2.0 RESEARCH DESIGN

2.1 ENVIRONMENTAL AND PREHISTORIC CULTURAL CONTEXTS

2.1.1 Environmental Context

The Delaware Airpark lies on Delaware's lower coastal plain in the mid-drainage zone (Custer 1986a:11). The central Delmarva Peninsula is underlain by sands of the Pleistocene-aged (>1.6 million years old) Columbia formation (Colquhoun et al. 1991:635–636; Jordan 1964; Pazzaglia 1993). The fluvial sands of the Columbia formation overlie older, Miocene-aged marine sediments. The surficial deposits of the Delmarva Peninsula reflect a complex history of regional deposition and erosion that occurred during Pleistocene sea-level fluctuations caused by cycles of continental-scale glacial expansion and recession (Riggs and Belknap 1988:132–139). A high stand of sea level at an elevation of approximately 6 m (20 ft.) occurred during the last interglacial period ca. 125,000 years ago. During the maximum of the last ice age (21,000–14,000 years before present [yrs BP]), sea level stood more than 100 m (330 ft.) below the present level. As the ice sheets melted, sea level rose, first rapidly, and later more gradually (Belknap and Kraft 1977; Fletcher 1988; Riggs and Belknap 1988:136–138). The head of tide in the ancestral Delaware River migrated upstream as sea level rose and preexisting drainages, graded to lowered sea levels, were drowned (Fletcher et al. 1990; Knebel et al. 1988). Extensive fringing marshes along Delaware Bay did not develop until the rate of sea-level rise slowed after ca. 6,000 years ago (Fletcher et al. 1990; Knebel et al. 1988).

The broad outlines of the climate and vegetation history of the eastern United States are well established (e.g., Delcourt and Delcourt 1987; Gaudreau 1988; Jacobson et al. 1987; Russell and Stanford 2000; Watts 1979, 1983; Webb et al. 1987; Whitehead 1973, 1981), but local details remain uncertain because few paleoecological studies have been undertaken on the Mid-Atlantic coastal plain. In addition, many paleoecological sites are poorly dated. Based on the available information, the last 21,000 years can be divided into four parts, reflecting broad climatic and vegetation trends (Kellogg and Custer 1994:Table 1).

Glacial Maximum: 21,000–14,000 yrs BP: Arctic tundra extended to approximately 100 km south of the ice margin in northern Pennsylvania and New Jersey during the last glacial maximum (Clark and Ciolkosz 1988; Martin 1958; Russell and Stanford 2000; Watts 1983). Ice-wedge casts have been observed in soil profiles of northern Delaware, suggesting that permafrost was present in the Piedmont during the maximum of the last ice age (Daniel Wagner, personal communication 2001). The ice sheets began to melt and break up by approximately 18,000 years ago after reaching their maximum geographical extent (Mayewski et al. 1981). The climate of the middle Atlantic region at the time was generally cool and moist. Spruce and fir trees grew in southern Delaware along with other more northerly plants (Sirkin et al. 1977). Vegetation cover on the landscape in the late Pleistocene was very different from the present, with boreal (cold climate) species growing as far south as Georgia and Alabama (Watts 1983; Whitehead 1973). Spruce tree species were common in the mid-Atlantic region during the glacial maximum (Gaudreau 1988; Martin 1958; Watts 1979). As climate warmed and the ice sheets receded northward, vegetation regimes responded accordingly. Individual plant species reacted idiosyncratically, so that plant associations often do not have modern analogs (Overpeck et al. 1992).

Postglacial: 14,000–10,000 yrs BP: As the ice sheets melted and began receding about 14,000 yrs BP, large volumes of cold water raged down newly formed drainages, including the Susquehanna and Delaware rivers (Baker 1983:116). In general, vegetation zones rapidly shifted northward as the

ice retreated (Delcourt and Delcourt 1987; Gaudreau 1988; Webb et al. 1987), but spruce trees were common in the Middle Atlantic region until about 11,000 yrs BP (Gaudreau 1988; Russell and Stanford 2000; Watts 1983). The climate was probably cold and wet, and atmospheric circulation patterns were much different than at present (Balsam and Heusser 1976; Delcourt and Delcourt 1984; Kutzbach 1987; Overpeck et al. 1992). The earliest archeological evidence for people in Delaware dates to this period (Custer 1984a:48–60).

