Chapter 3

PREHISTORIC BACKGROUND

A. INTRODUCTION

This chapter commences with a brief overview of the paleoenvironment. This is followed by an outline of Delmarva Peninsula prehistory organized according to the framework proposed by Jay Custer (1983, 1984, 1989, 1994) and Charles Weslager (1968), as amended by more recent project-specific studies. The final section discusses sites in the Cedar Creek vicinity.

B. PALEOENVIRONMENT

The paleoenvironmental processes affecting the Delmarva Peninsula over the past 15,000 years or so have been dominated by the post-Pleistocene warming trend and the resultant rise in sea level which has submerged what we now know as the continental shelf. The general trends for the Mid-Atlantic coast can be outlined briefly, but caution must be exercised when seeking patterns for any specific locality. The maximum eustatic low level occurred at the height of the Wisconsin glaciation, approximately 18,000 to 14,000 B.P. Scholars have traditionally maintained that, at that time, the sea level was roughly 120 meters (394 feet) lower than at present and the coastline was some 130 kilometers (80 miles) east of its present position. From *circa* 14,000 to 7,000 B.P. transgression proceeded fairly rapidly as the continental glaciers melted and returned water to the oceanic basins and before significant isostatic uplift processes had begun. During this period the rapid submergence rate of approximately 160 cm (5.24 feet) per century generally inhibited the stable formation of coastal lagoons, large bays or estuaries. After 7,000 B.P. the sea level continued to rise, although at a much slower rate (Milliman and Emery 1968; Edwards and Merrill 1977).

With the retreat of the Wisconsin ice and the gradual warming of the climate, the interior of the Delmarva Peninsula will have become drier and progressively more forested. By the time humans first inhabited Eastern North America, probably about 12,000 to 14,000 B.P., the area was characterized by open, spruce-dominated forest which increased in density towards the south. A combination of zonal and mosaic distributions included more cold-adapted coniferous and deciduous species which were recovering and expanding from relict positions as temperatures continued to increase. As time went on, the proportion of deciduous tree species will have increased and areas of grassland will have developed. However, rising sea levels caused the water table to rise in lowland locations, and freshwater wetland environments became more brackish.

Although there has been no definite recorded association of early man with Pleistocene megafauna in the Eastern United States, the numerous fossil and subfossil finds attest to the presence of mammoth (which became extinct about 12,000 B.P.), mastodon (which became extinct about 10,000 B.P.), walrus, and ground sloth in the Mid-Atlantic region shortly before the beginning of the Paleo-Indian period. Finds of these species are especially associated with former estuaries and the 10,000-9,000 B.P. coastline, and may have been redeposited or reflect extensive erosion of the earlier shoreline (Edwards and Merrill 1977:8-11; Dragoo 1979). Although mammoth and mastodon may have been extinct or had migrated north of the Delmarva Peninsula by the time the first humans appeared in the Delmarva peninsula, caribou and deer were probably still abundant during the Paleo-Indian period. Other fauna present in the region include fox, bear, elk and moose.

Around 8,500 B.P. the vegetation changed from grasslands and coniferous woods to large dense mesic forests of hemlock, oak and pine. Low lying, poorly drained areas became swamps and marshes supporting species such as deer and turkey. It is at this time that the continental climate stabilizes with distinct seasonal differences (Custer and Silber 1995:12). By 5,000 B.P. the climate conditions had changed to warm and dry for an extended period of time known as the Xerothermic. This period was followed by a cold and moist period causing a decrease in oak and an increase in hickory forests with large open grasslands. The climatic conditions and sea level stabilized in the region around 2,500 B.P. producing conditions very similar to those of the present.

C. AN OUTLINE OF DELMARVA PENINSULA PREHISTORY

A.D. Marble & Company 2006 provides the most recent overview of the prehistory of the Delmarva Peninsula as a whole. This overview benefits from the substantial body of original and synthetic work pioneered by Custer (Custer 1989, 1994, and references there cited), and the reports and syntheses that have resulted from large-scale investigations of prehistoric sites sponsored by the Delaware Department of Transportation.

