of the Woodland I Period. Chipped stone tools changed little from the preceeding Archaic Period; however, more broad-blade knife-like processing tools become prevalent. Also, the presence of a number of non-local lithic raw materials indicate that trade and exchange systems with other groups were beginning to develop. The addition of stone, and then ceramic, containers is also seen. These items allowed the more efficient cooking of certain types of food and may also have functioned for storage of certain surplus plant foods. Storage pits and house features are also known for northern Delaware during this period from the Delaware Park Site. The social organizations seem to undergo radical changes during this period. With the onset of relatively sedentary lifestyles and intensified food production, which might have produced occasional surpluses, incipient ranked societies may have began to develop as indicated by the presence of extensive trade and exchange

and some caching of special artifact forms. In any event, by the end of the Woodland I Period a relatively sedentary lifestyle is evident in northern Delaware.

Woodland II Period (AD 1000 - AD 1650) - In many areas of the Middle Atlantic the Woodland II Period is marked by the appearance of agricultural food production systems; however, in northern Delaware there are no indications of such a shift. The settlements of the Woodland I Period, especially the large base camps, were also occupied during the Woodland II Period and very few changes in basic lifestyles and artifact assemblages are evident. Intensive plant utilization and hunting remain the major subsistence activities up to European Contact. Similarly, no major changes are seen in social organization for the Woodland II Period of northern Delaware.

Contact Period (AD 1650 - AD 1750) - The Contact Period is an enigmatic period of the archaeological record of northern Delaware which begins with the arrival of the first substantial numbers of Europeans in Delaware. The time period is enigmatic because no Native American archaeological sites that clearly date to this period have yet been discovered in Delaware. A number of sites from the Contact period are known in surrounding areas such as southeastern Pennsylvania. It seems clear that Native American groups of Delaware did not participate in much interaction with Europeans and were under the virtual domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. The Contact Period ends with the virtual extinction of Native American lifeways in the Middle Atlantic area except for a few remnant groups.

Previous Research and Regional Settings of 7NC-D-70 and 7NC-D-72

This review of previous research at the site will be confined to reporting on Thomas' (1980) initial examination of 7NC-D-70 and 7NC-D-72 because Thomas did not include any analysis of extant collections from either site as a part of the original survey of the Route 4 Corridor (Thomas 1980). Later in this report private collections studied as part of the Phase II survey will be noted.

7NC-D-70 (Figure 1 and 2)

Phase I research at 7NC-D-70 was confined to surface collection (Thomas 1980: II-11). A variety of artifacts were recovered from the surface collection, however, no mapping of possible concentrations, or individual artifacts, was undertaken. Most of the artifacts were found on the slope of a small rise that leads down into a poorly drained head of an intermittent stream. Artifacts recovered included points, bifaces, a possible celt, and flakes. All of the artifacts were re-examined as part of the Phase II investigations and include the following artifacts:

1 side notched point of quartz. Transverse fracture of the blade element the tool was used as a knife for cutting and was fractured in use.

1 quartz point tip

1 quartz biface rejected due to problems in secondary thinning

12 quartz chunks (1 with cortex). These pieces do not show any diagnostic flake morphology; however, they may have been broken in early stages of tool production.

1 chert flake

2 chert chunks with cortex

1 possible celt

1 quartzite flake

The limited number of artifacts makes it difficult to ascribe a function to 7NC-D-70; however, the low number of artifacts and varied tool types suggests some kind of specialized, short-term processing site. The side-notched project point is not diagnostic of any special time period and could date from Archaic through Woodland I times (ca. 6,500 B.C. - A.D. 1,000).

The setting of 7NC-D-70 is consistent with the identification of the site as a possible processing station. The only available surface water in the immediate area of the site is the swampy intermittent stream. Although the stream may have been larger at times in the past, it still is a very low order and would provide insufficient water to support a large group settlement. However, the existence of the swampy area at the head of the stream indicates a relatively rich area for hunted and gathered resources. The swampy area with some surface water and mineral licks in the surrounding soils would have attracted game animals and numerous plants associated with a localized hydrophytic sere would have been available for gathering. Also, some cobbles are present in the area and could be used for the manufacture of stone tools. As such, the most likely role of 7NC-D-70 in the regional cultural systems would be as periodically revisited specialized processing station, or transient camp, during Archaic through Woodland II times.

7NC-D-72 (Figure 1 and 5)

Phase I research at 7NC-D-72 included both subsurface testing and surface collection. As was the case with 7NC-D-70, no mapping of artifacts from the surface collections was carried out. Most of the artifacts were found scattered over an area of swampy ground according to Thomas' report (Thomas 1980:III-12). Analysis of the artifacts from Phase I testing of

7NC-D-72 revealed that few of the items recovered in the Phase I field research were clearly artifacts altered by humans. Of the 137 "artifacts" collected in the Phase I research, only 14 were clearly modified by humans for the manufacture of stone tools. The remaining 123 items were cracked cobbles and fragments that did not show the types of features of flake and fracture morphology that are evidence of tool production. While it can be argued that the reduction of cobbles produces many rejects and broken cobbles without clear flake morphology, analysis of numerous cobble reduction stations in northern Delaware (Custer et al 1981) and elsewhere in the Middle Atlantic shows that large quantities of debitage with well-developed flake morphology and broken bifaces in all stages of reduction should be present. Consequently, the bulk of the "artifacts" from the Phase I excavations at, 7NC-D-72 are not really artifacts at all. The few "true" artifacts from the site included one cobble biface in early stages of reduction and a variety of flakes. Based on the artifacts and the setting of the site in a relatively swampy and poorly drained area, it is likely that 7NC-D-72 was the location of very transient and infrequent use as a locale for manufacturing tools from the locally available cobbles. However, it should be stressed that the site is very ephemeral and is in no way comparable to other known cobble reduction sites with associated base camps such as the Green Valley Site Complex (Custer et al 1981).