Early Holocene: 10,000–6,000 YRS BP: As the climate warmed, spruce and fir trees were replaced on the landscape largely by pines and oaks (Gaudreau 1988). Oak populations especially expanded east of the Appalachians after 10,000 yrs BP (Gaudreau 1988); between 10,000 and 8,000 years ago a mixed forest of pines and oaks dominated the eastern United States. A generally dry climate is suggested by data from Rockyhock Bay, North Carolina, indicating that water levels had dropped by 10,000 yrs BP (Whitehead 1981). The climate of the Atlantic coast evidently became drier as the edge of the ice sheet retreated north into Canada and as solar warmth increased, reaching a maximum at 9,000 yrs BP (Kutzbach 1987:426). Watts (1979:463) concluded that the drier climate from before 8,000 yrs BP to about 5,500 yrs BP favored oak species. Archeological evidence of people in Delaware during this drier interval is sparse.

Middle and Late Holocene: 6,000 yrs BP–Present: Oak trees remained important in the forests of the Middle Atlantic region throughout the last 6,000 years, but populations of southern pine expanded in the last 2,000 years (Gaudreau 1988) as sea levels approached present levels, and, perhaps, because water tables rose as well. A somewhat cooler and significantly wetter climate also contributed to the expansion of southern pines after about 5,500 yrs BP (Watts 1979). Hickory, an important species in the present forests of eastern North America, expanded out of the southeastern United States into the Middle Atlantic region after 6,000 yrs BP (Jacobson et al. 1987). A wide variety of other deciduous tree species were present as well.

The climate of the last 6,000 years has been generally similar to the present climate, but with subtle, minor fluctuations that are difficult to detect. Analyses of growth-ring sequences from cypress trees on the southeastern Atlantic coastal plain show alternating wet and dry periods during the past 1,000 years (Stahle et al. 1988). A pronounced dry spell occurred between 625 and 725 yrs BP, and alternating wet and dry periods were well developed during the “Medieval Warm Epoch” (AD 1000–1300; Stahle et al. 1988). The onset of the “Little Ice Age” (AD 1300–1600) was relatively wet, with drier conditions occurring toward the end. The last 390 years have been relatively wet but interrupted by droughts such as that of 1985–1986 (Stahle et al. 1988).

The Delaware Airpark lies at the headwaters of Alston Branch and Willis Branch, both tributaries of the Leipsic River, and at the headwaters of Fork Branch, a tributary of the St. Jones River. The Leipsic and St. Jones rivers both drain into the Delaware River through an extensive system of tidal marshes. Delaware Bay, east of the project area, is characterized as a tide-dominated system with an open wetland shore (Fletcher et al. 1990). Between ca. 5,000 and 3,000 years ago, more-isolated marshes along a muddy, open-water coast coalesced to create the present-day long, lateral expanses of tidal wetlands. Fine-grained sediments accumulated in the marshes, thickening them as sea-level rise continued. These trends continued to the present, resulting in diverse ecological settings, extensive marsh, mudflat, and estuarine habitats along the Delaware coast (Fletcher et al. 1990; Knebel et al. 1988). Recently, however, human activities have led to a rapid reduction in the extent of coastal marshes (Kraft et al. 1992).

As mapped in the Kent County soil survey book in the early 1970s, soils in the project area were included in the Sassafras-Fallsington association (Matthews and Ireland 1971:General Soil Map). The predominant soil in this association was Sassafras sandy loam, 2 to 5 percent slopes, followed

by Fallsington loam, Sassafras sandy loam on 0 to 2 percent slopes, Woodstown loam, and Johnston silt loam. The topography of those areas with this soil association is level to gently sloping. The APE in its entirety was dominated by gently sloping Sassafras sandy loam, and Fallsington loam occupied drainagehead areas and shallow depressions of internal drainage. Smaller areas of Woodstown sandy loam were interdigitated between the Sassafras and Fallsington soils (Figure 6).