Many archaeologists in Delaware, and the state planning documents, have adopted Custer's periodization of prehistory which collapses the Late Archaic and Early and Middle Woodland into a Woodland I period, renames the Late Woodland period "Woodland II," and includes the Early Archaic in the Paleo-Indian period. Although this scheme is now being seen as in need of some re-evaluation as research into Delaware's prehistory continues (*e.g.* Louis Berger Group 2005:12-13), it continues to provide a standard organizing model.

Prominent among the major site studies are those of the Carey Farm (7K-D-3) and Island Farm (7K-C-13) Sites (Custer, Watson and Silber 1996); Hickory Bluff (Petraglia, Bupp, Fitzell and Cunningham 2002) the Leipsic Site (7K-C-194A. Custer, Riley and Mellin 1994); Lums Pond (7NC-F-18. Petralgia et al. 1998); Pollack (7K-C-203. Custer, Hoseth, Silber, Grettler and Mellin 1995); and Puncheon Run (Louis Berger Group 2005). Data from these and other Kent County drainage sites are summarized in Louis Berger Group 2005 (18-35), and a synthesis is also presented in the study of McClements Tract in Dover (Hunter Research, Inc. 2006: 1-1 through 1-11). Among other relevant studies in the area are the Augustine Creek Sites [7NC-G-144 and 7NC-G-145] (Louis Berger & Associates, Inc. 2001); Drawyer Creek South [7NC-G-143] (Louis Berger Group, Inc 2001; the Snapp Site [7NC-G-101] (Custer and Silber 1995); the Sandom Branch Complex [7NC-J-227 and 228] (Bowen and Knepper 2003), and the Whitby Branch Site [7NC-G-151] (Louis Berger & Associates Inc. 2001).

The Beech Ridge Site in Dover Delaware is a recent well-documented example of a stratified prehistoric sequence (URS Corporation 2007). This site is located on a well-drained peninsula overlooking the Fork Branch, a tributary of the St Jones River. In common with the other large prehistoric sites on the mid-state rivers draining toward the Delaware, Beech Ridge lies below the head-of tide. The site has late Paleoindian through Late Archaic components associated with low densities of lithic debris. Late Archaic to Early Woodland cultural materials were also recovered from the top of the C horizon and the base of the surface A horizon.

A characteristic of the site was 'a series of very low-density flake clusters of differing raw material types. These clusters, or "events," were interpreted as the loci of discrete episodes of toolkit maintenance, or areas where the resharpening of hafted biface implements took place. Little evidence was encountered for primary lithic reduction in any area of the site.'

The series of low-density components dating to the late Paleoindian and Archaic stages are interpreted as short-term game-monitoring stations situated along the edge of a relict stream drainage tributary to the St. Jones River. The lack of hearth features or other facilities from the relevant sampled contexts supports the view of these early components as transient.

A particularly useful aspect of the Beech Ridge research was the integration of this archaeological study with a broadly based ethnographic analysis of hunting behavior, specifically citing analogues from the lowland tropics of South America and from the San of southern Africa. These are used persuasively to throw light on the artifact patterning at Beech Ridge.

A human presence is detectable in the Mid-Atlantic region beginning approximately 12,000 to 14,000 years ago. The chronological sequence for the region, and specifically for the Lower Delaware Valley and Delmarva Peninsula, can be conveniently divided into four major cultural periods: Paleo-Indian (*circa* 14,000-8,500 B.P.); Archaic (*circa* 8,500-5,000 B.P.); Woodland I (5,000 B.P.-A.D. 1000); and Woodland II (A.D. 1,000-A.D. 1600). This cultural-temporal framework is derived from paleoenvironmental studies (especially palynology) and from stratigraphically excavated archaeological sites that have yielded artifacts whose ages have been determined by radiocarbon dating or by comparison with other dated assemblages. Each period or sub-period is characterized by its own distinctive technologies and subsistence and settlement strategies that enabled these prehistoric peoples to adapt to continuous changes in their natural and social environments.

Paleo-Indian Period (circa 14,000-8,500 B.P.)

