
PHASE II ARCHAEOLOGICAL INVESTIGATION OF SITE 28MO386, FORT MONMOUTH MONMOUTH COUNTY, NEW JERSEY

PREPARED FOR:



U.S. ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
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Mobile, Alabama 36628

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January 2012

Revised Final Report

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REVISED FINAL REPORT

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MANAGEMENT SUMMARY

On behalf of the U.S. Army Corps of Engineers, Mobile District, The Louis Berger Group, Inc. (Berger), carried out a site evaluation study (Phase II archaeological investigation) of Site 28MO386 at Fort Monmouth, Monmouth County, New Jersey. Fort Monmouth is undergoing closure and disposal under the Defense Base Realignment and Closure Act (BRAC) of 1990, as amended. The site was identified in 2007 as part of a base-wide survey, and evaluation and treatment of the site was included in a 2009 Programmatic Agreement (PA) between the United States Army and the New Jersey State Historic Preservation Officer (NJHPO). The investigation was conducted to fulfill Stipulations IA, IB, and IC of the PA, which consist of a Phase II investigation (Determination of Eligibility), coordination with the NJHPO, and documentation of findings. The Phase II fieldwork was carried out in November 2010.

The Phase II investigation included excavation of close-interval shovel tests and 1x1-meter test units. Within the approximately 0.6-acre (just over 2,400-square-meter) site, Berger excavated 50 shovel tests and seven test units. More than 400 prehistoric artifacts were recovered from the investigation. No features were identified at the site. Site 28MO386 was found to have prehistoric artifacts in a plowzone context, with the artifacts indicating two prehistoric occupations of the site. The earlier occupation dates to the Late Archaic period, and the later occupation to the Late Woodland period; the site may represent an encampment during both occupations. The site is adjacent to Huskey Brook, and the encampments were likely focused on procurement of seasonal resources from the stream and perhaps associated wetlands.

Although plowing has damaged the stratigraphic integrity of the deposits, there remains potential for feature preservation (probably posts or pits) in the underlying stratum. The site has yielded and is likely to yield significant information on the prehistoric occupation of the local area, and Berger recommends that Site 28MO386 be determined eligible for listing in the National Register of Historic Places. Significant deposits are restricted to an area that is 0.3 acre (1,200 square meters) in size.

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I. INTRODUCTION

PURPOSE AND MANAGEMENT BACKGROUND

On behalf of the U.S. Army Corps of Engineers, Mobile District, The Louis Berger Group, Inc. (Berger), carried out a Phase II investigation of Site 28MO386 at Fort Monmouth, Monmouth County, New Jersey (Figures 1 and 2). The installation is undergoing closure and disposal under the Defense Base Realignment and Closure Act (BRAC) of 1990, as amended.

The site was initially identified in 2007 as part of a base-wide archaeological survey (Versar, Inc. 2008). The 2007 survey was also conducted as part of BRAC compliance studies. Site 28MO386, then known by the name VSR-2, was included in a Programmatic Agreement (PA) signed in 2009. The PA stipulates in part the following:

- A Additional testing for VSR-2. The Army shall complete additional Phase II archeological testing of the VSR-2 area as shown in [figures 1 and 2] within six months of signing this agreement (Stipulation I.A).
- B Phase II testing for VSR-2 shall consist of larger excavation units preceded by tighter interval shovel testing to adequately characterize the size and nature of the identified Native American site. The excavation units and interval testing shall be established in coordination with the NJHPO (Stipulation I.B).
- C The Army shall also ensure that an archaeological site form and SITS [Smithsonian Institution Trinomial System] number is obtained from the New Jersey State Museum for VSR-2 (Stipulation I.C) [U.S. Army 2009].

The Phase II investigation was conducted to fulfill Stipulations I.A., I.B, and I.C of the PA as cited above. Berger's fieldwork was carried out in November 2010.

SETTING

Fort Monmouth is located approximately 45 miles south of New York City and 70 miles northeast of Philadelphia in the east-central portion of New Jersey. The base is in Eatontown, Oceanport, and Tinton Falls townships. The post currently consists of two operational areas: the Main Post, which covers 637 acres, and the Charles Wood Area, which covers 464 acres. Site 28MO386 is in the eastern portion of the Main Post.

Site 28MO386 is located in New Jersey's Outer Coastal Plain physiographic province. The Coastal Plain is New Jersey's largest physiographic province, comprising approximately three-fifths of the state's entire geography (Dalton 2003). The Outer Coastal Plain is separated from the Inner Coastal Plain by a line of hills running from a point near Sandy Hook Bay to the southwest toward Freehold and on to the Delaware Bay. The Outer Coastal Plain is flat, dissected by broad stream valleys, and drains into either the Atlantic Ocean or Delaware Bay.

New Jersey's Outer Coastal Plain consists of unconsolidated deposits of silt, clay, and sand. The geologic units principally date to the Tertiary geological period, approximately 1.8 to 65 million years ago, although the higher elevation areas, including parts of Fort Monmouth, may date to the Cretaceous Period (145.5 to 65.5 million years ago) (Dalton 2003; New Jersey Geological Survey 1999). Coastal Plain sediments have been mined in the past for bog iron, glass sand, clay,

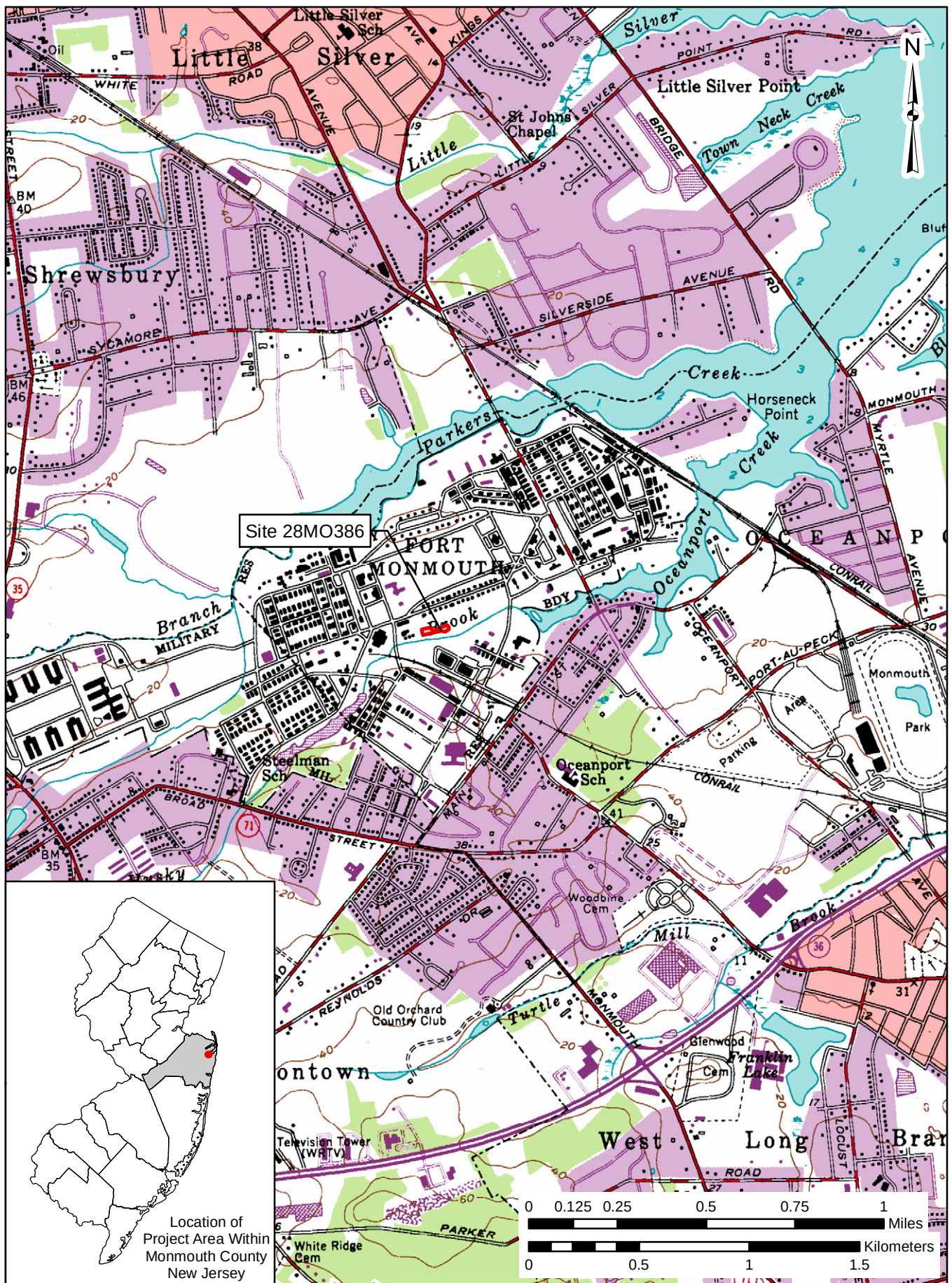


FIGURE 1: Project Location

SOURCE: USGS 1954



FIGURE 2: Aerial View of Site

SOURCE: Geospatial Data Gateway 2010

and glauconite (New Jersey Geological Survey 1999). Bedrock geology underlying the site is mapped as the Hornerstown Formation, which is glauconite clay (Stanford and Sugarman 2010).

Surface sediments in the area are younger than the Tertiary. The site area is mapped as part of the Cape May Formation, Unit 2, which is a Late Pleistocene sand, made principally of quartz, and is up to 50 feet thick (Stanford 2000). The sediment was deposited in beach and estuarine settings during the Sangamon sea-level high stand approximately 125,000 years ago (Stanford 2000). The sediments encountered at the site are consistent with Late Pleistocene alluvium and a stable landform. An area along Huskey Brook is mapped as Holocene alluvium, and the in-filled stream channel is noted as landfill (Stanford 2000). The United States Department of Agriculture maps soils at the site as Udorthents, which is cut-and-fill land (disturbed) (USDA-NRCS 2010). As detailed later in this report, some cut-and-filled soils were found at Site 28MO386 but they did not cover the entire site. Landfill deposits were not encountered.

Fort Monmouth is in the Shrewsbury River drainage, in the Navesink River basin. The site is located on the north side of Huskey Brook, which feeds into Oceanport Creek and then the Shrewsbury River. The Shrewsbury River is a tidal estuary that empties into Sandy Hook Bay and is separated from the Atlantic Ocean by a narrow barrier beach.

At the time of investigation, the site was a relatively open, wooded lot (Figure 3). Mature oak trees are the dominant tree cover. The southern margin of the site, close to Huskey Brook, is covered in young saplings and brush. An underground gas line runs to the north of Site 28MO386, and a paved parking lot lies immediately west of the site.

PROJECT PERSONNEL

The Principal Investigator for the archaeological investigations was Gregory Katz, RPA, and the Field Director was Dell Gould. The Project Manager was Charles LeeDecker. Mr. Katz and Mr. Gould both meet the standards set out in the Secretary of the Interior's Professional Qualification Standards (48 *Federal Register* 44738–44739; 36 CFR Part 61), and a statement of their qualifications is attached as Appendix A. Field crew for the project consisted of Niall Conway, Poul Graverson, Lauren Hayden, Robin Kuprewicz, Paul Stansfield, and Gene Virgilio. Kristofer Beadenkopf and Scott Wieczorek contributed to the historical background portion of this report.



FIGURE 3: View East of Site

II. RESEARCH DESIGN

ARCHAEOLOGICAL DETERMINATION OF ELIGIBILITY

The overall purpose of the investigation was to determine if the Site 18MO386 is eligible for listing in the National Register of Historic Places. A Determination of Eligibility (DOE) study is synonymous with a Phase II archaeological investigation. As established by the National Park Service to implement the National Historic Preservation Act, a property must meet the following criteria for listing in the National Register of Historic Places:

Criteria for evaluation. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history [National Park Service 1990].

Most commonly, archaeological sites are evaluated under Criterion D, which relates to information potential. Sites that have substantial research potential (determined by developing contexts and determining if sites have the ability to address outstanding research questions) and that have integrity of deposits may be determined eligible under Criterion D. Other Criteria (A, B, or C) are much less commonly applied to archaeological sites. It is important to note that research potential and significance can be considered on local, state, or national levels (Little et al. 2000).

To perform the Phase II investigation, Berger conducted a program of background research and field investigations, reviewed below.

BACKGROUND RESEARCH

Background research began with a review of information already gathered by the U.S. Army about Fort Monmouth, including prior archaeological studies (e.g., Versar, Inc. 2008) and cultural resource planning documents (e.g., Klein and Baldwin 2003). This was supplemented by a review of primary sources, other technical reports relevant to the project, and published information on the prehistory, history, and geology of Monmouth County. Primary sources consulted include historical maps and photographs of the project area held by the Library of Congress in Washington, D.C., and those held by the Fort Monmouth history office (CECOM Historical Office).

The New Jersey State Museum was consulted about the SITS number discussed in the 2009 Fort Monmouth PA. Greg Lattanzi, the Archaeological Registrar for the State Museum, stated that Site VSR-2 had been designated 28MO386 (Lattanzi, personal communication, 2010). A form registering the site and obtaining the SITS number was completed by Versar, Inc. in 2007.

ARCHAEOLOGICAL FIELD INVESTIGATIONS

A plan for the field investigation was developed by Berger and discussed with the New Jersey Historic Preservation Office (NJHPO) (Vincent Maresca, personal communication 2010). The testing plan included the excavation of close-interval shovel tests (intervals of 5 to 10 meters) across the site area, followed by the excavation of test units (1x1-meter squares) to be placed judgmentally. Test units would be placed in areas with a high artifact concentration based on either the Phase II shovel testing or the earlier Phase I shovel testing (Versar, Inc. 2008). Vincent Maresca of the NJHPO stated that this general plan seemed appropriate, and stated that the test unit sampling needed to be sufficient to determine the potential for feature preservation at the site (Maresca, personal communication 2010).

The research design was developed referencing the *Guidelines for Phase I Archaeological Investigations* (NJHPO 2003) and the *Guidelines for Preparing Cultural Resource Management Archaeological Reports* (NJHPO 2008). NJHPO does not have published guidance specific to archaeological Phase II/DOE investigations.

The site area was tested systematically in an attempt to confirm the boundaries of the site and to gain insight into activity areas within the site. Three transects of shovel tests were initially established at the site, oriented east-west across the landform (Figure 4). The Phase I testing indicated two clusters of prehistoric activity at the site; the two activity areas (loci) were separated by approximately 75 meters from one another. Berger established one transect, Transect A, which ran the length of the site area and crossed both of the loci. Shovel tests were placed along Transect A with a 5-meter interval between shovel tests. The other transects, B and C, were offset 10 meters north and south of Transect A with a 5-meter intervals between shovel tests. Transects B and C were not as long as Transect A; they were intended to encompass the site activity areas as defined in the earlier testing.

Additional shovel tests were excavated as needed to help delineate the site (Transects D, E, F, and G). Transect D was a series of non-contiguous tests in the Eastern Locus, and Transect E was a line of shovel tests along the northern border of the Western Locus. Transect F surrounded a positive find between the Eastern and Western loci, and Transect G consisted of two shovel tests on the southern margin of the Western Locus. The delineation tests are shown on the archaeological base map (see Figure 4).

Each shovel test measured approximately 35 centimeters (14 inches) in diameter and extended a minimum of 10 centimeters (4 inches) into subsoil. All soil from the shovel tests was screened through 6.4-millimeter (0.25-inch) mesh for the recovery of artifacts. The uppermost soil stratum was designated Stratum A, and underlying strata were assigned consecutive alphabetic designations (Strata B, C, etc.). Artifacts post-dating 1950 were noted and discarded in the field; brick was sampled and discarded in the field.

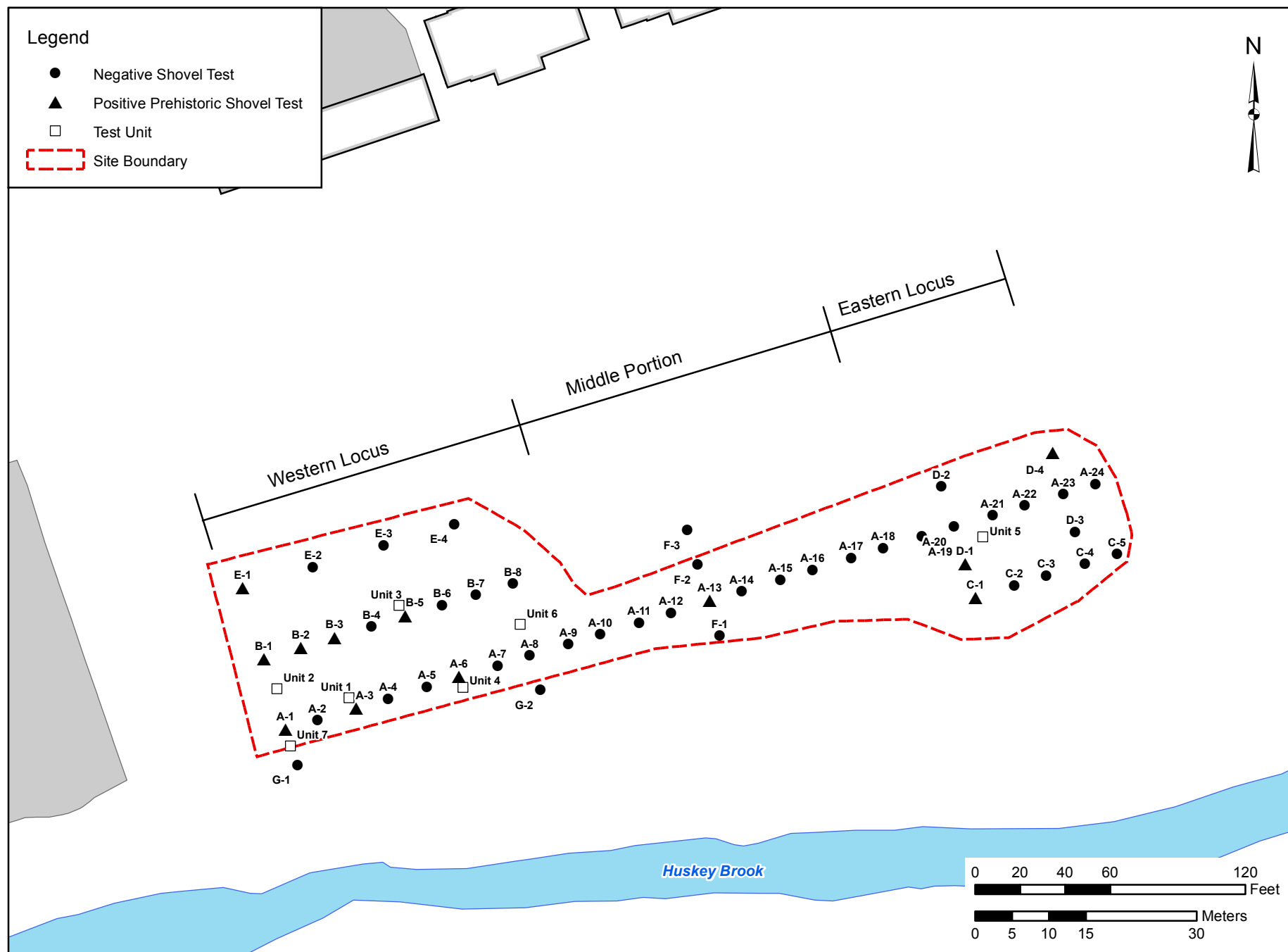


FIGURE 4: Archaeological Base Map

SOURCE: Fort Monmouth Master Planning 2010

Shovel tests were recorded on standardized field forms, which include a schematic soil profile with information on soil texture, Munsell color notation, and inclusions. Shovel test locations were recorded on scaled field maps. Digital photographs were taken to document the investigation.