In the 1971 soil survey, the sole mapped soil series across the Airpark West and Airpark East site areas was Sassafras sandy loam on 2 to 5 percent slopes (Matthews and Ireland 1971:Sheet Number 12; Figure 6). Sassafras occurred on higher ground than the poorly drained Fallsington series in adjacent woods and consisted of well-drained sandy loams that formed in sandy marine and old alluvial sediments (Matthews and Ireland 1971:21–23; Natural Resources Conservation District [NRCS] 2002a). However, on the current (updated in 2006) Web Soil Survey soil-mapping program that is accessible on the NRCS Soils website, all of the Airpark East site and all but the eastern edge of the Airpark West site have been remapped as the Hambrook series, specifically the sandy loam phase on slopes of 2–5 percent (HbB); the eastern edge of Airpark West is now mapped as Fallsington loam on slopes of 0–2 percent (NRCS 2010).

Like the Sassafras series, the Hambrook series, established in 1992, is taxonomically classified as a Typic Hapludult. This classification, a soil subgroup within the Ultisol soil order and Udult soil suborder, is characterized by the presence of an argillic (Bt) horizon, in which oriented clay minerals have accumulated in the subsoil through the downward migration of materials from the overlying surface horizons. The typical profile includes a plowzone (Ap horizon) over a transitional BE horizon, which caps one or more argillic horizons (e.g., Bt1, Bt2). A transitional BC horizon is typically present under the argillic horizon(s), above pedogenically unaltered sediment (parent material), termed the C horizon, which occurs between about 1.01–1.52 m (40–60 in.) below the ground surface. At some locations, an eluvial (E) horizon is distinguishable between the A and, if present, BE horizons. Textures range from loam to loamy sand in the plowzone, and the upper portion of the argillic is typically sandy clay loam, although less clayey soils including sandy loam and loamy sand are also prevalent in the subsoil horizons. Hambrook is characterized as a very deep, well-drained soil (NRCS 2002b).

The Fallsington series, very deep and poorly drained, is classified as a Typic Endoaquult, denoting a catchall group within the Aquult suborder for those series that have no distinguishing characteristics beyond those such as redoximorphic features and associated Munsell ranges that define the suborder. Fallsington formed in loamy marine and old alluvial sediments and occurs in upland flats and depressions. It typically contains a profile with a surface plowzone underlain by a gleyed argillic (Btg) horizon, with textures ranging from sandy loam to loam in the plowzone and, if present, the E horizon, and from sandy loam to sandy clay loam in the Btg horizon (Ireland and Matthews 1974:17; NRCS 2002c; Soil Survey Staff 2006:261, 262).

2.1.2 Prehistoric Cultural Context

The following brief, general discussion provides an outline of the Native American archeological record of the Delmarva Peninsula as it is currently understood (e.g., Custer 1984a, 1986a, 1987, 1989; 1994; Custer et al. 1983; Thomas et al. 1975). This record for the Delmarva Peninsula can be divided into five major periods:

- the Paleoindian period (circa 14,000–8,500 yrs BP);
- the Archaic period (8,500–5,000 yrs BP);
- the Woodland I period (5,000–1,000 yrs BP);
- the Woodland II period (1,000–350 yrs BP; and
- the Contact period (AD 1600–1700).