The earliest recognized groups of hunter-gatherers on the North American continent are referred to as Paleo-Indians. The archaeological hallmark of these peoples is a distinctive style of projectile point which was used to tip javelins or spears and could also have served as a knife used in butchering. These points, generally referred to as being of Clovis type, are easily distinguishable from those made in later periods by the presence of single or multiple flake scars which extend vertically from the base of the artifact towards its tip. This distinctive manufacturing technique (presumed to aid in hafting the point to a foreshaft) resulted in these tools being collectively referred to as "fluted points." A second family of projectile points, the notched points of Kirk and Palmer type, is also recognized as being characteristic of the late Paleo-Indian /early Archaic period.

While there have been numerous surface finds of Paleo-Indian fluted and notched points, there are no known Paleo-Indian sites *per se* in the Delmarva peninsula where artifacts have been recovered from stratified archaeological deposits (Custer 1984:48-60; 1989:81-121). Reconstruction of Paleo-Indian activity in Delaware is therefore mostly undertaken with reference to better known, more substantive, excavated sites elsewhere in the region, such as the Flint Run complex in the Shenandoah Valley (Gardner 1983), Meadowcroft Rockshelter in western Pennsylvania (Adovasio et al. 1977), the Shawnee-Minisink site in the Upper Delaware Valley (McNett et al. 1977), and the Turkey Swamp site in the New Jersey Outer Coastal Plain (Cavallo 1981).

Based on typological comparison of fluted points and consideration of the regional context, Custer (1989:86) suggests that the earliest Paleo-Indian activity probably took place in the Delmarva peninsula around 10,000 years B.P. or later. For the most part,

even though Delaware-specific evidence has yet to be identified, Paleo-Indian occupation is likely to have consisted of a low-density network of quarry sites, quarry reduction stations, base camps, base camp maintenance stations and outlying hunting stations. Lithic procurement and tool manufacture and maintenance will have occurred chiefly in the "neck" of the Delmarva Peninsula, where outcrops referred to the Delaware Chalcedony Complex are known. Base camps and base camp maintenance stations were probably mostly associated with this exploitation of lithic resources. Elsewhere in the peninsula, Paleo-Indian activity most likely involved short term hunting and gathering forays to food-rich locations such as wetland environments with diverse fauna and flora (Custer 1989:56-57, 93-100, 119-121).

Archaic Period (circa 8,500-5,000 B.P.)

Generally speaking the Archaic period was marked by warmer temperatures resulting in continued glacial melt and rising sea levels. Pollen analysis has shown that mixed deciduous-coniferous forests (with oak and hemlock prevalent) and patches of grassland vegetation increasingly replaced the spruce-dominated Paleo-Indian environment. The megafauna had by this time become extinct and caribou had migrated north, leaving the more solitary browsing animals such as deer, elk and moose as the largest species available to hunters. The Native American population of the Archaic period is generally differentiated from that of the preceding Paleo-Indian period by its apparent greater social complexity expressed in the appearance of mobile small-band organizations with simple social structuring (Custer 1984:61-64; 1989:122-127).

Although the material culture was still aceramic during the Archaic period, there was an expansion and diversification in the types of lithic tools being made. Stone artifacts characteristic of the Archaic period include bifurcate-base and stemmed projectile points, while ground stone items such as axes, gouges, grinding stones and plant processing tools appear in the archaeological record for the first time. Also characteristic of the Archaic period is a marked decline in the use of cryptocrystalline materials for lithic tools, and a corresponding increase in the exploitation of new stone materials such as rhyolite (found in south-central Pennsylvania) (Custer 1984:64-74; 1989:127-140).

As is the case with the Paleo-Indian period, there are no known stratified Archaic period archaeological sites in the Delmarva peninsula, and evidence therefore takes the form of surface finds. Archaic period activity in the area therefore again involves extrapolation from other sites in the region -- for example, the Neville site in New Hampshire (Dincauze 1976) and the Doerschuk site in North Carolina (Coe 1964). Custer (1989:129-139) suggests a range of site types, including macro-band and micro-band base camps and procurement sites. Base camps, in his scheme, served as habitation areas for multiple families and were located in areas of "maximum habitat overlap", especially around interior freshwater swamps and bay/basin features. Among the better-known Archaic period sites in Delaware are a series of resources, including the Clyde Farm site, located on terraces around the freshwater swamp known as Churchman's Marsh (Custer et al. 1986) and a cluster of bifurcate point sites in a similar setting in the Burnt/Cedar Swamp-Upper Pocomoke region of south-central Delaware.