Test units were excavated to examine artifact densities more closely, to search for features, and to allow a more detailed examination of site stratigraphy. Test units measured 1x1 meter (3.3x3.3 feet) and were excavated into subsoil. They were judgmentally placed in areas where artifact concentrations were noted in earlier testing (the current Phase II shovel testing or the earlier Phase I shovel testing [Versar, Inc. 2008]). The plowzone was screened in its entirety and was excavated as a single level. Below the plowzone excavation levels followed natural stratigraphy with arbitrary 10-centimeter (4-inch) levels for vertical control. Subsoil was sampled with either the excavation of one 10-centimeter-thick level across the entire unit, or with a 50x50-centimeter (20x20-inch) window (sondage). As with the shovel tests, the uppermost soil stratum was designated Stratum A, and underlying strata were assigned consecutive alphanumeric designations (Strata B, C, etc.). Excavation levels were numbered consecutively from the top of the test unit to the base (Levels 1, 2, 3, etc.).

For test units each stratum or level was recorded on standardized field forms, and scaled stratigraphic profiles and plan views were drawn. Test unit locations were also recorded on field maps and were recorded using a survey-grade GPS device.

In all, 50 shovel tests and seven test units were excavated during the Phase II investigation of the sites.

LABORATORY PROCESSING AND ANALYSIS

Artifacts were bagged by provenience and taken to Berger's archaeological laboratory for cleaning, processing, and cataloging. Artifacts were processed according to the standards of the New Jersey State Museum. Artifact cataloging and tabulation were accomplished using a relational database system developed by Berger. The database integrates field provenience information with historic and prehistoric artifact catalogs. The database allows recordation of more than a dozen attributes for each artifact. Some of the attributes, such as date ranges, are automatically entered by the computer for commonly encountered artifact types. Data processing speed and storage are enhanced by the use of alphabetic and numeric codes for the various attributes, but more lengthy "translations" are generated for printing catalog sheets. Historic artifacts were cataloged according to standard typologies, using the class, type, and variety approach (for example, class = glass, type = bottle, variety = case). Analysis of prehistoric lithics followed a morphological approach, where the lithics materials are first grouped into technological classes (e.g., bifaces, debitage, fire-cracked rock) and then by morphology (types) (e.g., class = debitage, type = biface reduction flake). Dating of deposits was accomplished primarily by the *terminus post quem* (TPQ) technique. Appendix B provides a catalog of the recovered artifacts, together with a detailed discussion of the cataloging methods.

As the artifacts are the property of the federal government, the collections and associated records have been prepared according to *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79). Berger is providing temporary storage of the artifacts and associated field records and preparing them for long-term curation.

III. RESULTS OF BACKGROUND RESEARCH

PALEOENVIRONMENT

Humans have occupied the Middle Atlantic Coastal Plain for perhaps the last 20,000 years, beginning in the late Pleistocene era and Late Wisconsin glacial period. During the Late Wisconsin there were a series of warming and cooling climatic events, with corresponding advances and retreats of glaciers, and rising and falling of sea level (Forman 1998; Witte 1998). The late glacial maximum occurred approximately 20,000 years before present (BP) and was a period of intense cold that lasted for several thousand years. This was followed by a warming period, the Bølling/Allerød interstadial, which lasted from approximately 15,000 to 12,800 BP. There was subsequently a little ice age known as the Younger Dryas, which lasted from 12,800 years ago to 11,500 BP. The end of the Younger Dryas is taken to be the beginning of the Holocene (modern) era.

New Jersey was at the southern limit of glaciation from the Laurentide ice sheet, which grew and shrank approximately 10 times in the past 2 million years. Northwestern and northern New Jersey were glaciated by the Laurentide ice sheet at least three times during the Late Wisconsin, Illinoian, and pre-Illinoian periods (Stanford 2006; Witte 1998). Monmouth County was not glaciated; glacial advances stopped near the mouth of the Raritan River, at Perth Amboy (Witte 1998).

Because vast amounts of water were incorporated into glacial ice sheets, sea levels rose and fell with the cooling and warming periods. During the late glacial maximum sea levels dropped to between 50 and 100 meters below present levels along the region's main waterways, and an expanse of Coastal Plain was present east of the modern shoreline (Forman 1998; Ghosh et al. 2003). It is thought that the Shrewsbury and Navesink rivers flowed directly eastward into the Atlantic Ocean at that time, rather than to the north as they do now (USGS 2003a). With the warming of the Bølling/Allerød interstadial, there was a rapid sea-level rise, perhaps as much as 15 meters (Fairbanks 1989). Glacial melt drowned the Hudson and Raritan rivers. The Younger Dryas was intensely cold, and sea levels stabilized somewhat during that period. Another period of rapid sea-level rise occurred at the end of the Younger Dryas, when the lower Raritan River valley was drowned, forming the existing Raritan Bay. The Raritan Bay estuary stabilized at approximately 2500 BP, and oyster beds formed around that time in the Bay and its estuarine tributaries (USGS 2003b).

PRIOR INVESTIGATIONS NEAR THE SITE

The first archaeological study conducted at Fort Monmouth was a 1984 archaeological overview and management plan (Klein et al. 1984). The management plan inventoried known resources, summarized the history of the base, discussed archaeological potential of the base, and provided management recommendations. The investigators also interviewed a knowledgeable groundskeeper at the base about his archaeological finds, leading to the recordation of six sites. A limited archaeological reconnaissance of the Main Post was conducted in 1989 (Fitch and Glover 1989) identifying one historic site, and an assessment study of the Charles Wood Area was conducted in 1996 (Reed et al. 1996).

The first subsurface archaeological survey of Fort Monmouth was conducted in 1996 (Baldwin and Heaton 1996). A 1-acre area was surveyed in advance of housing construction. The investigation area was at the recorded location of Site 28MO138, one of the sites identified by the groundskeeper in 1984. The site was not relocated, and it was not certain if the site had been destroyed or perhaps incorrectly recorded.

An intensive survey of Fort Monmouth was conducted in 2007 (Versar, Inc. 2008). The investigation was a stratified survey, with high and moderate sensitivity areas subjected to subsurface testing. Previously recorded sites were also revisited as part of the study. The Versar study identified two new sites at the Main Post (Sites 28MO386 and 28MO387), bringing the site inventory to nine sites (Table 1).

Table 1: Sites Identified at Fort Monmouth, Main Post

SITE	OCCUPATION	REFERENCES
28MO126	Prehistoric: Late Archaic to Middle Woodland	Klein et al. 1984
28MO127	Prehistoric: Late Archaic	Klein et al. 1984
28MO128	Prehistoric: Late Archaic/Woodland	Klein et al. 1984
28MO129	Prehistoric: Early Woodland	Klein et al. 1984
28MO130	Prehistoric: Late Archaic	Klein et al. 1984
28MO138	Prehistoric: unknown age	Klein et al. 1984; Baldwin and Heaton 2004
28MO385	Historic: unknown age	Fitch and Glover 1989; Versar 2008
28MO386	Prehistoric: Late Archaic/Woodland	Versar 2008; present study
28MO387	Historic: late nineteenth century	Versar 2008

The site inventory is not large, but there is a prevalence of sites with prehistoric occupations, particularly during the Late Archaic period. Versar, Inc. (2008) listed the age of Site 28MO386 as unknown based on their Phase I data.

The Phase I survey at Site 28MO386 included the excavation of 54 shovel tests (Versar, Inc. 2008:53-58). Initial shovel tests (N=41) were excavated on a 15-meter grid, and closer interval shovel tests (N=13) were excavated around positive finds. The study identified one area of prehistoric activity to the west, close to the parking lot of Building 551. There were four positive shovel tests in this western locus, yielding four pieces of non-diagnostic debitage. Lithic materials consisted of jasper, chert, and quartz. Two flakes (one chert and one jasper) had cortex on one surface and were therefore from an early stage of lithic reduction. A smaller eastern locus of prehistoric activity was also identified: two positive shovel tests in the eastern locus yielded a total of three argillite flakes. No temporally diagnostic artifacts were recovered and no features were identified in the Phase I survey. The Versar archaeologists noted an abrupt transition from the topsoil to the subsoil, and concluded that the subsoil was truncated (i.e., the upper portion of the soil column had been mechanically removed and then filled) (Versar, Inc. 2008:55,106). They recovered artifacts principally from the subsoil but also from the topsoil stratum. Versar also noted fill and refuse close to Huskey Brook (Versar, Inc. 2008:55). The site was described as low-density scatter of lithic reduction flakes, with artifacts found in the subsoil from migration downward in the profile (Versar, Inc. 2008:106). The investigators did not think features were likely to be preserved at the site, in part because of the sandy sediment (Versar, Inc. 2008:106).

REGIONAL PREHISTORY

The prehistory of the Middle Atlantic region is commonly divided into three chronological periods: Paleoindian (circa 18,000 to 9500 BC), Archaic (9500 to 1000 BC), and Woodland (1000 BC to AD 1600). These periods are also commonly subdivided into Early, Middle, and Late subperiods: Early Archaic (9500 to 7500 BC), Middle Archaic (7500 to 3000 BC), Late Archaic (3000 to 1000 BC), Early Woodland (1000 to 600 BC), Middle Woodland (600 BC to AD 1000), and Late Woodland (AD 1000 to 1607) periods. The periods mark cultural development from largely nomadic hunter-gatherers during the Paleoindian period to fairly sedentary villagers in the Late Woodland period.

Paleoindian Period (circa 18,000 to 9500 BC)

The earliest occupation of New Jersey was by Paleoindian groups who may have entered the region around 18,000 BC. The earliest occupation of the area, known as Pre-Clovis, is not well known but has been documented in Maryland (Lowery 2007; Lowery et al. 2010), Pennsylvania (Adovasio et al. 1977), and Virginia (McAvoy et al. 1997; Wagner and McAvoy 2004). Evidence from other sites in the Americas suggests that the Pre-Clovis culture featured small group encampments and a diverse diet (Dillehay 1989, 1997). Later occupants of the region, known as the Clovis culture, date to around 11,000 BC and are represented by numerous finds in New Jersey (Marshall 1982; Pagoulatos 2000).

Paleoindians arrived at a time of abrupt climate change toward the end of the last ice age. With the onset of the Holocene, spruce-dominated boreal vegetation was replaced by the northward expansion of deciduous forests, and large mammals migrated to new ranges or were driven to extinction. The diagnostic artifact of Clovis culture is the basally fluted lanceolate Clovis point; typically associated tools include scrapers and gravers for working hides and bones (Gardner 1974, 1989). The Clovis diet may have included Pleistocene megafauna, such as mastodon and mammoth, but the hunting emphasis was likely on deer, elk, and perhaps caribou. Fish, berries, and fruits were also parts of the Paleoindian diet.

There are hundreds of Clovis point finds from New Jersey, but few substantial sites (Pagoulatos 2000). The plurality of the base camp sites have been identified on the Inner Coastal Plain along the Delaware River (Pagoulatos 2000). At least two important, well-defined Paleoindian sites have been located along the coastal shore of New Jersey. The Port Mobile Site (10,000 to 8,000 BC) is located on a high terrace overlooking the Arthur Kill on the western shore of Staten Island (Eisenberg 1978). The multi-component Turkey Swamp Site is located at the headwaters of a tributary of the Manasquan River near the town of Freehold (Cavallo 1980). The Turkey Swamp Site, which has yielded over 150 artifacts, has been interpreted as a revisited processing camp. Clovis sites may have been focused on well-drained landforms near inland swamps and other highly productive habitats, including sources of high-quality stone for tool making (Gardner 1989). Sites have also been located in rockshelters and on lower river terraces. A small Paleoindian component Site 28MO215 was found near Fort Monmouth at Monmouth Battlefield State Park (Pagoulatos 2001).

During the Paleoindian period the sea lay below its modern level, leaving more land along the coasts above water and the New Jersey shoreline some 50 miles east of its present position

(Marshall 1982). Marine transgression has undoubtedly left the area with a very incomplete record of Paleoindian occupation.

With very minimal information currently available on Pre-Clovis sites in the region, it is impossible to discuss likely site locations or site settings. The Cactus Hill Site in Virginia is located on a high terrace somewhat removed from the Nottoway River. It is on a sandy portion of the Coastal Plain, and cobbles of high-quality stone were reduced at the site (McAvoy et al. 1997). The Miles Point Site in Maryland was also on a sandy, high terrace landform of the Coastal Plain (Lowery et al. 2010). Meadowcroft Rockshelter in Pennsylvania is located on the Appalachian Plateau along a small stream near the Late Wisconsin glacial edge.

Early Archaic Period (9500 to 7500 BC)

After 9500 BC the lifeways of native people underwent minor changes from the preceding Paleoindian period, although the environment shifted to warmer conditions and large game disappeared (Custer 1989). Clovis points vanished from site assemblages at that time and were replaced by a diverse set of corner-notched and side-notched point types. Early Archaic sites typically occur on large river terraces, similar to Paleoindian sites (Pagoulatos 2003a). Early Archaic sites are relative scarce in New Jersey, which could be attributable to the retreat of large game and corresponding shifts in Native American population. It does appear that the Coastal Plain was relatively unpopulated during the era.

Although high-quality lithic materials were preferred for points and other tools, Early Archaic groups also began to exploit lesser-quality local stones (Gardner 1989). Diagnostic points of the period include corner-notched Palmer points, which are thought to date to circa 9500 to 9000 BC, and corner-notched Charleston and Kirk types, dating to about 9000 to 8000 BC.

Middle Archaic Period (7500 to 3000 BC)

The Middle Archaic cultural period roughly corresponds to the Hypsithermal, a climatic episode marked by rising temperatures, decreasing precipitation, and the development of more seasonally variable climate. The warmest temperatures of the entire Holocene actually occurred at the beginning of this period, around 7500 BC. An oak-hemlock-hickory forest dominated the region, and deer became the dominant large game.

The growing population changed its subsistence-settlement patterns. Sites are larger and more numerous, and a more diverse toolkit implies a broader range of subsistence activities than in the Early Archaic. Middle Archaic sites begin to appear in locations that had been previously ignored, such as upland swamps and interior ridgetops (Gardner 1978); however, base camps are still located primarily in the floodplains of major drainages. The appearance of new tool types specifically designed for woodworking, seed grinding, and nut cracking (e.g., axes and adzes, mauls, grinding slabs, and nutting stones) and the location of sites in previously unutilized areas indicate an increasing reliance on gathered plants for food and other necessities.

Diagnostic points of the period include bifurcate-base point types (LeCroy, St. Albans, Kanawha), which are from the earlier portion of the period; Guilford; Halifax; Kirk Stemmed and Kirk Serrated points; Morrow Mountain; Neville; Otter Creek; and Stanly. Non-diagnostic triangular points have also been recovered from Middle Archaic contexts (Katz 2000; Lothrop

and Koldehoff 1994; Stewart and Cavallo 1991). During the Middle Archaic period procurement of high-quality lithic material was no longer an important component of the settlement pattern as most artifacts were manufactured from locally available lithic materials (Dent 1995:176).

Late Archaic Period (3000 to 1200 BC)

During the Late Archaic period indigenous groups continued the trend from the earlier period of a strong focus on gathered plants, particularly tree mast, for food and other needs. Fish and shellfish were heavily exploited during the later portion of the period. Wetland resources were also commonly exploited (Custer 1996). Seasonal movements took place to take advantage of resources in riverine and upland settings (Pagoulatos 2003b). The number of sites and settings for sites continue to expand.

The initial portion of the Late Archaic period (3000 to 1500 BC) is marked by a suite of narrow-bladed projectile points (Bare Island/Lackawaxen, Brewerton, Lamoka, Orient Fishtail, Poplar Island, and Sylvan types) that accompanied adaptations for exploiting hardwood trees and sylvan resources. Assemblages include a high frequency of grooved axes, adzes, celts, gouges, and grinding stones. According to one analysis in Virginia, Late Archaic period sites are strongly associated with soils that are well suited to support nut-bearing hardwood trees (Mouer 1991). Sites during this portion of the Late Archaic period tend to be smaller and more diffuse than the sites that came later in the Late Archaic. Argillite was commonly used in stone tool manufacture during the Late Archaic (Wall et al. 1996a:138).

A cultural manifestation associated with broad-bladed projectile points appeared during the later portion of the Late Archaic period (2200 to 1200 BC). The broad-bladed point types include Perkiomen and Susquehanna types. A major change in settlement pattern is associated with the appearance of these points, with sites focusing on the floodplains of higher-order streams (Mouer 1991). Site size can be quite large, particularly in the Coastal Plain. These large broad-bladed stemmed points are typically made of quartzite or rhyolite. It is not certain if they were used as projectile points or as specialized knives for fish processing or some other task (McLearn 1991). Although broadspear points are sometimes found in ritual mortuary contexts, they were apparently utilitarian objects, as shown by occasional breakage and edge attrition (Custer 1991). The Red Valley Site in Monmouth County had a Late Archaic component, including caches of atlatl weights (bannerstones) (Cross 1941:819-90).

A noteworthy development in the later portion of the Late Archaic period is the use of carved soapstone (steatite) bowls. Soapstone was quarried during this period in the Piedmont of Pennsylvania and possibly in the New Jersey Highlands. Vessels were apparently carved at the quarries and transported in finished form, probably by canoe (Dent 1995:182-184). Some soapstone vessels were finished away from quarries at nearby camps (Johnson 2001). Soapstone pots were clearly used for cooking, but it is not yet known what foods they were used to process (fish, meat, seeds, tubers, and/or nuts).

Throughout most of the Middle Atlantic Coastal Plain, archaeologists have found broad-bladed points associated with shell heaps (middens) dating to around 2000 BC (Dent 1995). Intensive oyster collection appears to have begun around that time. A settlement pattern shift occurred around 2000 BC to include sites along tidal creeks focusing on shellfish extraction (Kraft and Mounier 1982a).