2.1.2.1 Paleoindian Period

Despite claims for earlier archeological sites in the Americas (e.g., Adovasio et al. 1998; Dillehay 1997; MacAvoy and MacAvoy 1997), clear and undisputed archeological evidence of humans in North America dates after 11,500 yrs BP (Fiedel 1999). Archeological evidence suggests that Native Americans first inhabited what is now the state of Delaware sometime after 14,000 yrs BP (Custer 1989:81–86). Small family groups of Paleoindians dispersed across the landscape, hunting and gathering wild foods. Game animals may have included musk ox, caribou, moose, and the extinct mastodon; however, modern game animals such as white-tailed deer were also present in the region (Custer 1989:95–98). Bones of extinct "megafauna" (mastodon, mammoth) and large northern mammals (e.g., moose, caribou) have been recovered from the drowned continental shelves of the Middle Atlantic region (Emory 1966; Emory and Edwards 1966; Edwards and Merrill 1977). The Paleoindian stone tool kit was designed chiefly for hunting and processing animals. Distinctive fluted points, characteristic of the early Paleoindian period, reveal a preference for high-quality stone (Custer 1984b). Use of coastal resources during the Paleoindian period is not known, primarily because sea-level rise has drowned the contemporaneous shore (Fletcher 1988; Kellogg 1988; Solecki 1961). Archeological knowledge of the Paleoindian period is, therefore, limited and skewed toward interior or upland areas, and almost exclusively based on stone tools.

In general, the Delmarva Native American creation legend relates that a tortoise raised its back from the primordial sea to create the dry land. A tree grew in the middle of the earth, and the first man sprouted from the roots of the tree. The first woman came forth when the tip of the tree bent over and touched the earth (Bierhorst 1995:28–29; Speck 1931:44–46).

No Paleoindian occupations are documented in the vicinity (i.e. approximately 2 miles [3.2 km]) of the Delaware Airpark.

2.1.2.2 Archaic Period

The beginning of the Archaic period in Delaware is marked by major changes in human adaptations (Custer 1989:122). By 9,000 yrs BP, northern species of plants and animals had migrated out of the Mid-Atlantic region. Temperate plant and animal species were more common, and climate patterns had become more like those of the present. Few Archaic sites have been excavated in Delaware, therefore, much of what is known is extrapolated from other areas (Custer 1989:127–129).

Human adaptations became more generalized during the Archaic period, and foraging for plant food resources was an important activity. Tool kits during the Archaic period were less specialized than

the earlier Paleoindian tool kits and included plant-processing tools such as grinding stones, mortars, and pestles. A seasonal, mobile lifestyle exploiting a wide range of resources and settings was probably common. Custer (1986b) found that Archaic sites occur in a wider variety of settings than Paleoindian sites. Archaic sites appear to have been occupied for longer periods of time, perhaps on a seasonal basis by flexible kin-based groups (Custer 1989:129).

Recent excavations at two sites have added to our knowledge of Archaic occupations of peninsular Delaware. The Blueberry Hill site (7K-C-107), in Kent County near Dover, was occupied late in the Paleoindian period and early in the Archaic period (Heite and Blume 1995). Evidence of site occupation was sealed and separated by sediments moved by winds during a period of drier climate. The site is situated on a low knoll overlooking a stream confluence and was infrequently occupied for short periods of time, probably as a hunting-and-gathering camp. The Two Guys site (7S-F-68), in Sussex County, was probably first visited intermittently during Paleoindian times and was not visited frequently until the Early Archaic period (Archaic in Delaware cultural chronology) and again during the Late Archaic (early Woodland I) period (LeeDecker et al. 1996). The site is located on a sandy ridge in an area of extensive, upland wetlands. Evidence for Middle Archaic occupation of the Two Guys site is sparse (LeeDecker et al. 1996).

No occupations dating to the Archaic period are documented in the vicinity of the Delaware Airpark.

2.1.2.3 Woodland I Period

The Woodland period in Delaware has been subdivided into the Woodland I and the Woodland II (Custer 1984a:28; 1989:33-38; 1994:4–6). The Woodland I period, ca. 5,000 to 1,000 yrs BP, is the first well-represented period on the Delmarva Peninsula. As defined by Custer (1984a, 1989, 1994), the Woodland I subsumes three widely recognized time periods in the prehistory of the Middle Atlantic: the Late Archaic, the Early Woodland, and the Middle Woodland. The Woodland I period is characterized by:

- the use of estuarine and coastal resources and population growth—both resulting in larger and more intensively used sites;
- foraging and collecting adaptations in less productive areas;
- participation in regional exchange networks; and
- exposure to and participation in complex mortuary rituals (Custer 1994:4).