The Woodland I Period (5,000 B.P.- 1,000 B.P.)

The Woodland I period has received particular attention and has yielded archaeological data of exceptional interest reflecting influences from far beyond the Delmarva peninsula. Continuing sea level rise led to

brackish estuarine conditions along the Delaware Bay, and oak and hickory increasingly dominated the forest cover (Custer 1984:75-93; 1989:176-184).

Artifact assemblages became more diversified in the Woodland I period with a wide range of new projectile point styles becoming evident, including large-stemmed and narrow-bladed points, and broad-bladed points (or broadspears), in addition to a continuation of the notched point tradition. Cache pits of late-stage bifaces, usually made of non-local argillite, are also found for the first time. Still more diagnostic of the Woodland I period is the appearance in the archaeological record of soapstone (steatite; another non-local raw material) and ceramic containers. Woodland I period ceramics have been studied in considerable detail and a well-established typological sequence has been worked out, beginning with the Marcey Creek plain ware and progressing through the Dames Quarter and Seldon Island wares, Wolfe Neck ware (cord and net-impressed), a range of clay-tempered wares (e.g., Nassawango, Coulbourn, Wilgus), the shell-tempered Mockley ware, and the quartz-tempered, fabric or cord-impressed Hell Island ware (Custer 1984:93-113; 1989:144-176).

A much greater variety of site types is evident in the Woodland I period as compared with the preceding Archaic period, and a number of stratified sites have been investigated in both Delaware and Maryland, enabling more confident reconstruction of Native American lifeways. Beginning around 5,000 B.P. there is asserted to be a marked increase in the number of base camps throughout the Delmarva peninsula and an emphasis on locations in areas with a reliable supply of surface water. Seasonal occupation of base camps is recognizable and there is also intensive use of coastal sites. In essence, the aboriginal population can be described as semi-sedentary for the first time. Two archaeological traditions or complexes are used to define the early portion of the Woodland I period -- the Clyde Farm complex in the Churchman's Marsh area of northern New Castle County and the Barker's Landing complex in Kent and Sussex Counties. Both complexes persisted until around 2,500 B.P. (500 B.C.) and are reflective of the changes in tool kits, settlement and resource procurement patterns, and social organization that distinguish the Woodland I period from the Archaic (Custer 1984:113-130; 1989:185-248).

From around 2,500 B.P. to 2,000 B.P. the Woodland I period cultures reached a peak of complexity and show clear signs of Adena influence from the Ohio Valley. The Wolfe Neck and Delmarva Adena complexes are both distinguished by new pottery styles, evidence of increased trade and exchange networks, intensified food gathering and expanded exploitation of estuarine resources. A Wolfe Neck component has been identified at many earlier Woodland I sites (e.g., the Clyde Farm, Delaware Park and Mitchell Farm sites). Adena influences have been recognized at more than a hundred sites in the Delmarva peninsula, but only a handful of these have been archaeologically examined.

The telltale signs of Adena influence are the presence of raw materials originating only from the Ohio Valley and diagnostic materials such as corner-notched and side-notched projectile points, large finely-fashioned bifaces, clay-tempered ceramics, copper beads and tubular beads. Few Adena-influenced habitation sites have been excavated, the two most important being the Wilgus and Killens Pond sites, both considered micro-band base camps. Most material culture items have in fact emanated from cemetery sites, or what Custer refers to as mortuary-exchange centers, the most notable of these -- the Killens Pond, St. Jones and Frederica sites -- occurring in the Mid-Drainage Zone of the central Delmarva peninsula. These mortuary sites yield few traces of domestic activity, and the burials (including both cremations and inhumations) are frequently accompanied by exotic grave goods (Custer 1984:113-130; 1989:249-275).