Early Woodland Period (1200 BC to AD 1)

The Early Woodland period began around 1200 BC with the adoption of ceramic technology. The earliest vessels, known as Marcey Creek and Ware Plain, imitated the form of flat-bottomed soapstone pots, including lug handles, and were tempered with bits of soapstone (Egloff and Potter 1982). Researchers believe that indigenous groups became more sedentary during the Early Woodland, inhabiting sites for longer periods of the year. Larger sites are commonly on tidal creeks that feed into large streams, with smaller resource extraction sites in a wide variety of environmental settings. Diets were focused on fish, shellfish, and nuts, but deer, turkey, and plant seeds were also important parts of the native diet (Mouer 1991).

Diagnostic ceramic wares include Marcy Creek and Ware Plain, mentioned above, and Vinette I. Vinette I vessels, were tempered with coarse rock, were conical and cordmarked, and were constructed by coiling rather than from slabs.

Point types associated with the Early Woodland include Meadowood, less-common teardrop or ovoid projectile points (Mounier and Martin 1994), and perhaps Kittatinny (Kraft 1975).

Middle Woodland Period (AD 1 to 1000)

During the Middle Woodland period the regional population grew as bands became more sedentary and participated in regional exchange networks. There is continuity in site locations between the Early and Middle Woodland periods, implying that earlier subsistence-settlement systems persisted. Middle Woodland groups were somewhat mobile, exploiting diverse and dispersed resources but focusing on riverine environments. The eastern Piedmont may have been utilized seasonally as part of the settlement round of groups based in the Coastal Plain (Stewart 1992). Groups may have come together to exploit seasonally available resources, such as fish runs, and then split to move into a variety of environments on forays.

During the Middle Woodland period coarse cordmarked pottery was replaced by net-impressed ceramics and, at least in some areas, by zone-decorated ceramics. Ware types include Mockley, which is shell tempered and has a variety of surface treatments (Stewart 1992). Zone-incised wares have also been recovered from central New Jersey and the Trenton area (Stewart 1998).

Diagnostic Middle Woodland point types include Fox Creek, which are often associated with Mockley pottery. Diagnostic points also include Jack's Reef corner-notched, and Rossville. The lithic materials exploited during the Middle Woodland shifted to higher-quality stone and stone from non-local sources, including rhyolite (Stewart 1989, 1992). This shift in pattern of stone use is seen as evidence of the development of regional trade networks.

Exchange networks and social interaction spheres extended out of the Middle Atlantic region during the Middle Woodland period. In the Ohio Valley the Adena complex (regarded by archaeologists in that area as Early Woodland) flourished between circa 600 and 100 BC. The construction of burial mounds, characteristic of this complex, did not spread to the peoples of the Atlantic coast. Nevertheless, sustained cultural contact with the Adena complex is demonstrated by massive caches of typical Adena artifacts (lobate-stemmed points, tubular pipes made of Ohio fireclay, shale and slate gorgets, etc.) found in cremation burials on the Delmarva Peninsula and on Maryland's Western Shore. The Abbott Farm complex in the Delaware Valley in New Jersey

may also have Adena influences. A high percentage of exotic lithic materials, especially rhyolite, are typically found in Middle Woodland assemblages.

Late Woodland Period (AD 1000 to 1609)

At around AD 1000 maize horticulture was adopted by many indigenous groups in the Middle Atlantic region. Reliance on maize varied from group to group; indigenous diets continued to include fish, game, and gathered plants. There is a dramatic increase in the number of sites that coincides with the onset of agriculture. Late Woodland sites include small permanent hamlets, and villages of varying sizes, all of which are typically located in floodplains of higher-order streams and adjacent to high-yield agricultural soils. During the Late Woodland period ranked societies emerged, which developed into the complex tribes and chiefdoms encountered by the Europeans in the late sixteenth and early seventeenth centuries (Potter 1993).

Prior to AD 1200/1300, settlements were not stockaded (fortified), suggesting that there were minimal inter- and intra-group hostilities (Stewart 1993). At around AD 1200 to 1300, throughout the Middle Atlantic region, population density increased, nucleated settlements and stockaded villages were established, and there is evidence of population movement and displacement (Stewart 1993).

Except for stylistic changes, the Late Woodland stone toolkit remained similar to that of earlier periods and reflects the functional diversity associated with exploiting a broad resource base. The utilization of a wide range of lithic materials coincided with sedentary settlements and the exploitation of immediately available resources. Diagnostic artifacts of the Late Woodland period are Levanna and Madison triangular points (which are not entirely diagnostic; see Katz 2000); collared and collarless ceramic vessels bearing incised geometric motifs and cordmarking; and a variety of groundstone, chipped-stone, and pecked-stone tools (Berger 1986:III-8).

Late Woodland ceramics found most commonly in Monmouth County are of the Riggins type (McCann 1950), including fabric-impressed and incised varieties (also called Indian Head Incised). Riggins pottery is fine tempered with crushed stone or shell, ovate shaped, and was common along Outer Coastal Plain. Riggins Fabric-Imprinted was principally decorated with a cord-wrapped stick, and the decoration covers the exterior of vessels. Indian Head Incised is less common than the Fabric-Imprinted ware, and has narrow incised lines typically at an oblique angle to the rim. Riggins ware has been recovered in Monmouth County at many sites, including the Sickel Farm Site (Thomas et al. 1998), and Site 28MO215 at Monmouth Battlefield State Park (Pagoulatos 2001). In Michael Stewart's classification (1998), Riggins Fabric Imprinted correlates with Ware VIIIb, and the Indian Head Incised correlates with Ware XVb (Stewart 1998). Less common Late Woodland ceramics include Bowmans Brook and Overpeck, which are both incised wares (Kraft and Mounier 1982b).

The Late Woodland period (AD 700 to 1600) is well represented throughout New Jersey. The largest sites dating to this period are usually located on major rivers and probably represent base camps that may have been occupied during most of the year. Smaller sites are abundant on tributaries as well as near natural springs. These sites probably functioned as temporary or seasonal camps. The practice of hoe-type horticulture was well established, although hunting, gathering, and fishing continued to be major subsistence activities. Hickory nuts and acorns

were important wild foods, as were butternuts and blueberries. Freshwater mussels have been found in large quantities in many of the shell pits and middens on the terraces of the Upper Delaware River (Kinsey et al. 1972; Kraft and Mounier 1982b).

At the time of European contact, New Jersey was occupied by the Lenni Lenape (renamed the “Delaware” by Europeans) (Goddard 1978; Kraft 1986). The Algonquian-speaking Lenni Lenape were a loosely structured tribe with autonomous bands residing in small dispersed settlements (Kraft 1986).

Increased contact with European traders and settlers resulted in the breakdown of traditions and the increased reliance on European goods in exchange for land and furs. Warfare, disease, and alcoholism decimated the native population, however, and by 1759 it was estimated that only 300 Lenni Lenape remained in the Province of New Jersey. By 1801 few Lenni Lenape remained in the state; today their descendants reside primarily in Oklahoma and Canada (Kraft 1986).

REGIONAL HISTORIC CONTEXT

Exploration and Contact (1609 to 1676)

One of the earliest Europeans to explore the New Jersey coast was Henry Hudson, who sailed his ship, the *Half Moon*, along the shore and into the Hudson River in 1609. He moored his ship off Sandy Hook and explored around the island of Manhattan (Ellis 1885). The European settlement of New Jersey soon followed Hudson’s explorations, with the Dutch at the fore. The colony was originally known as New Netherlands, and its capital was Fort Amsterdam, or New Amsterdam, located on Manhattan. Several small Dutch communities were established along the Delaware River, and trading posts were established at Manhattan, Albany, and on the Hudson River. Dutch settlement efforts spread along the Hudson River valley.

In the middle of the seventeenth century, Swedish and British settlers began to establish farms and hamlets in the colony (Griscom 1973). Dutch settlement extended to the shores of the Hackensack River. The British, under the leadership of Edmund Ploydon and Beauchamp Plantagenet, explored New Jersey in the 1640s, and British settlement grew shortly afterward.

King Charles II of Great Britain was determined to assert British land claims along the American coast, including the land that would later become New Jersey and New York. In 1663 the Duke of York was proclaimed the ruler of the northern colonies and tasked with establishing British rule. The Duke of York sent four military ships to New Amsterdam in 1664, and there they successfully garnered the surrender of the Dutch government. Lords Berkeley and Carteret, under the authority of the Duke of York, established a government for Nova Caesaria (New Jersey) and officially established the colony’s borders.

Land grants in Monmouth County began in 1665 (Ellis 1885). Middletown and Shrewsbury were established at that time. Most of the new settlers in Monmouth County in the 1660s were people relocating from Long Island and Rhode Island (Ellis 1885:63). The Navesink River was a focal point of early settlement, and the local Indian tribe, known as the Navesink, was involved in land sales to the British settlers (Ellis 1885). Scottish immigration to the county took place in the 1680s, and Dutch settlement in the 1690s (Ellis 1885:78, 82).

The early settlement in central New Jersey was characterized by cultural heterogeneity and individualism. Under the leadership of various entrepreneurs and complicated by competitive and confused political leadership, a settlement pattern emerged that was defined by dispersed, irregularly shaped farmsteads and agricultural processing industries. Agglomerated settlements were located near transportation nodes and industrial sites. The earliest settlements were along watercourses, and the importance of milling, then a water-based industry, contributed to the significance of water routes in determining the regional and subregional settlement pattern. Roads were quickly built to link these population nodes with each other and with older settlements, and farms soon dispersed along land-based transportation routes (Wacker 1975). It is important to note that these major settlements and/or village centers developed as points in between major transportation routes that connected the major markets of Philadelphia, Trenton, New Brunswick, and New York City.

East and West Jersey (1676 to 1702)

In 1676 the province of New Jersey was divided into the East and West Jersey provinces by the Keith Line, a survey that ran diagonally from a point in Little Egg Harbor to a point in the Delaware River (Woodward and Hageman 1883). Through a system of proprietors, different governments were established for these two provinces. County boundaries had been established within each of the two Jerseys by 1683, and Monmouth County was defined within East Jersey (Snyder 1969).

During the 1670s many English Quakers and French Huguenots moved into West Jersey to escape religious persecution in their respective homelands. East Jersey also experienced profound development with the establishment of larger communities like Elizabethtown and Newark. By 1702 the provinces of East and West Jersey had been consolidated underneath Britain's Queen Anne; and Edward Hyde, (Lord Cornbury, was the first royal governor of a unified New Jersey (Fleming 1984; Griscom 1973).

A large influx in settlement of the region occurred in the late seventeenth century and continued into the eighteenth century. Many of the new settlers were of Dutch origin, some of them relocating from Manhattan and southern Long Island. An isolated farmstead system continued, with infilling along stream valleys and expansions into interior, non-riverine settings. In river valleys such as the Navesink, a long-lot system of land division operated. Each plot of land had a narrow river frontage and extended away from the river to the more fertile uplands. This allowed the maximum number of settlers to enjoy the various advantages of bottomland, including access to transportation, water, salt marsh, lowland grazing, and hunting areas. Superimposed on this landscape of scattered farmsteads was an increasing number of villages and towns, which, like the dispersed farmsteads before, tended to develop around river landings, crossroads, and mill sites (Wacker 1975).

As settlement density increased throughout the eighteenth century, so did agricultural production and agriculture-centered industries. Mills were erected to provide sawn lumber for new farm buildings and process agricultural products. A miller, Thomas Eaton, built a mill on Wampum Brook, off the Shrewsbury River, in the 1670s (Ellis 1885:875). Milling activities continued to be important well into the nineteenth century, despite the expansion of other economic pursuits in the late eighteenth century.

River transportation greatly increased in volume as settlement expanded, and major waterways were the primary means of shipping agricultural products to market. Numerous landings appeared along major rivers, ranging in size from private docks to large river “ports.”

Late Colonial Era (1702 to 1776)

New Jersey’s geographic location, between the port cities of New York and Philadelphia, had a profound influence on its eighteenth-century development. New Jersey served as a crossroads for commerce, trade, and travel. By the 1730s a network of major roads was in place to move crops from New Jersey’s farms and industrial products to local and regional markets. Transportation-based industries, such as livery and carting, became very lucrative and were supported by New Jersey’s numerous taverns, inns, and complex road network (Fleming 1984).

The American Revolution (1776 to 1783)

During the American Revolution the location and condition of New Jersey’s already extensive road network, interconnecting Philadelphia and New York, made it an ideal mechanism for the British and American forces to transport troops. As a result New Jersey became a major arena for combat. Major battles were fought at places like Princeton, Freehold, Springfield, Trenton, Bound Brook, and Short Hills, to name a few. Sandy Hook was a British stronghold throughout most of the war.

The closest Revolutionary War battle to the project area was the Battle of Monmouth Courthouse, which was fought in Freehold on June 28, 1778 (Alden 1974; Munn 1976). British troops under the command of Sir Henry Clinton were attacked by George Washington and the Continental Army as the British were moving toward New York City. The British had begun evacuating Philadelphia earlier in June, marching across New Jersey to New York. Continental troops left Valley Forge in pursuit. The battle was a fairly serious engagement, lasting into the night, with perhaps 500 to 1,000 casualties on each side. Neither side was the clear victor; the British were able to continue their withdrawal to Sandy Hook and then New York, and the Continental Army was able to damage and harass the retreating British and force them to retreat in the middle of the night.

Nineteenth-Century Developments (1800 to 1900)

In the years following the American Revolution, Monmouth County continued to exhibit the eighteenth-century pattern of dispersed farmsteads and rural industries, with modest growth of small towns. Local industries were devoted to processing agricultural products and included gristmills, sawmills, fulling mills, tanyards, and distilleries.

Transportation developments were a major change during this period, including turnpike, canal, and railroad construction. Most of this construction served to connect the burgeoning villages and suburban centers. They were also a means of shipping bulk goods, primarily coal from Pennsylvania, to urban centers in the east (Watkins 1891:55). Turnpikes were chartered in New Jersey as early as 1801 and quickly proliferated. Improvements were also made to non-turnpike roads. The Shrewsbury Turnpike ran west of the installation and was operating by 1860. In 1820 the New Jersey Assembly chartered the Delaware and Raritan Canal, but ground was not broken until 1830 and it did not open until 1834 (Reilly 1951:4, 428). Steamboat service

connecting Monmouth County to New York City began in 1830 (U.S. Army CECOM 2009). Railroads were also begun in the 1830s, although it was not until the last half of the nineteenth century that they expanded and came to preeminence in the transportation industry. In the 1860s the Delaware and Raritan Bay (later the New Jersey Southern) railroad opened a line running west of Shrewsbury (Cunningham 1997). The railroad connected to a steamboat landing at Port Monmouth. Railroads fueled industrial development and agriculture, and also spurred tourism along the shore of Monmouth County. New Jersey's seacoast became a vacation destination starting in the 1840s, and Long Branch was one of the early resort centers on the New Jersey shore.

Spurred by developments in transportation, New Jersey's population grew enormously in the nineteenth century; however, this growth was concentrated in urban areas. Maps of the Eatontown area in 1851 (Lightfoot) and 1873 (Beers) show a great expansion of the road network and railroad lines during the intervening years, and also expansions of the communities of Shrewsbury, Eatontown, and Oceanport.

Twentieth-Century Developments (1900 to present)

By the turn of the twentieth century, New Jersey had become quite urban and suburban, and farming was in decline. The urban and suburban growth of the state was spurred by further rail line developments that connected urban centers and the countryside (Bebout and Grele 1964:43). Urban centers grew largely because of immigration from Europe and Asia, as well as from the Southern states to the industrial centers of the North.

Agriculture, long the backbone of New Jersey, now held a minor and diminishing place in the economy. By 1900 farmers had largely abandoned their domestic industries and even stopped producing much of their own food (Schmidt 1973). Over the ensuing decades farmers increasingly specialized and sought new ways to increase efficiency to maintain a hold on a market in which so many competed. Farm households became net consumers, costs of production continued to increase, and profit margins became slimmer and slimmer. The Great Depression of the 1930s drove thousands of farmers out of business, a trend that would continue through the rest of the century (Schmidt 1973). Even though farming became less and less viable economically in New Jersey during the twentieth century, many farms managed to survive until mid-century.

By the early to mid-twentieth century, the growing popularity of the automobile and the rapidly expanding network of roads and highways facilitated population growth in New Jersey, particularly in suburban and rural regions throughout the state. Early in the twentieth century, the automobile facilitated access to railroad and trolley stations. After World War II the expansion of road systems allowed travel to areas not confined to the limits of existing rail lines (Bebout and Grele 1964:52).

The construction of new highways inspired by the Federal Aid Highway Act of 1956 sparked a new, and continuing, wave of development in New Jersey. Service industries, restaurants, motels, and drive-in theaters sprang up along roadways like U.S. Route 1, U.S. Route 9, and N.J. Route 35, and the then new Garden State Parkway and New Jersey Turnpike. New housing subdivisions were built, particularly after World War II, as people moved further from crowded urban areas, choosing to commute longer distances to work. Commercial and residential

infilling continues, with the construction of shopping malls and condominium and townhouse developments.

SITE HISTORY

The land that would become Fort Monmouth was largely open land and undeveloped during the eighteenth century. A map of the area from 1781 (Hills) shows houses and a mill along the road that would become Route 35, leading into Shrewsbury. No buildings are indicated at the future site of Fort Monmouth, which was labeled “Horse Neck.”

By the middle of the nineteenth century, the communities of Oceanport and Eatontown had developed, and the road network expanded. In 1851 some houses stood on the neck (the future site of the base), but these houses were well to the northeast of Huskey Brook (Lightfoot 1851).

The Fort Monmouth property was owned for much of the nineteenth century by the Corlies family, who farmed the land (U.S. Army CECOM 2009). Britton Corlies was the first member of the family to move to the area, which occurred sometime in the 1790s. His heirs lived in Eatontown area and farmed the neck of land between Oceanport and Shrewsbury. Corlies family members were historically Quakers, and Abolitionists, although some members of the family left the Society of Friends during the middle of the century (Ellis 1885:899-901).

In 1869 the farmland that would become Fort Monmouth was sold for development. J. McDavison and J.F. Chamberlain bought 128 acres of the Corlies property and began construction of a racetrack (U.S. Army CECOM 2009). The track was completed in 1870 and was known as the Monmouth Park Racetrack. This first track and its facilities lay south of Huskey Brook and Site 28MO386, and east of Main Street (Oceanport). The track was accessible by a railroad link to steamboat landings, and was visited by people coming for the day from New York City and by vacationers from Long Branch. Highly successful in the 1880s, in 1890 the track was moved north of Huskey Brook and south of Parkers Creek, and was expanded to a 640-acre property. The racetrack went into immediate decline after 1893 when New Jersey banned gambling (U.S. Army CECOM 2009). The grandstand, track, and hotel fell into ruin. The property was divided into four parcels and sold in 1895; afterward the land again returned to agricultural use.