During the Woodland I period, distinctive cultural complexes have been identified on the basis of artifact styles and regional or local variability (Custer 1994:18–45). Recent work on the Delmarva peninsula has led to revisions of the earlier cultural complexes and their distributions in time and space (Custer 1994:18–22). Woodland I occupation of the Delaware coastal plain is characterized by the Barker's Landing complex, which largely corresponds to the Late Archaic chronological period. After 2,500 yrs BP, the Wolfe Neck complex dominates the low coastal plain, while the Delmarva Adena complex dominates farther north on the high coastal plain, although there is some overlap. The Carey Farm complex, which corresponds to the Middle Woodland of the region, dominates the coastal plain. The low coastal plain, including the project area, was dominated chiefly by cultures of the late Carey Farm complex during the last 500 years of the Woodland I period. The Barker's Landing complex can be divided into three successive units—I, II, III—characterized by projectile point and ceramic associations. Exotic lithic materials distinguish the Barker's Landing complex from the contemporaneous peoples of the Clyde Farm complex that occupied the northern Delmarva Peninsula (Custer 1984a:134). The late Carey Farm complex is distinguished from the earlier Barker's Landing complex largely by shell-tempered Mockley ceramics.

Occupation during the Woodland I period was focused on the major streams draining into the Delaware River and Bay. As sea level continued to rise, stream basins became drowned and salt water began to intrude upstream with the tides. Site locations apparently shifted upstream as the head of tide migrated (Custer 1994:95–102). Thus, Woodland I archeological sites are spread out along the streams, and occupation appears to have intensified over time. The Woodland I period may have ended with the migration of Algonkian-speaking groups into the eastern United States (Custer 1994:151).

Six sites are documented in the vicinity of the Delaware Air Park that contain Woodland I occupations: Sites 7K-C-119, 7K-C-124, 7K-C-147, 7K-C-152, 7K-C-155, and 7K-C-183. All of these sites are located along the Leipsic River or on bluffs and hills overlooking the river, approximately 1.5 miles north of the Airpark.

2.1.2.4 Woodland II Period

The Woodland II period, ca. 1,000 yrs BP to AD 1600, is characterized by increasing sedentism (Custer and Mellin 1987) and a breakdown in the exchange systems that existed in Woodland I times. Population pressure may have played some role in the restructuring of social, economic, and settlement patterns (Custer 1989:300). Although sedentism is sometimes associated with the introduction of agriculture, which can provide a steady and reliable subsistence base, there is only meager evidence for Woodland II agriculture in Delaware. Archeological investigations in the Sussex County coastal region have discovered the remains of probable cultivated plants (e.g., corn, amaranth seeds), and at the Two Guys site, evidence of a cultivated variety of sumpweed was recovered (LeeDecker et al. 1996:136–138). Estuarine and marine food resources were probably more important than cultivated foods during the Woodland II period.

No Woodland II sites are documented in the vicinity of the Delaware Airpark.

2.1.2.5 Contact Period

The Contact period, ca. AD 1600 to 1700, is very poorly understood because no unambiguous sites dating to this temporal period have been identified and thoroughly investigated in Delaware. Although areas in which Native Americans and Europeans interacted are known, sites in Delaware lack artifacts clearly associated with the fur trade that mark contact in other regions. Perhaps these sites have been covered over or destroyed by modern development. Finally, archeologists may have failed to recognize the subtle combinations of Native American and European characteristics and artifacts that would indicate Indian communities or occupations separate from European settlements.

No Contact-period sites are documented in the vicinity of the Delaware Airpark.

2.2 RESEARCH DESIGN AND TOPICS

Based on the Phase II data, a variety of research questions and topics was developed and addressed by the analysis of the recovered data. These questions, and the possibility of successfully addressing them, are the reason that the two sites were recommended eligible to the National Register. As is typical of most if not all large-scale data recovery projects, some topics were successfully addressed, others not so much. Lack of appropriate data led to the abandonment of certain research topics, which will be explained in the discussion below, which is largely extracted from Siegel et al. (2004).