By around 2,000 B.P. Adena influences were on the wane, long distance exchange networks were breaking down, and the complex ritual treatment of the dead seen in the earlier mortuary sites had apparently ceased. The level of material culture declined somewhat, the diagnostic materials during this period being the shell-tempered Mockley wares and stemmed projectile points including the Rossville and Fox Creek types. Sites belonging to the Carey Complex (e.g., the Carey Farm site and components within other sites such as the Clyde Farm site) indicate that the basic settlement-subsistence pattern in the High and Low Coastal Plain of the Delmarva peninsula remained much as before, except for the disappearance of the mortuary centers. This was also the case for the Piedmont/Fall Line area in northern Delaware represented by the Black Rock Complex. Diagnostic material relating to period are stemmed points and refined Vinette I/Wolfe Neck ceramics.

In the period between 1,500 and 1,000 B.P., at least three different traditions or complexes are recognizable. The Delaware Park Complex in the northern Delmarva Peninsula exhibits continuing utilization of what have been interpreted as macro-band base camps, and the type site, the Delaware Park site, included large storage features indicative of intensive harvesting of plants and sedentary occupation (Thomas 1981). Two other contemporary complexes, however, the Late Carey Complex and the Webb Complex, tend to suggest a breakdown or fissioning of the macro-band base camp pattern into smaller micro-band base camps. Sites recently excavated by the University of Delaware Center for Archaeological Research (the Carey Farm Site, Island Farm Site, Snapp Prehistoric Site, Pollack Prehistoric Site and Leipsic Site) suggest that larger sites interpreted as macro band base camps may in fact be several different micro band base camps which have been continuously reoccupied (Custer 1994:153-156).

The Webb Complex, evident chiefly in central Kent County, is far more notable for showing clear evidence of a resurgence of mortuary ceremonialism and a resumption in long-distance trade and exchange. The site most closely associated with these latter traits is the Island Field site on the Murderkill River (Thomas and Warren 1970; Thomas 1974), where more than 120 burials with grave goods have been excavated. The non-local materials recovered from the Island Field site have in the past frequently been linked to the Hopewell culture in the Ohio Valley, but scholars today see stronger connections with the Clemson Island tradition in the Susquehanna Valley, the Kipp Island and Hunter's Home complexes of upstate New York and Intrusive Mound complexes of the Midwest. Thus, despite the apparent "fissioning" of the settlement pattern, the Webb Complex, at least, seems to suggest the brief re-emergence of at least some complex societies in the terminal Woodland I period (Custer 1984:130-145; 1989:276-297).

The Woodland II Period (1,000 B.P. - 400 B.P.)

By around 1,000 B.P., the final breakdown of the trade and exchange networks that flowered in the Woodland I period appears to have been complete. There also appears to have been a weakening of patterns of lithic procurement and ongoing disruption of the macro-band base camps. On the other hand, it is in the period between 1,000 and 400 B.P. that agriculture supplements the subsistence base of prehistoric groups and this brought about a re-orientation of the settlement pattern around more permanent occupation sites. Increased harvesting of plants and shellfish, expanded use of storage facilities (chiefly in the form of pits) and the appearance of more permanent house structures all characterize the Woodland II period. Increased sedentism brought increased population growth and the establishment of semi-sedentary villages with multiple social units that soon surpassed

the macro-band base camps in size and complexity. The emphasis on expanding agricultural systems caused an occupational shift to the fertile floodplains of the major drainages within an environment that was by this time essentially modern in character.

The material culture of the Woodland II period was broadly similar to the preceding Woodland I period, but certain diagnostic types of lithics and ceramics can be recognized. Small triangular projectile points, probably related to the appearance of the bow and arrow, are characteristic of the period, while at least three main groups of diagnostic ceramics -- the Townsend, Minguannan and Killens wares -- have been recognized through their tempering materials and more elaborate decorative motifs.