In 1917 the U.S. Army rented approximately 468 acres of land, including the former racetrack property, and established Camp Little Silver as a base for the Signal Corps (U.S. Army CECOM 2009). The Signal Corps transformed the dormant racetrack into a base, complete with a flying field and parade ground in the former infield, as well as barracks, laboratories, a hospital, and classrooms. Members of the Signal Corps were taught cryptography, heliography (writing with reflected light), and other communication skills.

The camp reached semi-permanent status in 1917, when the Army purchased the land and renamed the base Camp Alfred Vail (U.S. Army CECOM 2009). In 1925 the camp became a permanent installation and was renamed Fort Monmouth. Aerial photographs from the early 1930s show the area of Site 28MO386 as partially open fields, probably in pasture or planted. The housing north of the site along Gosselin Avenue was built between 1927 and 1934.

The Army expanded research and development facilities at Fort Monmouth in the 1930s and 1940s, and the base continued to expand in the years leading up to World War II. Between 1940 and 1947, the south side of Huskey Brook was developed by the Army. During the Cold War the Army's need for communications research and development grew, and Fort Monmouth continued expansion in the 1950s. Use of the base began to wane after the Korean War, and particularly declined after the break-up of the Soviet Union in 1989. The Defense Base Realignment and Closure (BRAC) Act of 1990 targeted several operations at Fort Monmouth for closure, and the 2005 BRAC review led to orders for the base to close in 2011.

IV. INVESTIGATION RESULTS

The investigation of Site 28MO386, which measures about 0.6 acre (just over 2,400 square meters) in area, consisted of the excavation of 50 shovel tests and the subsequent excavation of seven test units. The shovel tests were initially placed along transects with 5-meter spacing along each transect and 10-meter spacing between transects; as part of site delineation, additional shovel tests were excavated in some areas off the initial transects. Test units were placed judgmentally in areas with high artifact concentration. A map of the testing is presented in Figure 4, and a log of the excavations is provided in Appendix C.

SITE STRATIGRAPHY

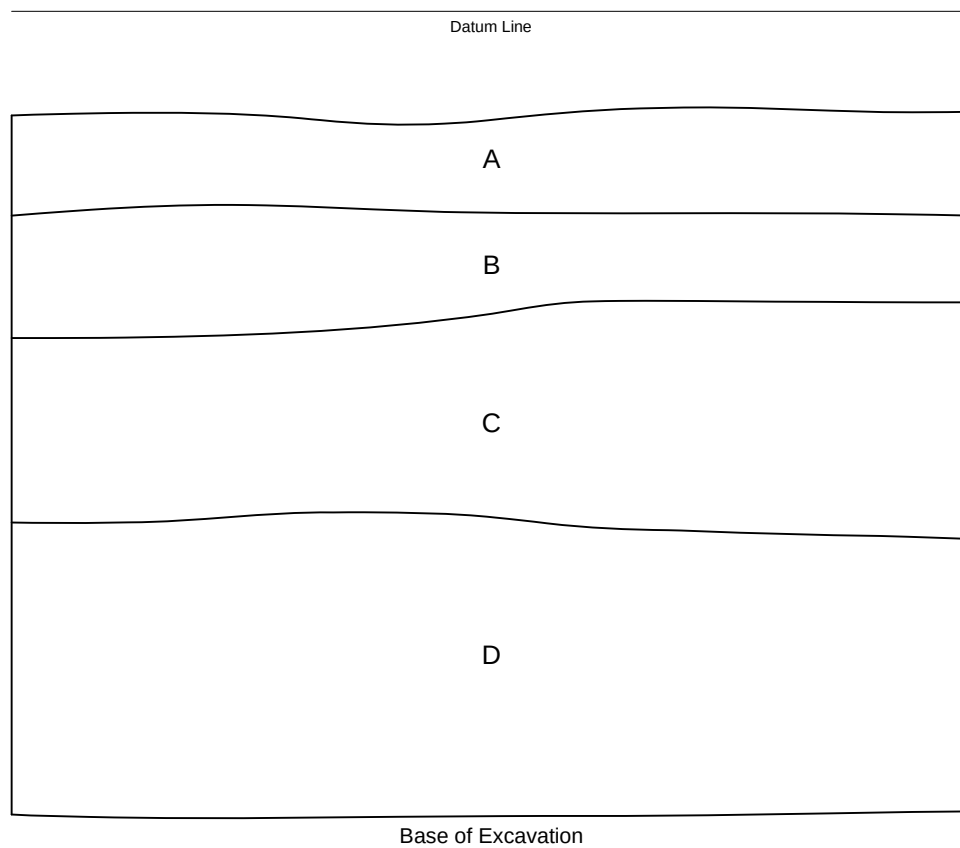
The stratigraphy of the site generally consists of a humic layer (Ao/A-horizon) above a plowzone (Ap-horizon), underlain by a sandy Bw-horizon and a sandy C-horizon. The humic layer, excavated as Stratum A, is a very dark gray loamy sand approximately 10 centimeters thick. The plowzone (excavated as Stratum B) is brown loamy sand extending to approximately 22 centimeters below ground surface (bgs). The Bw-horizon is a yellowish brown to strong brown medium-coarse sand extending from approximately 22 to 44 centimeters bgs. At approximately 44 centimeters bgs the subsoil transitions to a pale yellow coarse sand (C-horizon). Based on auger tests, the C-horizon was terminated at gravels at 220 to 240 centimeters bgs. The soil column has no apparent discontinuities and is interpreted as a landform that has been rather stable over course of the Holocene. There was no evidence of alluvial or aeolian accretion of the landform, or of truncation or severe deflation of the landform. The plowzone is somewhat thin (approximately 14 centimeters), suggesting either shallow plowing, such as from a pre-modern plow, or some erosional loss. A view of the profile of Test Unit 1, which is generally representative of the site, is shown in Figures 5 and 6.

Some variations in the stratigraphy include the presence of a transitional horizon between the Bw- and C-horizons (a BC-horizon) found in Test Unit 4. Also, lamellae bands were observed in the C-horizon in Test Unit 6; they were not found elsewhere on the site. Lamellae are illuviated clay bands, commonly encountered in weathered sandy soils, which can indicate Pleistocene-age sedimentary deposition (Dijkerman et al. 1967; Schaetzl 2001).

The Phase I survey report described the site stratigraphy as having fill or a shallow topsoil above a truncated alluvial sediment (Versar, Inc. 2008:55). The sediment was thought to be truncated because the transition from the solum (fill or topsoil) to the subsoil was perceived as abrupt (Versar, Inc. 2008:55). Additional supporting evidence included possible push-piles in the brush along the stream, and that the trees on the site were observed to have signs of past trauma.

Evidence from the Phase II investigation suggests that there was very limited (not widespread) earth-moving at the site. There are some anomalous hummocks in the brush along Huskey Brook that appear to represent dumping episodes or dredge spoil. The trees on the site, however, seem generally upright, with normal growth and not scarred (Figure 7). There are some isolated deformed trees (see far left of Figure 6, where a deformed tree can be seen along an underground gas line). Subsurface testing during the Phase II revealed ground disturbance in the middle portion of the site, surrounding Shovel Test A-13. Some fill and minor ground disturbance were also noted in the eastern locus; fill was observed above subsoil in Test Unit 5.

Test Unit 1
North Wall Profile



Legend

- A Very dark gray (10YR 3/1) loamy sand with <1% gravel; A-horizon
- B Brown (10YR 4/3) loamy sand with 1-5% gravel; Ap-horizon
- C Yellowish brown (10YR 5/6) medium sand with 1-5% gravel; Bw-horizon
- D Pale yellow (2.5Y 7/4) loose coarse sand with <1% gravel; C-horizon

0 10 20 cm

FIGURE 5: North Profile of Test Unit 1



FIGURE 6: View of North Profile of Test Unit 1



FIGURE 7: View of Tree Growth at Site 28MO386

The Phase I report states that the sediments are well-sorted alluvium, i.e., there are coarse sands at the base of the sedimentary package fining upward (finer sands found at the top) (Versar, Inc. 2008:54-55). This interpretation was supported by the Phase II stratigraphic data; however, the alluvium appears to be a single sedimentary package that is quite old, probably dating to a point in the Pleistocene. The stratigraphy matches that of the mapped Cape May Formation, a Pleistocene-age fluvial/estuarine sediment (MacClintock 1943; Stanford 2000). Holocene alluvium may be present closer to the channel of Huskey Brook.

Artifacts at the site were principally recovered from the plowzone, and natural processes (bioturbation) appear to have moved some artifacts downward in the profile. Of the 448 prehistoric artifacts recovered from the site, 300 (67 percent) were recovered from the humus and plowzone strata (A- and Ap-horizons). The subsoil (Bw-, BC-, and C-horizons) yielded 146 artifacts (33 percent), and two artifacts (less than 1 percent) were recovered from fill deposits. Artifact recovery from Test Unit 1 is representative of the site; the recovery is summarized by excavation level in Figure 8. The progressive decline in counts by depth observed in Test Unit 1 and elsewhere at the site is what would be expected when artifacts are deposited on a very stable, sandy landform, followed by an extended period of time.

No features were identified in the testing.

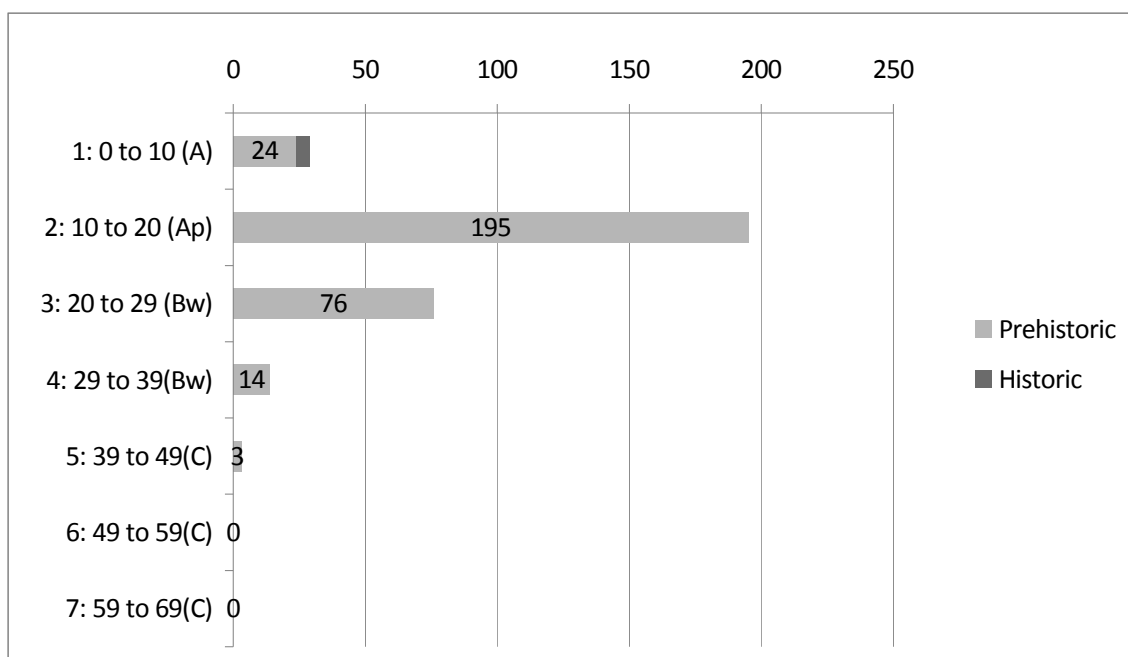


FIGURE 8. Artifact Recovery by Soil Horizon and Level, Test Unit 1 (depths shown in centimeters below ground surface)

OVERVIEW OF ARTIFACT ASSEMBLAGE

A total of 500 artifacts was recovered in the Phase II testing, 448 prehistoric and 52 historic. The artifacts include an Orient Fishtail projectile point (diagnostic of the Late Archaic period) (Figure 9), a triangular point (probably Late Woodland), and 37 prehistoric ceramic sherds. The ceramics include fabric-impressed and incised surface treatments, and either

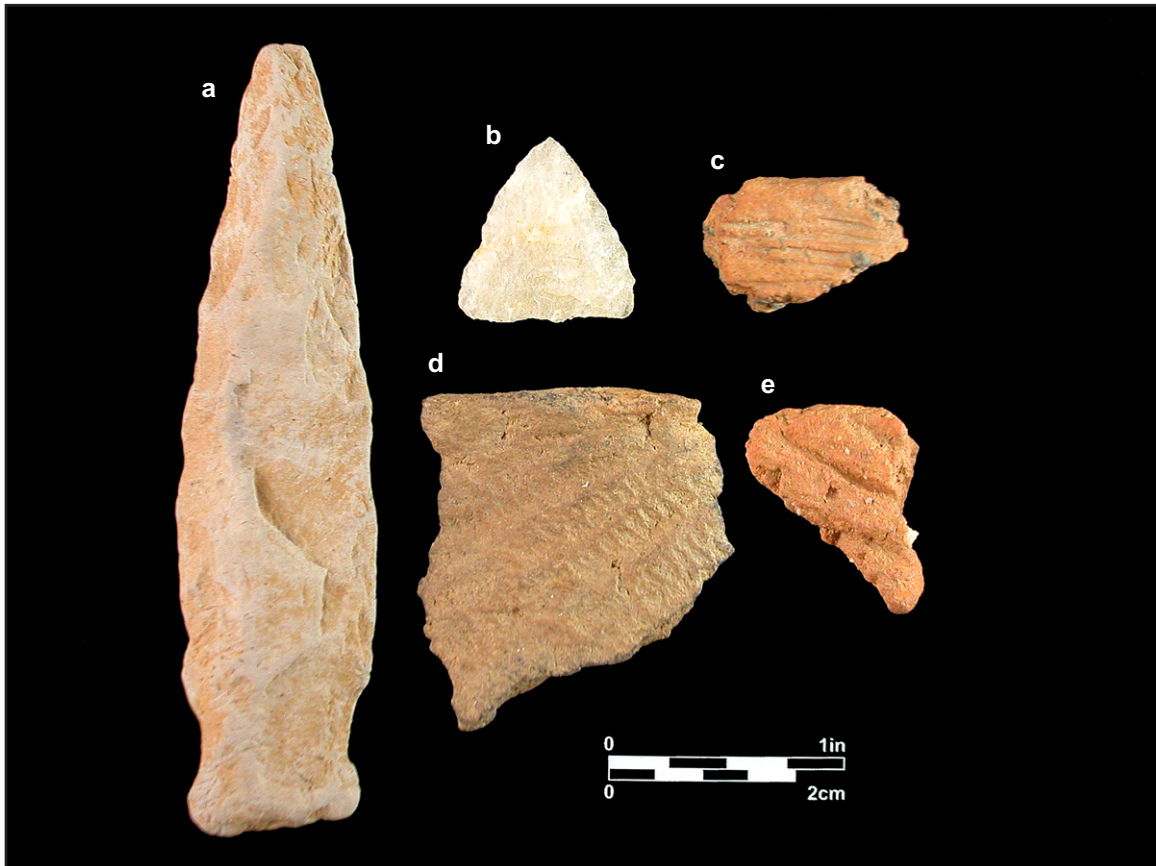


FIGURE 9: Selected Artifacts, Site 28MO386

- a) Orient Fishtail Projectile Point (Field No. 129-1, Test Unit 4)
- b) Triangular Projectile Point (Field No. 104-1, Shovel Test A-3)
- c) Prehistoric Pottery, Possible Bowmans Brook (Field No. 104-8, Shovel Test A-3)
- d) Prehistoric Pottery, Possible Riggins Ware (Field No. 104-7, Shovel Test A-3)
- e) Prehistoric Pottery, Possible Indian Head Incised (Field No. 122-5, Test Unit 2)

grit or fine quartz temper. Some of the fabric-impressed ceramics are thought to be Riggins ware, and the incised ceramics may be Indian Head Incised or Bowmans Brook. All three ware types are relatively common on the Coastal Plain and are diagnostic of the Late Woodland period. Ware attributions are largely tentative because of the small size of the recovered potsherds and the lack of rimsherds. The historic artifact assemblage consists of late nineteenth- to twentieth-century bottle glass and other materials casually discarded on the site.

The prehistoric artifacts at Site 28MO386 were found to be heavily concentrated at the western end of the site. Phase I testing conducted in 2007 identified two clusters of prehistoric activity, eastern and western, with the two loci separated by approximately 75 meters. The Phase II results confirmed the two clusters as spatially distinct. Of the 448 prehistoric artifacts recovered in the Phase II, 444 were found in the western locus, three were recovered in the testing of the eastern locus, and one artifact was found between the two loci.

Lithic materials worked at the site were principally chert and jasper. Of the 377 pieces of chipped stone recovered (debitage, bifaces, and projectile points), 187 (49.6 percent) are chert and 169 (44.8 percent) are jasper. The chert and jasper assemblage includes a small amount of early-stage debitage (decortication and early reduction flakes) (N=11), and a greater proportion of later-stage debitage (biface reduction flakes and finishing flakes) (N=217). A broken and reworked projectile point (indeterminate type) of jasper was recovered, as was a jasper biface. No bifaces or finished tools of chert were recovered.

Argillite, quartz, and rhyolite constitute the minority of the chipped stone assemblage. Argillite chipped stone artifacts consist of 11 items: a middle-stage biface, an Orient fishtail projectile point, and nine flake fragments. Quartz chipped stone artifacts include a triangular projectile point, three finishing flakes, and four flake fragments. Rhyolite artifacts, the smallest part of the lithic assemblage, were limited to two flake fragments.

SITE STRUCTURE

Western Locus

The western locus of the site was tested through the excavation of 23 shovel tests and six test units. Eight shovel tests contained prehistoric cultural material (A-1, A-3, A-6, B-1, B-2, B-3, B-5, and E-1). All of the test units yielded prehistoric artifacts. The recovered artifacts include untyped, small pieces of prehistoric pottery, as well as fabric-impressed pottery and incised pottery. The fabric-impressed ware is thought to be Riggins (McCann 1950), also known as Ware Type VIIIb in Stewart's typology (Stewart 1998). The incised ware includes possible Indian Head Incised (McCann 1950) (Ware Type XVb in Stewart's [1998] typology) and possible Bowmans Brook (Ware Type XIIA [Stewart 1998], but with quartz temper). Both ware types are diagnostic of the Late Woodland period. Potsherds were recovered from four shovel tests (A-1, A-3, B-1, and B-5) and four test units (1, 2, 3, and 7) within the locus. A triangular point was also recovered from the shovel testing in Shovel Test A-3. No features were identified in any of the testing at the western locus.

A total of 444 prehistoric artifacts was recovered from the western locus (Table 2).