In general, questions that were addressed by the data recovery investigations at the Airpark East and Airpark West sites related to issues of spatial organization within small- to moderate-sized hunter-gatherer camps, selective use of stone raw materials through time, lithic technology, paleoenvironmental setting, and regional settlement models.

Spatial Organization: The study of intrasite spatial patterning of hunter-gatherer camps and villages has a long history in archeology (Binford 1980; David and Kramer 2001; Hietala 1984; Yellen 1977). Investigating the kinds, frequencies, and diversity of artifacts and features by location within a site will go a long way to address such issues as mobility patterns, the organization of activities, group composition, and season of occupation. Not every issue or question was addressed at the same level of certainty. Preservation, stratigraphy, duration and number of occupations, horizontal segregation of components, multiple overlapping occupations, and postdepositional land-use history, among others, were factors that were be considered when addressing the research potential of the sites.

As previously discussed, the Phase II evaluations revealed some degree of spatial clustering in cultural occupations within the Airpark West site and activity clustering in the Airpark East site. The sites were discontinuously occupied for thousands of years, from the Archaic possibly into the Woodland II period for the Airpark West site and from the Archaic to the Woodland I period for the Airpark East site. Both sites retained portions of the assemblages in the plowzone and subplowzone sediments. Goals of the Phase III investigation were to distinguish culturally or functionally meaningful spatial components to address the internal behavioral organization of each site.

Lithic Technology and Raw Materials: Selection or preference for specific raw materials used in the production of stone tools may relate to settlement, mobility, and intergroup exchange patterns. Models of regional settlement patterns depict wide-ranging territorial distributions for Paleoindian and early Archaic cultures, which relate to demographic and early post-Pleistocene environmental factors. Low population densities combined with a patchy environment selected for highly mobile groups of hunters and gatherers. As intrinsic rates of reproduction resulted in larger group sizes in the context of a gradually ameliorating environment, groups settled in to local environments and territorial ranges decreased in size. Custer (1996:165–166) has argued that lifeways during the Woodland I period were similar and included larger groups that participated in far-flung exchange networks. Tracking relative frequencies of raw materials by time period enabled might address group territorial ranges and exchange patterns.

Stone tool technology and production were assessed within the framework of activity areas. Does the lithic assemblage reflect early-stage formal tool production, expedient flake-tool production and use, tool maintenance, or some combination? Systematically addressing these questions helped to characterize site functions and to place the sites into regional settlement models.

Paleoenvironmental Context: Reconstruction of past climatic and environmental conditions plays a significant role in prehistoric settlement and subsistence models. Custer (1986a:22–27; 1994:171–172) has made a strong case for the importance of understanding local environmental settings associated with human occupations at various times in the past. To this end, conducting paleoenvironmental research in connection with the wetlands adjacent to the archeological sites was productive. Goals of this research were to correlate environmental conditions to specific occupations of the two sites.

The attempt to reconstruct the paleoenvironment of the Airpark East and Airpark West sites did not, as they say, pan out. Dr. Dorothy Peteet, a paleoenvironmental scientist at the Lamont-Doherty Earth Observatory, took two core samples from the wetland areas near the archeological sites.

Unfortunately, the peat layer was too shallow to produce meaningful results; as well, a radiocarbon assay of organic matter returned a date of –515, suggesting that the deposits were contaminated and of modern age. Thus, the paleoenvironmental reconstruction effort was unsuccessful. Dr. Peteet's brief letter report is included herein as Appendix IV.

Further, far fewer features than expected were identified at both sites. Presumably due to the acidic soil conditions across the sites, organic preservation was nil: no floral or faunal samples were procured, nor was charcoal for radiocarbon dating. Flotation samples from the few features that were excavated did not produce organic matter. This lack of appropriate organic data further confounded the attempted paleoenvironmental reconstruction.