Two main complexes of sites have been identified for the Woodland II period in Delaware -- the Minguannan Complex and the Slaughter Creek Complex. The former complex includes macroband base camps in a variety of settings throughout the Delmarva Peninsula and there is a strong material culture and locational thread linking these sites to their predecessors in the preceding Woodland I period. The Minguannan Complex sites do not appear to indicate any major expansion into areas of arable land, and agriculture may not have been so critical a part of the settlement-subsistence pattern. The Slaughter Creek Complex, however, defined by the presence of Townsend ceramics, very large macro-band base camps, possible villages and numerous storage features, would seem to represent a far more sedentary society with a greater dependence on agricultural production. Key sites in this complex, all of which can be classified as large macro-band
base camps or possible villages, include the Slaughter Creek site, the Townsend site, the Mispillion site, the Leipsic site and the Gabor site. The first two of these sites also produced burials, while the final three have produced evidence of subterranean house features or “pit houses” (Custer 1984:146-171; Custer and Griffith 1986; Stewart et al. 1986; Custer 1989:298-331).

Native American contact with Europeans in Delaware began around 400 B.P. At this time, the dominant Native American group along the Delaware Bay were the Lenape, while a series of other ethnographic groups lived to the west (e.g., the Nanticoke) and south (e.g., the Assateague). Native American-European contact initially centered on the fur trade, and especially on the European interest in beaver pelts. The fur trade had far-reaching effects upon Native American society, causing inter-tribal conflict and bringing a variety of European manufactured, goods to aboriginal groups. Still more disruptive was the spread of European-introduced disease and the European acquisition and settlement of Native American lands. During the 17th and 18th centuries, Native Americans were gradually overwhelmed by the incoming settlers and traders until, by the early 19th century, they were almost totally subsumed within Euro-American culture (Custer 1989:332-341).

D. PREHISTORIC OVERVIEW OF THE CEDAR CREEK VICINITY

The overall setting of the project area can be characterized as near the upstream limits of the Cedar Creek Mid-Drainage Zone of the Coastal Plain, close to the Drainage Divide (Custer 1983:13 and Figure 1). These mid-drainage locations are identified as providing varied ecological opportunity to human populations because of the proximity to tidal brackish and freshwater areas. As discussed in Chapter 2, however, the specific project area also has much in common with Mid-Peninsular Divide settings.

Two prehistoric sites in the vicinity have yielded substantial amounts of data.

The Taylor Cedar Creek site (7S-C-17) is located about 2 miles southeast of the project area on SR 1. At this site a total of 48 features and 3,651 artifacts, consisting of a wide range of lithics (3,339) and ceramics (312), were recovered. (Thomas *et al.* 1973). "Ceramic" vessel types dating to the Woodland I and II period (3,700 B.P. to 700 B.P.) consisted of steatite bowl fragments, Dames Quarter Black Stone Tempered, Marcey Creek (steatite tempered), Wolfe Neck, Coulbourn, Mockley, Hell Island and Townsend (Custer 1989:292).

The Barkers Landing site (7K-D-13), located approximately nine miles northeast of the project area, is the type site for the Barker's Landing Complex of the Woodland I period. This site yielded a high proportion of non-local materials (especially argillite) with an artifact assemblage consisting of narrow bladed projectile points, broadspears, steatite bowls, and early ceramics types (Custer 1989:221-235).

The Delaware Management Plan for Prehistoric Archaeological Resources (Custer 1983) divided the Mid-Drainage Management Unit into the Delaware and Nanticoke Drainages. The probability of site occurrence within the Delaware Drainage was predicted based on information gained from prior investigations conducted in the unit. The quality of data was also listed as part of the evaluation (Custer 1983:145, Table 21). There is a low probability of finding sites dating to the Paleo-Indian period. There is a medium probability of finding Archaic-period sites based on poor data. Based on fair to good data, the Woodland I was assessed as having a high probability of site occurrence while Woodland II was assessed as having a medium probability of site occurrence based on poor to fair data. The Contact period was considered to have low probability for the occurrence of sites based on poor data.

Another predictive tool was also produced in 1983, A LANDSAT-Generated Predictive Model for Prehistoric Archaeological Sites in Delaware's Coastal Plain (Eveleigh, Custer and Klemas 1983:19-38). This predictive model was based on environmental data generated by the LANDSAT satellite. This model has been surpassed by layered GIS models and similar data can be gained using the United States Department of Agriculture's new Web Soil Survey (See Chapter 2). Use of the Web Soil Survey combined with an examination of detailed contours mapping (one-foot interval) of the site proved to be a more fruitful indicator of potential site location (See Chapter 5).