Table 2: Prehistoric Artifacts from Western Locus

ARTIFACT TYPE	COUNT
<i>Bifaces</i>	
Projectile point, fragment, untyped	1
Projectile point, Orient Fishtail	1
Projectile point, triangular	1
Biface, middle stage	1
Biface, indeterminate stage	1
<i>Debitage</i>	
Flake, decortication	3
Flake, early reduction	8
Flake, biface reduction	76
Flake, finishing	141
Flake fragment	137
Shatter	4
<i>Other Lithics</i>	
Fire-cracked rock	30
Steatite fragment	2
Cobble, possibly heated	1
<i>Ceramics</i>	
Unknown type, small crumb	32
Possible Bowmans Brook Incised	2
Possible Indian Head Incised	1
Possible Riggins Fabric-Imprinted	2
TOTAL	444

The center of activity at the locus was at or near Test Unit 1. Test Unit 1 yielded 312 prehistoric artifacts in all, including 301 pieces of debitage. The debitage is principally late stage (biface reduction flakes and thinning flakes), indicating either tool finishing or refurbishment. Artifact counts generally decreased with distance from the Test Unit 1, although pottery counts were also high close to Shovel Test A-1.

Test Unit 1 was excavated just north of Shovel Test A-3, a shovel test that yielded five potsherds, six pieces of debitage, and a triangular projectile point. The stratigraphy of Test Unit 1 (reviewed above) followed the general site stratigraphy with humus (A/Ao-horizon) above a plowzone (Ap-horizon), followed by subsoil (Bw and C-horizons). As reviewed above, artifacts were recovered principally from the plowzone but also from below the plowzone. A total of 312 prehistoric artifacts was recovered from the unit, principally debitage (N=301), followed by untyped ceramics (N=10), and a biface (indeterminate stage). Five pieces of glass constitute the historic assemblage. Some tree root disturbance was noted in the test unit, particularly in the plowzone stratum (Ap-horizon).

A summary of the recovery by lithic material type is shown in Table 3. The few early-stage pieces of debitage are chert, indicating that some chert was brought to the site in a fairly rough form. The jasper assemblage is suggestive of tool finishing, and the recovered biface may be a rejected piece from an episode of jasper reduction. The quartz assemblage is quite small, but it

Table 3: Lithic Materials, Test Unit 1

LITHIC MATERIAL	CHERT	JASPER	QUARTZ	QUARTZITE	TOTAL
<i>Bifaces</i>					
Biface, indeterminate stage	.	1	.	.	1
<i>Debitage</i>					
Flake, decortication	1	.	.	.	1
Flake, early reduction	5	.	.	.	5
Flake, biface reduction	23	33	.	.	56
Flake, finishing	68	60	1	.	129
Flake fragment	42	56	2	.	100
Shatter	3	1	.	.	4
<i>Other</i>					
Fire-cracked rock	.	.	3	3	6

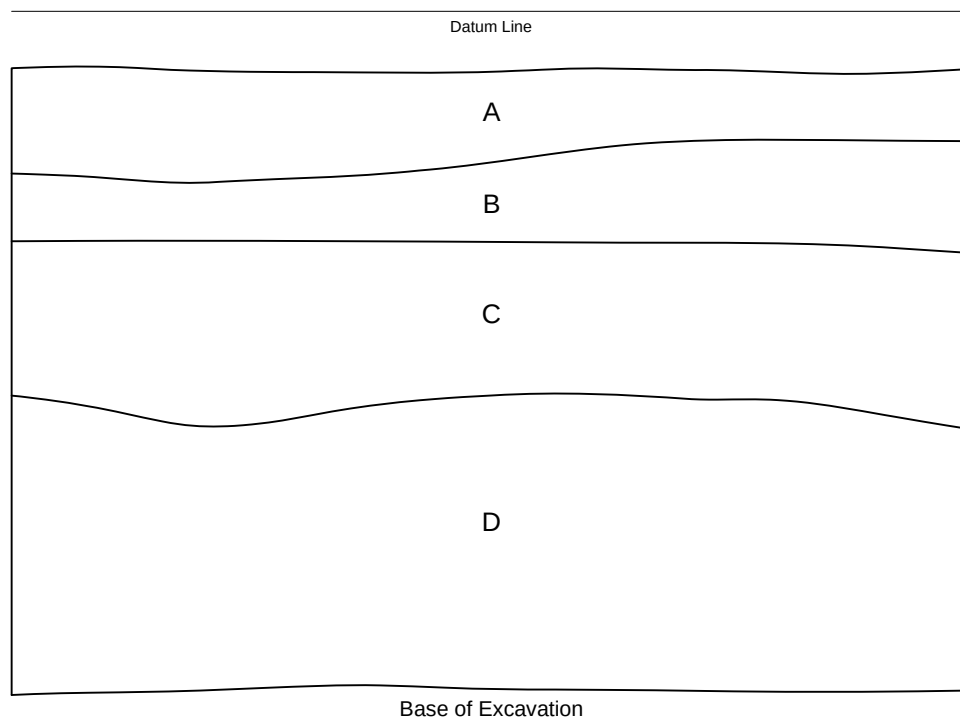
suggests tool resharpening or refurbishment, and a quartz triangle point was recovered nearby from Shovel Test A-3.

Test Unit 2 was excavated between Shovel Tests A-1 and B-1, two shovel tests that yielded prehistoric pottery. The stratigraphy of Test Unit 2 followed the general site stratigraphy (Figure 10). Artifacts recovered from the test unit include 16 historic artifacts recovered from the humus and two historic artifacts recovered from the plowzone. A total of 12 prehistoric artifacts was recovered from Test Unit 2. The plowzone yielded four pieces of fire-cracked rock, two pieces ofdebitage, and a piece of incised pottery, possibly Indian Head Incised ware. Four additional pieces of fire-cracked rock were found in the Bw-horizon in addition to a piece ofdebitage. Charcoal was not observed in the test unit; however, the fire-cracked rock in the unit suggests that cooking (hot rock boiling) took place in the unit vicinity.

Test Unit 3 was excavated north of Shovel Test B-5, in the northern portion of the activity area. Shovel Test B-5 had yielded three pieces of prehistoric pottery and two pieces ofdebitage. Test Unit 3 had a particularly thin plowzone, approximately 9 centimeters, but otherwise followed the general site stratigraphy (Figure 11). A total of four prehistoric artifacts was recovered from Test Unit 3. No artifacts were recovered from the excavation of the humus. Three prehistoric artifacts were recovered from the underlying plowzone (twodebitage and one fire-cracked rock). The sub-plowzone excavation levels yielded one piece ofdebitage.

Test Unit 4 was excavated just south of Shovel Test A-6, which had yielded seven pieces ofdebitage. The stratigraphy of Test Unit 4 diverged slightly from the general site stratigraphy (Figure 12). Test Unit 4 had humus and plowzone strata of average thicknesses, followed by a Bw-horizon. A transitional horizon (BC-horizon) was observed between the Bw- and the C-horizons. The BC-horizon was approximately 10 centimeters thick and lay between 23 and 33 centimeters bgs. A total of 60 prehistoric artifacts was recovered from Test Unit 4. One piece ofdebitage was recovered from the humic layer. The plowzone yielded 28 artifacts, consisting of one fragment of a projectile point (untyped, broken, and reworked) (Figure 13), 25 pieces ofdebitage, and two pieces ofdebitage. A total of 26 artifacts was recovered from the Bw-horizon, consisting of a projectile point (Orient Fishtail) (see Figure 9), 17 pieces ofdebitage, and eight pieces of fire-cracked rock. The BC-horizon yielded five artifacts: a biface reduction flake, three pieces of fire-cracked rock, and a cobble, possibly heated. Three artifacts were recovered from

Test Unit 2 North Wall Profile



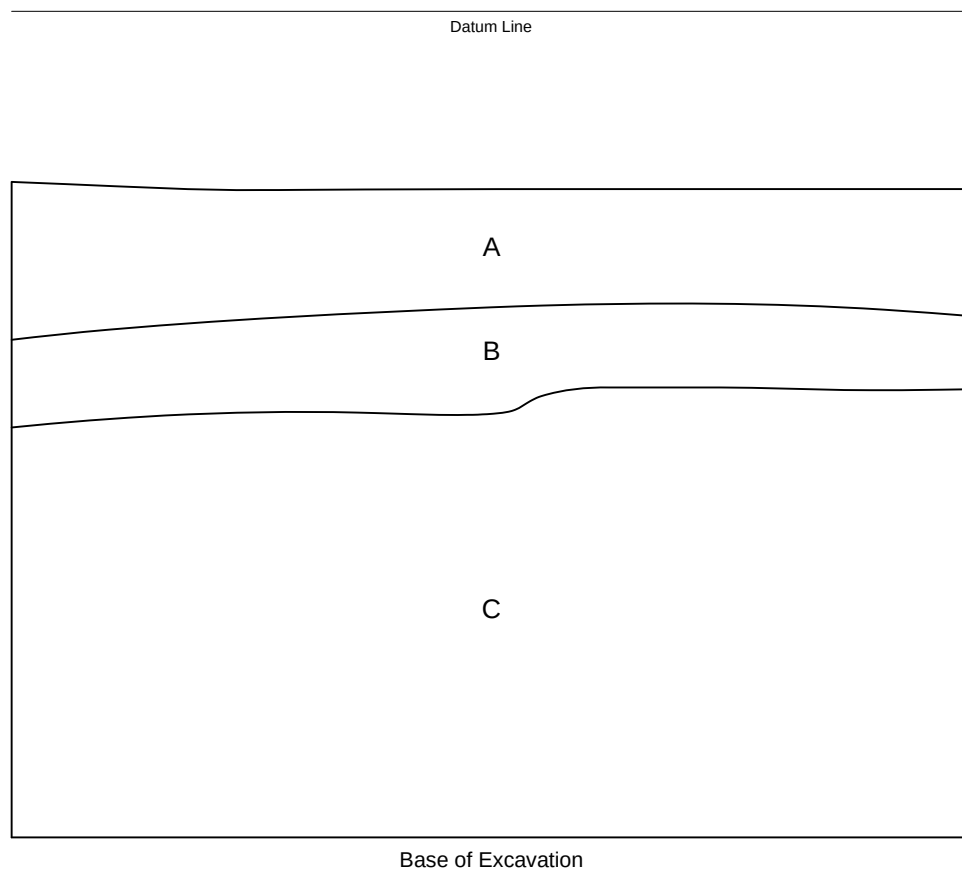
Legend

- A Very dark gray (10YR 3/1) loamy sand with <1% gravel; A-horizon
- B Brown (10YR 4/3) loamy sand with <1% gravel; Ap-horizon
- C Yellowish brown (10YR 5/6) medium sand with 1-5% gravel; Bw-horizon
- D Pale yellow (2.5Y 7/4) loose coarse sand with <1% gravel; C-horizon

0 10 20 cm

FIGURE 10: North Profile of Test Unit 2

Test Unit 3
North Wall Profile



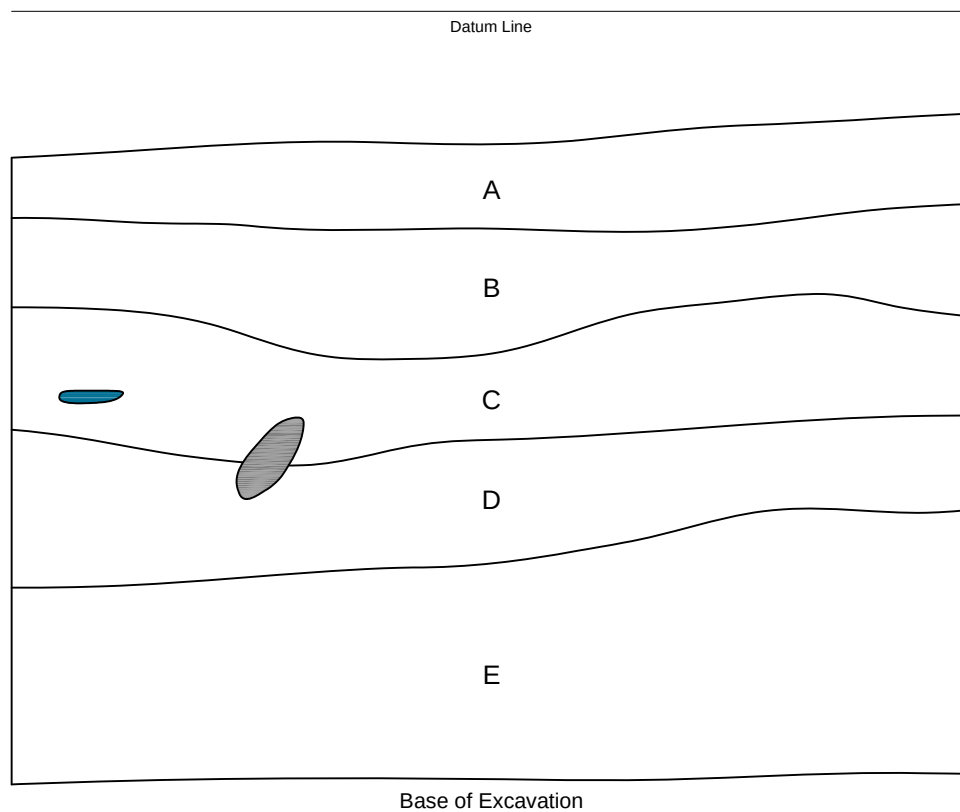
Legend

- A Very dark grayish brown (10YR 3/2) sandy loam; A-horizon
- B Olive brown (2.5Y 4/3) sandy loam; Ap-horizon
- C Olive (5Y 5/4) sand; Bw-horizon

0 10 20 cm

FIGURE 11: North Profile of Test Unit 3

Test Unit 4 East Wall Profile



Legend

- A Very dark grayish brown (10YR 3/2) sand; humus
- B Brown (10YR 4/3) sandy loam; Ap-horizon
- C Strong brown (7.5YR 4/6) medium sand; Bw-horizon
- D Brownish yellow (10YR 6/8) medium sand; BC-horizon
- E Yellowish brown (10YR 5/8) medium sand; C-horizon
-  Argillite
-  Fire cracked rock

0 10 20 cm

FIGURE 12: North Profile of Test Unit 4

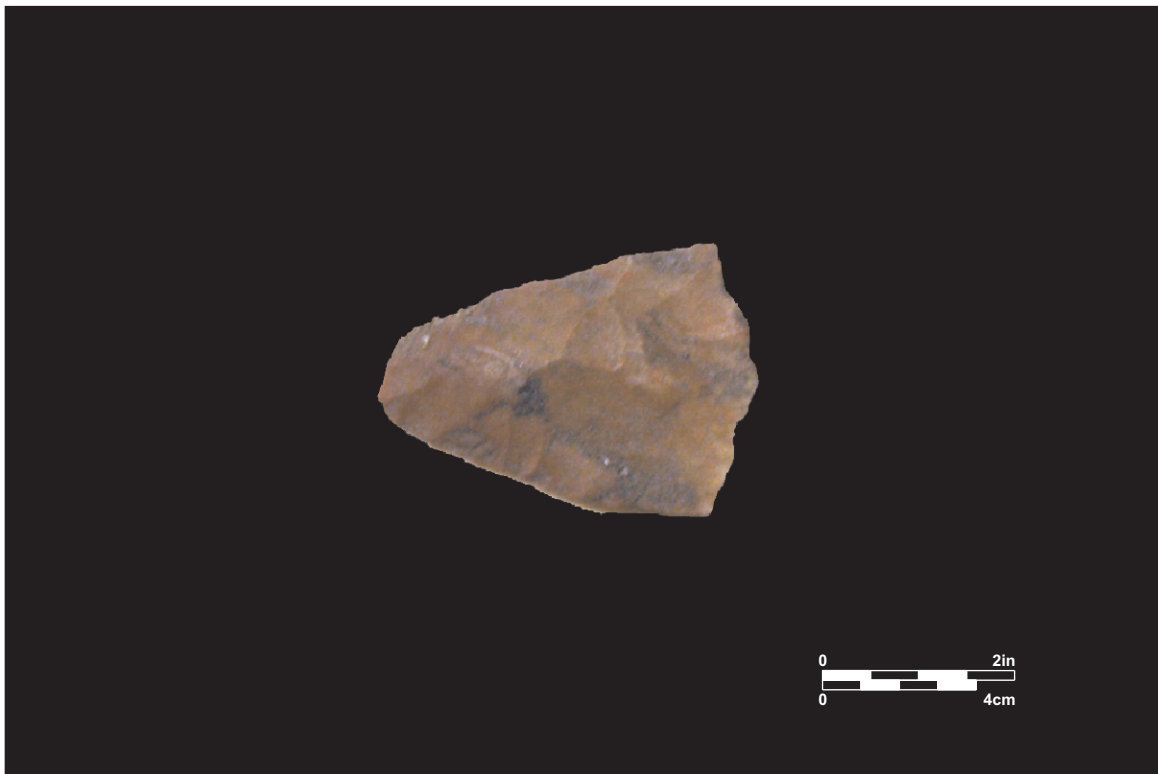


FIGURE 13: Projectile Point Fragment (Field No. 128-1, Test Unit 4)

the basal C-horizon, two pieces of fire-cracked rock and a piece of debitage. The vertical distribution of artifacts is generally similar to what was observed in Test Unit 1 and elsewhere at the site, with a slightly higher proportion of the assemblage recovered from sub-plowzone strata (52 percent of unit total).

The lithic materials in Test Unit 4 are intriguing (Table 4). Argillite is not widespread at the site, but at least one episode of argillite reduction occurred in the area of Test Unit 4, and the debitage may be directly associated with the recovered Orient Fishtail point. Similarly, jasper biface reduction is documented in Test Unit 4, and a broken and reworked jasper projectile point was recovered. The chert debitage is also from late-stage reduction and may be associated with tool refurbishment or finishing. The lithic reduction may have occurred during the Late Archaic period, given the recovery of the Orient Fishtail point, but it is more likely a palimpsest of Late Archaic and Late Woodland occupations of the landform.