Regional Settlement Models: The Airpark East and Airpark West sites were evaluated in the context of site distributions documented for the Leipsic and St. Jones drainages. Goals were to link these sites to larger settlement and subsistence systems. The explicit use of watersheds, as analytical units, is similar to Snow's (1980) drainage basin model, the watershed model currently promoted in Pennsylvania (Bureau for Historic Preservation 1996; Chiarulli et al. 2001), and Egghart et al.'s (2003:7–30) recent watershed range model. The two sites are located along the divide between the Leipsic and St. Jones rivers. In the context of a riverine model, these sites could relate to one or both of these drainages.

2.3 FIELD METHODS

The scope of work proposed a sampling intensity of five percent for both sites, resulting in 202 1x1-meter test units at Airpark West and 87 at Airpark East. For proposal purposes, site sizes were based on information obtained in the earlier Phase II investigation (Siegel et al. 2004) (see Figures 7-8). In general, each site was evaluated in two stages of field work. Initially, a few test units were dispersed across a site (Plate 1) on a judgmental basis to provide a more refined view of artifact distributions and integrity of deposits as revealed during the Phase II excavations. Secondly, large block excavations composed of multiple, contiguous 1x1-meter units (Figures 9-10; Plates 2-3) were placed across areas determined to contain denser artifact and feature concentrations, based on information gained from the Phase II and initial Phase III units.

The A horizon from each 1x1-m unit was excavated as a single layer. The sediments underlying the surface layer were excavated in 10-cm levels. At least one 10-cm sterile level was excavated before terminating a unit. Selected units in each of the prehistoric sites were excavated deeply to ensure that deeply buried cultural deposits were not missed. Units selected for deep excavations were broadly spaced across each site. All excavated soils were passed through ¼-inch mesh screen. Soil profiles and, wherever appropriate, plan views were recorded for each unit. Munsell color, texture, and depth of each stratum were recorded on standardized forms and graph paper. At least one wall of each unit was drawn (Plate 4) and photographed using black-and-white print and color slide film. Locations of all test units and pertinent aspects of the terrain were plotted on the project base map. A single grid was established to encompass both sites. The southwest corner of each 1x1-m excavation unit was designated as the unit datum and linked to the grid. Unit datums were also recorded using a global-positioning system (GPS). Depth measurements were taken from the highest corner of the respective test unit. Soil samples were collected judgmentally from selected loci on the sites. The field director maintained daily field notes, recording specific details of the fieldwork and general observations.

2.4 LABORATORY AND ANALYTICAL METHODS

All recovered artifacts were cleaned and inventoried in accordance with the *Guidelines and Standards for the Curation of Archaeological Collections* published by the Delaware State Museums (Fithian n.d.). Artifact classification was based minimally on class and raw material, with type assignations made where possible. If possible, artifacts were further identified by function and/or cultural affiliation. Cataloged artifacts were placed in heavy-duty archivally stable plastic bags for permanent storage. An acid-free provenience tag was placed in each bag. Provenience information was also written on the outsides of the bags, using a permanent marker. All artifacts, maps, photographs, and field notes will be submitted to the Delaware State Museums for permanent curation.

Several kinds of analytical methods were employed in this study. Lithic analysis consisted of sorting the two assemblages on the basis of raw material type and artifact typology and classification. Debitage was sorted by material type, size category, whether the piece constituted a flake or shatter (or "blocky fragments"), and the presence or absence of cortex. Ceramics were categorized by paste, temper, and, where observable, surface treatment and/or decoration. Spatial analysis of the various data classes was accomplished through the use of computer-generated contour maps showing the distributions of materials. Soil chemical analysis was conducted on soil samples.

Plate 1. Stage I excavations of the Airpark East site (7K-C-431), showing the excavation of EUs 22, 23 and 25, view to grid east from Site Datum 2.

Plate 2. The removal of the plowzone and underlying subplowzone soil in 10-cm levels within Excavation Block A (7K-C-382), view to grid west-northwest.

Plate 3. Finishing the excavation within Excavation Block B (7K-C-382), view to grid southwest.

Plate 4. Profile drawing within Excavation Block B (7K-C-382), view to grid north-northeast.