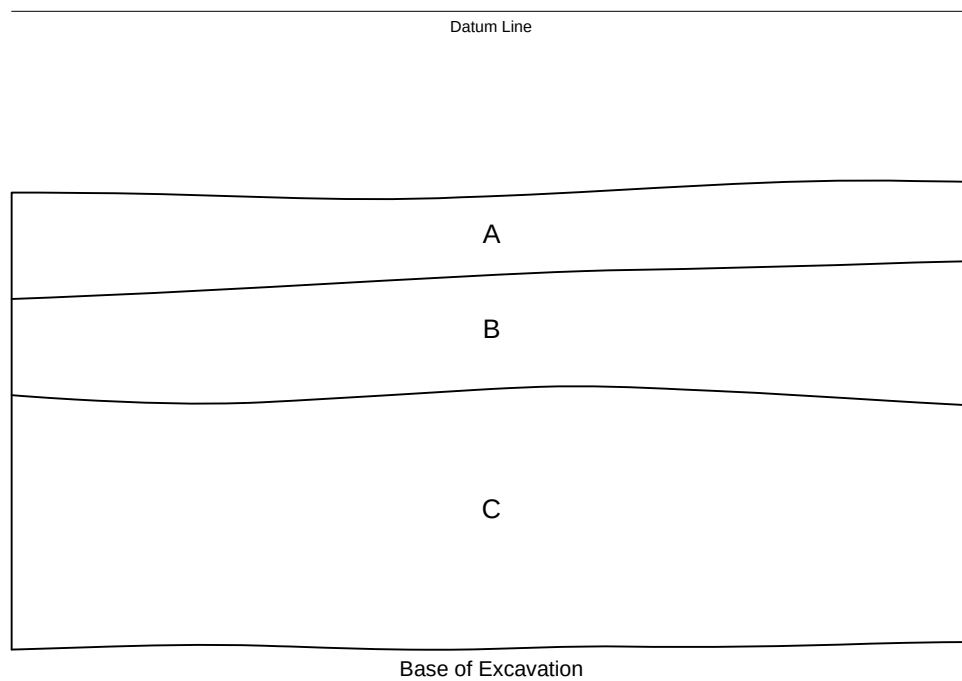
Table 4: Lithic Materials, Test Unit 4

LITHIC MATERIAL	ARGILLITE	CHERT	JASPER	QUARTZITE	TOTAL
<i>Bifaces</i>					
Projectile Point, untyped	.	.	1	.	1
Projectile Point, Orient Fishtail	1	.	.	.	1
<i>Debitage</i>					
Flake, early reduction	.	.	1	.	1
Flake, biface reduction	.	7	4	.	11
Flake, finishing	.	4	2	.	6
Flake fragment	8	10	8	.	26
<i>Other</i>					
Fire cracked rock	.	.	.	12	12
Cobble, possibly heated	.	.	.	1	1

Test Unit 6 was excavated part-way between Transects A and B on the eastern side of the locus. The stratigraphy of the test unit followed the general site stratigraphy, albeit with a thin plowzone (approximately 9 centimeters) (Figure 14). The plowzone was excavated with the humus as Stratum A. No artifacts were recovered from Stratum A. The Bw-horizon (Stratum B) yielded four prehistoric artifacts: three pieces of debitage and a middle-stage biface (Figure 15). The debitage is chert and the biface is argillite. The lithic assemblage is generally similar to that seen nearby in Test Unit 4, but with lower artifact counts in Test Unit 6. Test Unit 6 appears to be within a lithic reduction activity area, with chert and argillite being worked, perhaps associated with a Late Archaic occupation. Lamellae bands were observed in the C-horizon of the unit, but these are geomorphological features and were observed well below the four recovered artifacts.

Test Unit 7 was excavated south of Shovel Test A-1, in the southwestern portion of the activity area and the site. The stratigraphy of the unit followed the general site stratigraphy with humus (A/Ao-horizon) above a plowzone (Ap-horizon), followed by subsoil (Bw- and C-horizons) (Figure 16). A pipe trench was encountered in the southeastern corner of the unit, extending to a depth of approximately 40 centimeters bgs, and containing a PVC pipe. Root disturbance was also noted in the unit. The humus contained four historic artifacts (unidentified glass and a screw-top lid). The plowzone yielded one prehistoric a piece of prehistoric pottery; it is quartz-tempered and may be Bowmans Brook ware. No other artifacts were recovered from the

Test Unit 6
East Wall Profile



Legend

- A Very dark grayish brown (10YR 3/2) silt loam; A/Ap-horizon
- B Brownish yellow (10YR 6/6) sand; Bw-horizon
- C Light olive brown (2.5Y 5/6) sand with lamellae bands; C-horizon

0 10 20 cm

FIGURE 14: East Profile of Test Unit 6



FIGURE 15: Middle-stage Biface from Test Unit 6

The diagram shows a cross-section of a soil profile. The top boundary is labeled "Datum Line" and the bottom boundary is labeled "Base of Excavation". The profile is divided into four horizontal layers labeled A, B, C, and D from top to bottom. Layer A is the thickest, followed by B, C, and D. To the right of the main profile, there is a vertical section labeled E, which contains a red circular feature and a hatched area at the bottom.

A	Very dark grayish brown (10YR 3/2) sandy loam with 1-5% gravel; A-horizon
B	Brown (10YR 4/3) loamy sand with 1-5% gravel; Ap-horizon
C	Brownish yellow (10YR 6/6) medium sand with 1-5% gravel; Bw-horizon
D	Olive yellow (2.5Y 6/6) medium sand with 1-5% gravel; C-horizon
E	Very dark grayish brown (10YR 3/2) sandy loam with 1-5% gravel; Pipe trench

-

39

plowzone. The Bw-horizon yielded two pieces of fire-cracked rock and two pieces of bone. The bone fragments are small and in poor condition; it is not known if they are non-cultural or if they are associated with the prehistoric occupation of Site 28MO386.

Eastern Locus

The eastern locus of the site was tested through the excavation of 15 shovel tests and one test unit. Three prehistoric artifacts were recovered: two flake fragments (one from Shovel Test D-1 and one from Shovel Test D-4), and a piece of fire-cracked rock (from Test Unit 5). Other excavations were culturally sterile. Stratigraphy in the eastern locus was generally consistent with soils in the western portion of the site, although modern fill was noted in the upper profile of two shovel tests (A-19 and A-21) and in Test Unit 5. A number of the excavations also noted variations in color and texture within the Bw-horizon and split the Bw-horizon into two strata (Bw1 and Bw2).

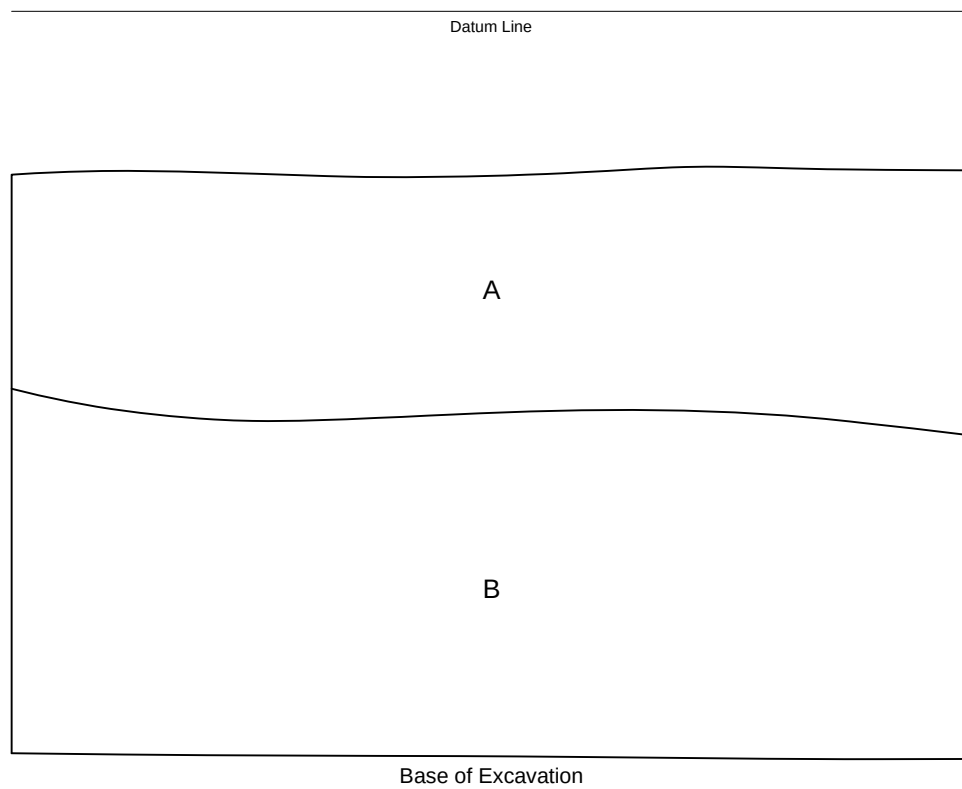
Test Unit 5 was excavated northeast of Shovel Test D-1, in the middle of the locus based on the Phase I testing. The stratigraphy of the unit consisted of dark grayish brown fill above the Bw-horizon (Figures 17 and 18). The fill extended to approximately 27 centimeters bgs, and the Bw-horizon extended to 60 centimeters bgs. The fill horizon yielded a fire-cracked rock in addition to 19 historic artifacts. The historic artifacts include a metal nut, 11 pieces of glass, a glass button, wire, a screw, and three wire nails. Coal, slag, and asphalt were found in the fill matrix and were not collected. The Bw-horizon in Test Unit 5 did not contain any artifacts. The excavation terminated at 60 centimeters bgs, at the top of the C-horizon, a strong brown sand.

Middle Portion of Site

The middle portion of the site was tested through the excavation of 11 shovel tests. As previously mentioned, ground disturbance was noted in this portion of the site. Fill was documented in Shovel Tests A-13, A-14, A-15, A-17, F-1, F-2, and F-3. The fill was as deep as 60 centimeters bgs (seen in Shovel Test A-13), but was generally approximately 20 centimeters thick, where present. The area of fill appears to have been cut and then filled; preserved A-horizon soils were not found underneath the fill deposits.

Modern cultural materials were observed in the fill and not collected, mostly coal but also slag, plastic, and unidentified metal. Shovel Test A-13 yielded one prehistoric artifact: a piece of debitage found in the fill deposit. Glass was recovered from the same shovel test from a lower stratum of fill.

Test Unit 5
East Wall Profile



Legend

- A Dark grayish brown (10YR 4/2) loamy sand with 1-5% gravel; fill and A-horizon
- B Yellowish brown (10YR 5/8) medium grained sand with 1-5% gravel; Bw-horizon

0 10 20 cm

FIGURE 17: East Profile of Test Unit 5



FIGURE 18: View of East Profile of Test Unit 5

V. DISCUSSION AND EVALUATION

Prehistoric Site 28MO386 was initially identified as part of a large-scale survey of Fort Monmouth (Versar, Inc. 2008). The site was defined as an approximately 0.6-acre (just over 2,400-square-meter) area along Huskey Brook of unknown age and function. During the Phase I, 54 shovel tests were excavated in the site area and seven prehistoric artifacts were recovered. The Phase II investigation of the site aimed to determine the site's research potential and state of integrity, and therefore the site's eligibility for listing in the National Register of Historic Places. To that end, Berger excavated 50 shovel tests and seven test units across the site. As stipulated in the 2009 PA between the U.S. Army and the NJHPO, the Phase II methods included closer interval shovel tests and the excavation of larger excavation units.

A total of 448 prehistoric artifacts was recovered in the Phase II investigation, including fabric-impressed pottery (possibly Riggins ware), and incised pottery (possibly Indian Head Incised and Bowmans Brook ware types). Riggins, Indian Head Incised, and Bowmans Brook are all Late Woodland wares (AD 1000 to 1607). Also recovered were a triangular point, also probably Late Woodland, and an Orient Fishtail projectile point, indicative of the Late Archaic period (3000 to 1200 BC) occupation of the site. These two occupations correspond to the time when tidal estuaries stabilized and Native American groups began intensive harvesting of shellfish (circa 2500 BC), and the time when Indian villages and hamlets began to form (circa 1000 AD). Navesink Indians, part of the Lenni Lenape, are the tribe historically associated with this part of the state.

The occupations may represent seasonal encampments associated with resource procurement, perhaps from Huskey Brook or from nearby wetlands. The site assemblage is consistent with an encampment, with tool refurbishment or production taking place in addition to cooking. The Phase I assemblage was small (N=7) and limited to cortical flakes (N=2), representing an early stage in reduction, and non-cortical flakes and flake fragments (N=5), perhaps from later stages in lithic reduction. Argillite, chert, jasper, and quartz materials were present in the Phase I assemblage.

The Phase II investigation yielded numerous pieces of chipped stone (N=377), including discarded projectile points and point fragments (N=3), bifaces (N=2), early-stage debitage (N=11), and later-stage debitage (N=217). The lithic material types recovered were the same as the Phase I (argillite, chert, jasper, and quartz), with the addition of trace quantities of rhyolite (N=2). The Phase II assemblage was overwhelmingly chert (N=187, 49.6 percent) and jasper (N=169, 44.8 percent). Biface reduction flakes were present in the assemblage (N=76), attesting to biface reduction at the site. No evidence of bipolar reduction was found. The chipped stone assemblage on the whole suggests that the site inhabitants procured, either directly or indirectly, bifacial "blanks" of chert and jasper, with minimal cortex present, and then reduced these materials on-site through an entire sequence of biface reduction. Other lithic materials, such as argillite and quartz, may have been worked on-site principally for toolkit refurbishment. It should be noted that jasper, argillite, and rhyolite have very limited geographic distributions in the Middle Atlantic region, were traded widely, and do not have sources near Monmouth County (Custer 1989; Stewart 1989; Wall et al. 1996b:3). Chert and quartz, in contrast, are local to Monmouth County (Pagoulatos 2001:34). The non-local lithic materials suggest that site inhabitants were participating in regional exchange networks.

Artifacts at Site 28MO386 were principally recovered from a relatively thin plowzone. Although a number of artifacts (N=148; 33 percent) were recovered below the plowzone, these finds appear to have moved downward in the profile because of natural processes (bioturbation). No subsurface features were identified at the site. Fill was documented in isolated areas of the site, principally in the middle and eastern portions.

Ground disturbance was documented in several shovel tests in the middle portion of the site but was not found elsewhere in the testing. The integrity of the site therefore varies. The western portion of the site, where the bulk of the artifacts were recovered, has moderately high integrity. The western locus has been plowed but has no signs of fill and has an intact soil column. Although no features were identified in the Phase I or II investigations, there remains potential for feature preservation (probably posts or pits) in the stratum underlying the plowzone. The seasonal encampments may have included post-in-ground structures, and postmolds may be present. Similarly, food storage and refuse disposal took place on longer-term encampments and may have involved the excavation of pits; pits may be present at the site and may yield important information on site activities.

It is recommended that the site be determined eligible for listing in the National Register. Berger believes that the site has yielded and is likely to yield information important to prehistory (National Register Criterion D). The site has research potential related to local prehistory in the Late Archaic and Late Woodland periods. In particular, the site occupants were engaged in a range of lithic reduction activities at the site using both local and non-local materials; the lithic exploitation is of state and local interest and may help refine regional models. The significant deposits at the site are limited to the western locus (Figure 19), which is 0.3 acre in size (1,200 square meters), and this should be considered the site area for mitigation purposes.

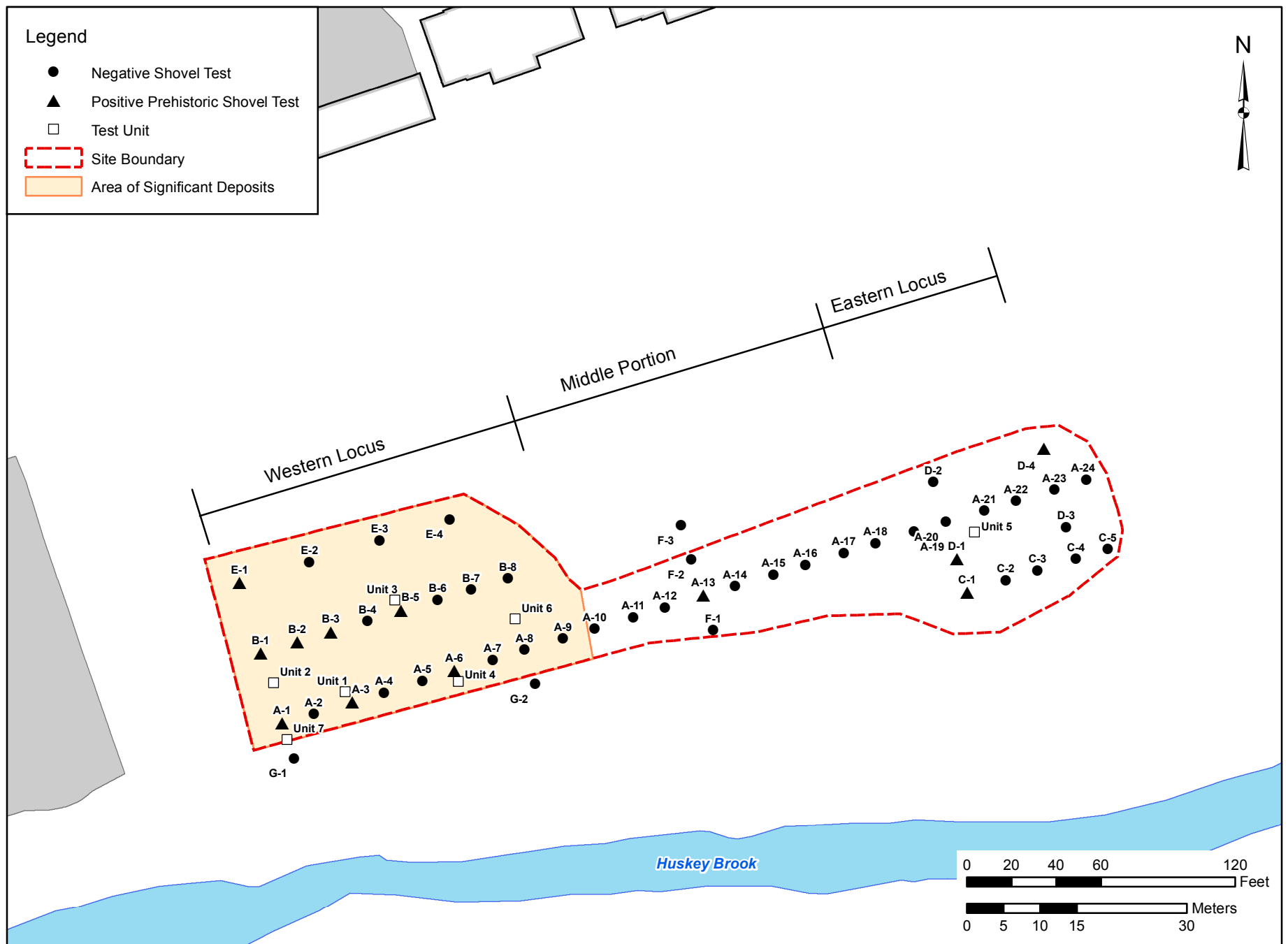


FIGURE 19: Extent of Significant Deposits, Site 28MO386

SOURCE: Fort Monmouth Master Planning 2010

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APPENDIX A

QUALIFICATIONS OF INVESTIGATORS

QUALIFICATIONS OF THE INVESTIGATORS

The qualifications of the supervisory staff for this study meet the Secretary of the Interior's Professional Qualification Standards (48 *Federal Register* 44738–9; 36 CFR Part 61, Appendix A).

GREGORY KATZ, PRINCIPAL INVESTIGATOR

M.A. Anthropology, Temple University, 2000

B.A. Anthropology, University of Virginia, 1993

Accredited by the Register of Professional Archaeologists (RPA)

Mr. Katz is an Archaeologist with The Louis Berger Group, Inc., and served as the Principal Investigator for this project. He is accredited by the Register of Professional Archaeologists (RPA) and has more than 15 years of experience conducting archaeological investigations in the Middle Atlantic region. He has supervised numerous archaeological studies (Phase I, II, and III) in urban and rural settings and has worked as a cultural resource manager/reviewer for the Maryland State Highway Department. His research interests include prehistoric lithic technologies, geoarchaeology, and the archaeology of slavery.

DELLAND GOULD, FIELD DIRECTOR

M.S. Candidate, Geoscience, University of Iowa (in progress). Thesis subject: Holocene Alluvial Stratigraphy and Geoarchaeology of the Esopus Creek Valley, Ulster County, New York

B.A. Sociology and Anthropology, West Virginia University, 1994

As a Field Director Mr. Gould is responsible for project planning, archaeological survey, testing, and data recovery efforts involving historic, prehistoric, and urban resources, and the preparation of technical reports. He has more than 19 years of field experience and has contributed to projects in over 20 states, including the Northeast, Middle Atlantic, Southeast, Midwest, Southwest, Great Plains, and Great Basin regions. His research interests include geomorphology, site formation processes, and artifact analysis.

APPENDIX B

METHODS OF ARTIFACT CATALOGING AND ANALYSIS
UTILIZED CODES
ARTIFACT INVENTORY

METHODS OF ARTIFACT CATALOGING AND ANALYSIS

A. LABORATORY PROCESSING

All artifacts were transported from the field to Berger's laboratory. In the field, artifacts were bagged in 4-mil, resealable polyethylene bags. Artifact cards bearing provenience information were included in the plastic bags. A Field Number was assigned to each unique provenience in the field. This number appears with all the provenience information and is used throughout processing and analysis to track artifacts.

In the laboratory, provenience information on each artifact card was checked against a master list of Field Numbers with their proveniences. Any discrepancies were corrected at that time, and a Catalog Number was assigned to each provenience, according to New Jersey State Museum guidelines.

Prehistoric lithics and most historic artifacts were washed in water with a soft toothbrush. Prehistoric ceramics, faunal material, and fragile artifacts were wet-brushed with a soft natural-bristle paintbrush or were simply dry-brushed. Metal objects were cleaned using a dry toothbrush or stainless steel wire brush. All artifacts were laid out to air-dry in preparation for analysis.

During analysis, individual Specimen Numbers were assigned to artifacts within each Catalog Number. After analysis, the artifacts were re-bagged into clean, perforated 4-mil resealable polyethylene bags. Artifacts are organized sequentially first by Site Number, then by Catalog Number, and finally by Specimen Number within each Catalog Number. An acid-free artifact card listing full provenience information and analytical class was included in each bag.

Artifacts were marked with provenience information following the below format, using black waterproof India ink on a base of Rhoplex AC-33. The label was then sealed with a top coat of 10% polyvinyl acetate (PVA) in acetone.

<u>(State Site Number)</u>	Ex. <u>28MO386</u>
(Catalog #) – (Specimen #)	5-12

B. ANALYTICAL METHODS

All artifact analyses were conducted by the Laboratory Supervisor and/or Material Specialist(s). Berger maintains an extensive comparative collection and laboratory research library to contribute to the completeness and accuracy of the analyses.

Berger has developed a flexible analytical database system that fully integrates all artifacts in one database for use in data manipulation and interpretation. The computerized data management system is written using Paradox® 9, a relational database development package that runs on a Windows® platform.

Each class of artifacts (curved (vessel) glass, small finds/architectural, lithics, prehistoric ceramics, and faunal) has a series of attributes, sometimes unique to that class, that are recorded to describe each artifact under analysis. Artifact information (characteristics), recorded on the data entry forms by the analysts, was entered into the system. The system was then used to enhance the artifact records with the addition of provenience information. Berger maintains a complete type and attribute coding book for each analytical class.

The artifact coding system employs a Type/SubType system developed by Berger's Cultural Resources Division. The format for the historic artifacts is based on the South/Noël Hume typology (South 1977), as modified for use in a computerized system (Berger 2006). The prehistoric lithics system is based on

Taylor et al. (1996) and the prehistoric ceramics is based on Koldehoff (1992), both modified for use in a computerized system (Berger 2006).

The Type/SubType system is comprised of a three-letter code followed by a number (integer). The first letter of the code represents the specific Class to which that artifact belongs: G, for Curved (Vessel) Glass; S, for Small Finds/Architectural; L, for Lithics; A, for Prehistoric Ceramics; and Z, for Faunal. The second and third letters and number represent further subdivisions of the artifact groups within the class and are defined in the below discussions for each analytical class.

Pattern (group and class) codes, based on form or material type, were assigned to each artifact entry. The pattern categories used follow the work of South (1977), as modified by Berger (2006).

The Notes field allows for individual written comments applicable to a specific entry. In general, notes are used to describe particulars of decorative motifs or unusual characteristics, or to record bibliographic references used for identification or dating.

C. LITHIC ARTIFACT ANALYSIS

Type/SubType. The first letter of the Type code for Lithic artifacts is always L. The second and third letters of the Type code denote the analytical class: DB, for Debitage; BF, for Bifaces; MN, for Minerals; FC for Fire-cracked Rock; and UM, for Unmodified Cobbles and Pebbles. The numeric Subtype code provides further identification of artifact types within the analytical classes, e.g., LDB3 – Biface Reduction Flake, and are defined below.

1. *Technological and Functional Analysis of Lithics*

The analytical approach to stone tool production and use that was used in this analysis can be described as technomorphological; that is, artifacts were grouped into general classes and then further divided into specific types based upon key morphological attributes, which are linked to or indicative of particular stone tool production (reduction) strategies. Function was inferred from morphology as well as from use-wear. Data derived from experimental and ethnoarchaeological research were relied upon in the identification and interpretation of artifact types. The works of Callahan (1979), Clark (1986), Crabtree (1972), Flenniken (1981), and Gould (1980) were drawn upon most heavily.

Surfaces and edges were examined for traces of use polish and damage with the unaided eye and with a 10X hand lens. A conservative approach to the identification of utilized and edge-retouched flakes was taken because a number of other factors, such as trampling of materials on living surfaces, spontaneous retouch during flake detachment, and trowel contact, can produce similar edge damage.

Organized by general artifact classes, artifact types are listed below, followed by their Type/Subtype and a brief description. All types were quantified by both count and weight (in grams). Also discussed below are the specific variables or attributes that were recorded and their corresponding codes.

a. *Debitage*

Debitage is the by-product of lithic reduction and includes all types of chipped-stone refuse that bear no obvious traces of having been utilized or intentionally modified. There are two basic forms ofdebitage: flakes and shatter. Observations on raw material and cortex were recorded and are discussed later. The following descriptions are for thedebitage types identified, but not the full range of types described in Taylor et al. (1996).

Decortication Flakes (LDB 1) are intact or nearly intact flakes with 50 percent or more cortex covering their dorsal surface. These are the first series of flakes detached during lithic reduction.

Early Reduction Flakes (LDB 2) are intact or nearly intact flakes with less than 50 percent dorsal cortex, fewer than four dorsal flake scars, on the average, and irregularly shaped platforms with minimal faceting and lipping. Platform grinding is not always present. These flakes could have been detached from early-stage bifaces or cores of the freehand and bipolar types.

Biface Reduction Flakes (LDB 3) are intact or nearly intact flakes with multiple overlapping dorsal flake scars and small elliptically shaped platforms with multiple facets. Evidence of platform grinding is usually present. Platforms are distinctive because they represent tiny slivers of what once was the edge of a biface. Biface reduction flakes are generated during the middle and late stages of biface reduction and also during biface maintenance (resharpening).

Finishing Flake (LDB 6) are small flakes, usually detached through pressure flaking and are used to create the final cutting edge of the blade.

Flake Fragments (LDB 9) are sections of flakes that are too fragmentary to be assigned to a particular flake type.

Block Shatter (LDB 10) are angular or blocky fragments that do not possess platforms or bulbs. Generally the result of uncontrolled fracturing along inclusions or internal fracture planes, block shatter is most frequently produced during the early reduction of cores and bifaces.

b. Bifaces

A biface is a flake or cobble that has had multiple flakes removed from the dorsal and ventral surfaces. Bilateral symmetry and a lenticular cross section are common attributes; however, these attributes vary with the stages of production, as do thickness and uniformity of edges (see Callahan 1979). Included in this artifact class are all hafted and unhafted bifaces that functioned as projectile points and/or knives, as well as bifacially worked drill bits and unfinished bifaces. Specific types of bifaces represented in the collection are described below.

Projectile Points (LBF 1) are finished bifaces that were usually hafted and functioned primarily as projectiles. Projectile points are usually triangular in overall form, with various types of hafting elements.

Finished Bifaces (LBF 3) are finished bifaces that were probably hafted, but are too fragmentary or ambiguous to assign to a functional category, e.g., projectile point or knife.

Late-Stage Bifaces (LBF 4) are basically finished bifaces; they are well thinned, symmetrical in outline and cross section, and edges are centered. Small areas of cortex may still exist on one or both faces. These bifacial preforms are analogous to Callahan's Stage 4 bifaces (1979).

Middle-Stage Bifaces (LBF 5) look more like bifaces; they have been initially thinned and shaped. A lenticular cross section is developing, but edges are sinuous, and patches of cortex may still remain on one or both faces. These bifaces are roughly equivalent to Callahan's Stage 3 bifaces (1979). Biface reduction is a continuum; therefore, middle-stage bifaces are often difficult to distinguish from early- and late-stage bifaces, depending upon the point at which their reduction was halted. Plus, rejected bifaces may have been used for other tasks (recycled).

Indeterminate Bifaces (LBF 11) are sections of bifaces that are too badly damaged to be assigned to a specific type.

c. *Minerals*

These are unmodified or minimally modified crystals or chunks of naturally occurring chemical elements, for example, galena (lead ore) and limonite and hematite (iron ores). These materials can be manufactured into tools and ornaments, but then, these artifacts would not be quantified as minerals. (The total number of items is recorded).

Steatite (LMN 4) refers to unworked pieces of steatite or soapstone.

Other Minerals (LMN 8) These are mineral types for which there is no Lithica designation. Their characteristics are described in the note field.

d. *Fire-cracked Rock*

Cracked rock (LFC 1) includes all fragments of lithic debris that cannot be attributed to stone tool production. Generally, fire-cracked rock is recognized by surfaces that exhibit reddening and irregular breakages. Whether a broken cobble is actually fractured as a result of thermal stress is often difficult to discern. For this study, all fractured cobbles are considered fire-cracked rock, even if they exhibit no clear signs of being thermally altered.

e. *Unmodified Cobbles and Pebbles*

Unmodified Cobbles (LUM 1) exhibit no evidence of cultural use or modification. However, these items are of potential importance because they may represent manuports and/or cached raw materials. A cobble is generally greater than 6 centimeters in maximum dimension.

Unmodified Pebble (LUM 2) exhibit no evidence of cultural use or modification, however, may allow for interpretation of environmental conditions. A pebble is generally smaller than 6 centimeters in maximum dimension.

2. *Raw Material Analysis (Var 3)*

Raw materials were identified on the basis of macroscopic characteristics: color, texture, hardness, and inclusions. Magnification with a 10X hand lens, and on occasion higher levels of magnification, was used to identify inclusions and to evaluate texture and structure.

Several raw material types were identified during the analysis. Each type is listed below, followed by its Paradox code and a brief description of its physical properties and its availability.

Cortex (Var 9) was recorded for all chipped-stone artifacts with the following codes: 1 = absent, 2 = present, 3 = indeterminate, 4 = block, and 5 = cobble cortex. Block cortex denotes lithic procurement from primary sources or outcrops, while cobble cortex denotes procurement from secondary sources, e.g., gravel bars. Generally, block cortex is rather coarse textured, while cobble cortex is smooth and often polished. However, some cobbles frequently contain internal fracture planes and, when exposed by knapping, can appear similar to block cortex. Cortex was coded as indeterminate when it was unclear whether the cortex exhibited on an artifact was cobble or block.

Heat Treatment (Var 7) was recorded for all chipped stone artifacts with the following codes: 1 = absent and 2 = present.

Chert (1) is cryptocrystalline quartz. Unlike vein quartz and rock quartz crystal, chert tends to occur within sedimentary rock formations. In general, most varieties of chert are amenable to flaking because they are homogeneous or isotropic materials that fracture in a clear conchoidal pattern.

Jasper (501) is another form of cryptocrystalline quartz. The jasper recovered from the site is fine-grained and tan to brown in color. There are several known sources of jasper in the Middle Atlantic region (Hatch and Miller 1985).

Rhyolite (511) is a fine-grained extrusive igneous rock that can be conchoidally fractured. One of its most distinguishing features is quartz and feldspar phenocrysts, which are scattered throughout its matrix.

Argillite (521) is indurated mudstone or claystone which, because of its fine texture and hardness, can be effectively flaked.

Quartz (531) is one of the most common minerals in the Earth's crust and is formed from igneous magma in hydrothermal veins. Quartz is fairly conducive to knapping owing to a conchoidal fracture pattern, but it also usually possesses many fracture planes that cause a great deal of uncontrolled breakage during reduction. Its hardness also makes for difficult reduction although this in turn is an advantage for producing an edge that will hold up well during use. The material was most likely derived from local cobbles.

Quartzite (551), like quartz, exhibits a conchoidal fracture pattern. Quartzite has been traditionally considered as metamorphosed sandstone. Heat and/or pressure transform the sandstone into a more homogeneous matrix, which more readily transmits fractures through individual sand grains rather than around them. As with quartz, all of the quartzite recovered that had observable cortex exhibited cobble cortex. The material was most likely derived from local cobbles which occur throughout the project area.

Sandstone (641) is composed of cemented sand grains. The few artifacts in the assemblage that have been identified as sandstone may actually be a low-level orthoquartzite or silicified sandstone.

Gabbro (703) is a phaneritic (coarse-grained) igneous rock that consists primarily of feldspar and pyroxene. Essentially, gabbro is the intrusive (plutonic) equivalent of basalt, but whereas basalt is often remarkably homogeneous in mineralogy and composition, gabbros are exceedingly variable.

Granite (712) is a phaneritic igneous rock composed of quartz and feldspar, and lesser quantities of biotite, amphibole, and muscovite. Color varies from white to light pink with darker colors interspersed. It is the most common plutonic rock of the Earth's crust, forming by the cooling of magma (silicate melt) at depth. Granite is often used as paving block and as a building stone

Steatite (761) or soapstone is a fine-grained compact metamorphic rock, whose principal constituent is talc. This soft but durable material is ideal for manufacturing stone bowls and other groundstone implements.

3. *Stylistic Analysis*

Only projectile points or hafted bifaces were stylistically analyzed. These artifacts were segregated into groups on the basis of shared attributes related to morphology (overall size and shape, blade and haft shape) and technology (production and resharpening methods (flaking patterns), presence or absence of haft grinding, and presence or absence of blade serration

It is important to stress that projectile points are formalized tools that were designed to be maintained and reused. As a consequence, their morphology is not static but dynamic, and attempts by archaeologists to

construct meaningful typologies must take this fact into account. Raw material was not considered a variable, except insofar as different materials may have affected morphology because of their varying fracture mechanics (see Callahan 1979). These groups were then compared to a literature review of existing point types and types were assigned whenever possible (Ritchie 1961).

Condition (Var 6) was also recorded for these artifacts utilizing the following codes: 1 = whole, 2 = broken, 3 = tip, 4 = medial, 5 = base, 9 = nearly whole, tip missing, and 10 = nearly whole, base missing. Length, width, and thickness measurements (millimeters) were recorded only for complete dimensions, e.g., if base was missing, length was not recorded.

D. PREHISTORIC CERAMIC ANALYSIS

Type/SubType. The first and second letters of the Type code for Prehistoric Ceramics are always AC. The third letter denotes what type of item the artifact is from: V, for Vessel. The numeric Subtype code further defines the artifact type, e.g., ACV2 – Rimsherd.

1. *Typological Analysis*

The analytical approach applied to the study of the ceramic assemblage was designed primarily to facilitate comparisons with ceramic assemblages recovered from other sites. Toward this end, observations were recorded for a series of metric and non-metric attributes related to vessel form, paste, surface treatment, and decoration. All artifacts were counted and weighed (in grams). Vessel thickness was measured in millimeters. When possible, ceramics vessel sherds were classified according to ware and type following definitions presented in previous regional ceramic studies (McCann 1950; Staats 1974).

2. *Prehistoric Ceramic Types*

a. *Ceramic Vessels*

Vessel sherds were classified according to which portion of the original vessel they represented based on the presence of distinctive morphological characteristics. The following variables and corresponding Type/Subtype (in parentheses) were utilized in the analysis.

Rim (ACV 2) refers to the upper rim between the lip and neck portions of the vessel.

Body (ACV 6) refers to a portion of the vessel body. Body fragments have concave interior and convex exterior surfaces.

Crumb (ACM 11) is a ceramic fragment which possesses no identifiable surfaces or is considered too small to confidently assign to one of the above categories. It includes pieces for which both interior and exterior surfaces have eroded or spalled away.

3. *Attribute / Variable Definitions*

a. *Temper (Var 9)*

The primary tempering agent was recorded for all sherds, utilizing the following variable codes.

Indeterminate (2) refers to no visible temper, but there are indications (voids) that temper was once present.

Grit (10) is any crushed rock temper that is not identified according to type.

Quartz (14) refers to the use of crushed quartz as temper.

b. Surface Treatment

Exterior Surface Treatment (Var 3) and **Interior Surface Treatment (Var 6)** was recorded for all sherds and refers to characteristics of vessel surfaces (i.e., the lip area and interior and exterior surfaces) that reflect the application of specific vessel manufacturing technology or techniques, e.g., thinning or shaping with a paddle and anvil. Surface treatment is not generally considered decoration; however, specific portions of the vessel, e.g., shoulder and rim, may be treated differently in preparation for the subsequent application of other decoration.

Eroded (2) indicates the vessel surface is not visible due to erosion.

Indeterminate (3) indicates that the surface is visible, yet the type of treatment applied is not distinguishable.

Plain/Smooth (20) indicates no surface treatment, or a surface that has been smoothed over with the hand or a flat, plain tool.

Fabric Impressed (71) refers to a surface that has been impressed with fabric while drying. The pattern is a negative impression of the warp and weft elements found in the woven fabric.

c. Decoration

All decorative elements present on rimsherds and decorated bodysherds were recorded using the following number codes for the **Exterior Decoration (Var 4)** and the **Interior Decoration (Var 7)**, as applicable. Decoration refers to modifications of the lip area, interior surface and/or exterior surface designed to embellish the appearance of the vessel. Decorative modification is typically unrelated to the use of various vessel manufacturing techniques.

Incised (50) refers to decorations carved or cut into a surface with a sharp tool.

E. CURVED (VESSEL) GLASS ANALYSIS

The glass artifacts from the collection were broken down, for analytical purposes, into four functionally distinct groupings based on Bottle, Table, Lighting, and Other use-categories. Only Bottle and Other glass was recovered. Window glass, considered more functionally inclusive under an architectural group of artifacts, was subsumed for analysis under Small Finds/Architectural materials, as discussed below. The following are explanations of the variables used in the coding process.

Type/Subtype. The first letter of the Type code for Glass is always G. The second letter denotes the functional groupings: B, for Bottle; and O, for Other. The third letter denotes specific function within the appropriate use category, e.g., U, for Unidentified. The Subtype numbers denotes vessel form, e.g., GBU4 – Unidentified Bottle/Jar - Body; and GOU1 – Unidentified Curved/Vessel Glass.

F. SMALL FINDS/ ARCHITECTURAL ANALYSIS

For the small finds/architectural analysis, each artifact was identified by its group and class, Material Type (Var 3) and Part/Portion (Var 6), and received a count and/or weight. Additional information,

including Characteristic (Var 5) and Color (Var 9), was recorded as identified for the individual artifacts. Variables used are defined below.

Type/Subtype. The first letter of the Type code for Small Finds/Architectural is always S. The second letter denotes the group of the artifact (e.g., A, for Architecture), and the third letter denotes a class within that group, e.g., F, for Fasteners. The Subtype number denotes the specific artifact type, e.g., SAF6 – Wire Nail.

Begin/End Date. Dates for certain artifact were generated in the database based on the Type/Subtype. Other dates were entered manually and were based on various artifact characteristics.

Characteristic (Var 5). A modifier that best described the form or manufacturing technique of each artifact was entered in this field.

G. FAUNAL ANALYSIS

The analysis of the faunal material followed the **Type/SubType** pattern. The first letter of the Type code for Faunal material is Z (for zoological). The second letter denotes the class of the animal (i.e., A, Unidentified). The third letter distinguishes groups within the class, e.g., Z, for Unidentified. The numeric Subtype code identifies species.

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Utilized Codes for CXE 4718 Ft. Monmouth, Monmouth Co, NJ Ph II

Lithics

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Point Type		Material	Termination	Flake Scars	Condition	Modification	Platform Type	Cortex	Temporal Affiliation	Size Category
Var6	Translation		Var3	Translation			Var9	Translation		
1	Whole		1	Chert			1	Absent		
2	Broken		501	Jasper			4	Block		
9	Nearly Whole (Tip Missing)		511	Rhyolite			5	Cobble		
			521	Argillite			Var7	Translation		
			531	Quartz			1	No Heating Present		
			551	Quartzite			2	Heating Present		
			620	Coal						
			641	Sandstone						
			703	Gabbro						
			712	Granite						
			761	Steatite						

Prehistoric Ceramic

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Ware Type	Vessel Number	Exterior Surface	Exterior Decoration	Form/Shape	Interior Surface	Interior Decoration		Temper	Temporal Affiliation	Size Category
Var6	Translation		Var3	Translation	Var4	Translation	Var9	Translation		
20	Plain/Smoothed		2	Eroded	50	Incised	2	Indeterminate		
			3	Indeterminate			10	Grit		
			71	Fabric Impressed			14	Quartz		

Glass

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Maker's Mark	Vessel Number	Brand	Motif/Pattern	Manufacturing Technique	Percent Complete	Base	Finish	Color	Wear	Embossment/Label
					Var4	Translation	Var9	Translation		
					55	Stipple (on base and/or heel)	1	Colorless		
							3	Emerald Green/Teal		
							5	Light Olive/Dark Olive Green		
							7	Brown/Amber/Honey		
							9	Aquamarine (all shades)		

Small Finds/Architectural

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Maker's Mark/Brand		Material	Decoration	Characteristic	Percent Complete	Back Mark		Color		
Var6	Translation		Var3	Translation			Var9	Translation	Var5	Translation
1	Whole		320	Glass			10	Colorless	25	4 Holes
2	Portion/Fragment		420	Plastic			11	Aqua	414	Common
			520	Coal			13	White	420	Slotted Screw w/ Pointed Tip
			624	Ferrous Metal					451	Square Nut

Utilized Codes for CXE 4718 Ft. Monmouth, Monmouth Co, NJ Ph II

Faunal

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Butchering Type		Illustrated Meat Cut	Age/Fusion	Element	Portion	Burning	Gnawing	Weathering	MNU Type	
Var6	Translation								Var5	Translation
2	Fragment								999	Unidentified

Pattern Group and Class Translations

PatGrp	Pattern Analysis Group	PatCls	Pattern Analysis Class
0	Unidentified	0	Unidentified
1	Kitchen	2	Bottles/Jars/Cans
2	Architecture	9	Closures
5	Clothing	11	Window Glass/Caming/Etc.
8	Other	12	Nails, Spikes, Tacks, etc., and Misc. Construction Hardware
9	Prehistoric Lithics	14	Electrical Related
10	Prehistoric Ceramics	31	Clothing Fasteners
11	Faunal	63	Heating Related
19	Hardware, Tools, & Machinery	90	Chipped Stone
		92	Cracked Rock
		93	Lithics - Other
		95	Vessels
		115	Miscellaneous Hardware
		127	Faunal - Other

Analytical Type Codes & Translations: Class -- Type -- Type Description -- Type Group

Faunal	ZAZ	Unidentified Bone	UNIDENTIFIED BONE
Glass	GBU	Unidentified	BOTTLE GLASS
Glass	GOU	Unidentified - Other	OTHER GLASS
Lithics	LBF	Bifaces	CHIPPED STONE
Lithics	LDB	Debitage	CHIPPED STONE
Lithics	LFC	Fire-cracked Rocks	CRACKED ROCK
Lithics	LMN	Minerals	MISCELLANEOUS LITHICS
Lithics	LUM	Unmodified Rock	UNMODIFIED LITHICS
Pceramic	ACV	Prehistoric Ceramic Vessel	PREHISTORIC CERAMICS
SmllFind	SAE	Electrical Materials	ARCHITECTURAL
SmllFind	SAF	Fasteners	ARCHITECTURAL
SmllFind	SAG	Glass	ARCHITECTURAL
SmllFind	SCF	Fasteners	CLOTHING
SmllFind	SHB	Heating Materials and By-Products	HEATING MATERIALS & BY-PRODUCTS
SmllFind	SKC	Closures	KITCHEN
SmllFind	SMH	Hardware (Non-Architectural)	HARDWARE, TOOLS, & MACHINERY

Site	Cat	Spec	Ph	Fld	Horizontal	Vertical	DepUnit	Type Stype	Translation	Cnt	Wght	Beg-End Date	V3	V4	V5	V6	V7	V9	Ptn	Note
28MO386	8	1	2	101	STP A1	Str A	A	ACV 11	Crumb	9	9.4	- -	-	-	-	-	-	14	10.95	quartz 4-6 mm
28MO386	8	2	2	101	STP A1	Str A	A	GOU 1	Unidentified Curved/Vessel Glass	1	-	- -	-	-	-	-	-	1	0.0	-
28MO386	9	1	2	102	STP A1	Str B	Ap	ACV 11	Crumb	8	12.1	- -	-	-	-	-	-	14	10.95	quartz 4-6 mm
28MO386	10	1	2	103	STP A3	Str A	A	SAG 13	Window Glass	1	0.3	- -	320	-	-	2	-	10	2.11	-
28MO386	11	1	2	104	STP A3	Str B	Ap	LBF 1	Projectile Point	1	1.7	- -	531	-	-	1	1	1	9.90	triangular point
28MO386	11	2	2	104	STP A3	Str B	Ap	LDB 2	Early Reduction Flake	1	0.7	- -	1	-	-	-	1	5	9.90	-
28MO386	11	3	2	104	STP A3	Str B	Ap	LDB 3	Biface Reduction Flake	3	2.3	- -	1	-	-	-	1	1	9.90	-
28MO386	11	4	2	104	STP A3	Str B	Ap	LDB 6	Finishing Flake	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	11	5	2	104	STP A3	Str B	Ap	LDB 9	Flake Fragment	3	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	11	6	2	104	STP A3	Str B	Ap	LDB 9	Flake Fragment	1	1.1	- -	531	-	-	-	1	5	9.90	-
28MO386	11	7	2	104	STP A3	Str B	Ap	ACV 2	Rim Sherd	1	6.8	- -	71	-	-	20	-	2	10.95	oblique from rim (right to left); possible Riggins Ware (McCann 1950)
28MO386	11	8	2	104	STP A3	Str B	Ap	ACV 6	Body Sherd	1	1.7	- -	3	50	-	20	-	14	10.95	deep incising; quartz 4-6 mm; possible Bowmans Brook (Staats 1974)
28MO386	11	9	2	104	STP A3	Str B	Ap	ACV 11	Crumb	2	3.8	- -	-	-	-	-	-	14	10.95	quartz 4-6 mm
28MO386	12	1	2	105	STP A6	Str D	C	LDB 1	Decortication Flake	1	0.7	- -	1	-	-	-	1	5	9.90	-
28MO386	12	2	2	105	STP A6	Str D	C	LDB 3	Biface Reduction Flake	2	0.6	- -	1	-	-	-	1	1	9.90	-
28MO386	12	3	2	105	STP A6	Str D	C	LDB 9	Flake Fragment	2	0.3	- -	1	-	-	-	1	5	9.90	-
28MO386	12	4	2	105	STP A6	Str D	C	LDB 9	Flake Fragment	1	1.1	- -	501	-	-	-	1	5	9.90	-
28MO386	12	5	2	105	STP A6	Str D	C	LDB 9	Flake Fragment	1	0.4	- -	521	-	-	-	1	1	9.90	-
28MO386	13	1	2	106	STP A13	Str A	Fill	LDB 9	Flake Fragment	1	0.2	- -	1	-	-	-	1	1	9.90	-
28MO386	14	1	2	107	STP A13	Str C	Fill	GOU 1	Unidentified Curved/Vessel Glass	1	-	- -	-	-	-	-	-	1	0.0	-
28MO386	15	1	2	108	STP B1	Str A	Ap	ACV 2	Rim Sherd	1	2.5	- -	2	-	-	20	-	10	10.95	possibly fabric impressed; possible Riggins Ware (McCann 1950)
28MO386	16	1	2	109	STP B3	Str B	Ap	LDB 3	Biface Reduction Flake	1	0.5	- -	1	-	-	-	1	1	9.90	-
28MO386	16	2	2	109	STP B3	Str B	Ap	LDB 9	Flake Fragment	1	0.1	- -	1	-	-	-	1	5	9.90	-
28MO386	17	1	2	110	STP B2	Str C	Bw	LMN 4	Steatite	2	3.0	- -	761	-	-	-	-	-	9.93	-
28MO386	18	1	2	111	STP B5	Str B	Ap	LDB 6	Finishing Flake	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	18	2	2	111	STP B5	Str B	Ap	LDB 6	Finishing Flake	1	0.1	- -	531	-	-	-	1	1	9.90	-
28MO386	18	3	2	111	STP B5	Str B	Ap	ACV 11	Crumb	3	1.2	- -	-	-	-	-	-	14	10.95	-
28MO386	19	1	2	112	STP C1	Str A	Ap	LMN 8	Other Mineral	1	0.8	- -	620	-	-	-	-	-	9.93	-
28MO386	20	1	2	113	STP D1	Str B	Ap	LDB 9	Flake Fragment	1	3.0	- -	511	-	-	-	1	1	9.90	possibly rhyolite
28MO386	21	1	2	114	STP D4	Str A	Ap	LDB 9	Flake Fragment	1	1.2	- -	511	-	-	-	1	1	9.90	possibly rhyolite
28MO386	22	1	2	115	STP E1	Str B	Bw	LDB 2	Early Reduction Flake	1	0.8	- -	1	-	-	-	1	5	9.90	-
28MO386	23	1	2	116	TU 1	Str A Lev 1	A	LDB 3	Biface Reduction Flake	4	1.9	- -	1	-	-	-	1	1	9.90	-
28MO386	23	2	2	116	TU 1	Str A Lev 1	A	LDB 3	Biface Reduction Flake	2	0.5	- -	501	-	-	-	1	1	9.90	-

Site	Cat	Spec	Ph	Fld	Horizontal	Vertical	DepUnit	Type Stype	Translation	Cnt	Wght	Beg-End Date	V3	V4	V5	V6	V7	V9	Ptn	Note
28MO386	23	3	2	116	TU 1	Str A Lev 1	A	LDB 6	Finishing Flake	8	0.6	- -	1	-	-	-	1	1	9.90	-
28MO386	23	4	2	116	TU 1	Str A Lev 1	A	LDB 6	Finishing Flake	3	0.2	- -	501	-	-	-	1	1	9.90	-
28MO386	23	5	2	116	TU 1	Str A Lev 1	A	LDB 6	Finishing Flake	2	0.1	- -	501	-	-	-	1	1	9.90	-
28MO386	23	6	2	116	TU 1	Str A Lev 1	A	LDB 9	Flake Fragment	1	0.1	- -	501	-	-	-	1	1	9.90	-
28MO386	23	7	2	116	TU 1	Str A Lev 1	A	LDB 9	Flake Fragment	2	0.5	- -	501	-	-	-	1	5	9.90	-
28MO386	23	8	2	116	TU 1	Str A Lev 1	A	LDB 9	Flake Fragment	1	0.4	- -	501	-	-	-	1	4	9.90	-
28MO386	23	9	2	116	TU 1	Str A Lev 1	A	LFC 1	Fire-cracked Rock	1	9.9	- -	531	-	-	-	-	-	9.92	-
28MO386	23	10	2	116	TU 1	Str A Lev 1	A	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	1	0.2	-
28MO386	23	11	2	116	TU 1	Str A Lev 1	A	GOU 1	Unidentified Curved/Vessel Glass	4	-	- -	-	-	-	-	-	1	0.0	-
28MO386	24	1	2	117	TU 1	Str B Lev 2	Ap	LDB 2	Early Reduction Flake	2	1.7	- -	1	-	-	-	1	5	9.90	-
28MO386	24	2	2	117	TU 1	Str B Lev 2	Ap	LDB 2	Early Reduction Flake	1	1.1	- -	1	-	-	-	1	4	9.90	-
28MO386	24	3	2	117	TU 1	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	14	3.9	- -	1	-	-	-	1	1	9.90	-
28MO386	24	4	2	117	TU 1	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	19	4.9	- -	501	-	-	-	1	1	9.90	-
28MO386	24	5	2	117	TU 1	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	4	1.8	- -	501	-	-	-	1	5	9.90	-
28MO386	24	6	2	117	TU 1	Str B Lev 2	Ap	LDB 6	Finishing Flake	34	2.1	- -	501	-	-	-	1	1	9.90	-
28MO386	24	7	2	117	TU 1	Str B Lev 2	Ap	LDB 6	Finishing Flake	4	0.1	- -	501	-	-	-	2	1	9.90	-
28MO386	24	8	2	117	TU 1	Str B Lev 2	Ap	LDB 9	Flake Fragment	8	1.4	- -	501	-	-	-	1	5	9.90	-
28MO386	24	9	2	117	TU 1	Str B Lev 2	Ap	LDB 9	Flake Fragment	2	1.1	- -	501	-	-	-	1	4	9.90	-
28MO386	24	10	2	117	TU 1	Str B Lev 2	Ap	LDB 9	Flake Fragment	29	4.1	- -	501	-	-	-	1	1	9.90	-
28MO386	24	11	2	117	TU 1	Str B Lev 2	Ap	LDB 9	Flake Fragment	29	1.9	- -	1	-	-	-	1	1	9.90	-
28MO386	24	12	2	117	TU 1	Str B Lev 2	Ap	LDB 6	Finishing Flake	37	2.0	- -	1	-	-	-	1	1	9.90	-
28MO386	24	13	2	117	TU 1	Str B Lev 2	Ap	LDB 10	Block Shatter	2	6.0	- -	1	-	-	-	1	5	9.90	-
28MO386	24	14	2	117	TU 1	Str B Lev 2	Ap	LDB 10	Block Shatter	1	3.5	- -	501	-	-	-	1	5	9.90	-
28MO386	24	15	2	117	TU 1	Str B Lev 2	Ap	LDB 9	Flake Fragment	2	0.4	- -	531	-	-	-	1	1	9.90	-
28MO386	24	16	2	117	TU 1	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	1	7.9	- -	531	-	-	-	-	-	9.92	-
28MO386	24	17	2	117	TU 1	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	1	13.1	- -	551	-	-	-	-	-	9.92	-
28MO386	24	18	2	117	TU 1	Str B Lev 2	Ap	ACV 11	Crumb	5	1.2	- -	-	-	-	-	-	2	10.95	-
28MO386	25	1	2	118	TU 1	Str C Lev 3	Bw	LDB 1	Decortication Flake	1	0.7	- -	1	-	-	-	1	5	9.90	-
28MO386	25	2	2	118	TU 1	Str C Lev 3	Bw	LDB 2	Early Reduction Flake	1	1.8	- -	1	-	-	-	1	1	9.90	-
28MO386	25	3	2	118	TU 1	Str C Lev 3	Bw	LDB 3	Biface Reduction Flake	1	0.9	- -	1	-	-	-	1	5	9.90	-
28MO386	25	4	2	118	TU 1	Str C Lev 3	Bw	LDB 3	Biface Reduction Flake	4	1.9	- -	1	-	-	-	1	1	9.90	-
28MO386	25	5	2	118	TU 1	Str C Lev 3	Bw	LDB 3	Biface Reduction Flake	6	1.4	- -	501	-	-	-	1	1	9.90	-
28MO386	25	6	2	118	TU 1	Str C Lev 3	Bw	LDB 3	Biface Reduction Flake	2	0.6	- -	501	-	-	-	1	5	9.90	-
28MO386	25	7	2	118	TU 1	Str C Lev 3	Bw	LDB 6	Finishing Flake	14	1.0	- -	501	-	-	-	1	1	9.90	-
28MO386	25	8	2	118	TU 1	Str C Lev 3	Bw	LDB 6	Finishing Flake	20	1.2	- -	1	-	-	-	1	1	9.90	-

Site	Cat	Spec	Ph	Fld	Horizontal	Vertical	DepUnit	Type Stype	Translation	Cnt	Wght	Beg-End Date	V3	V4	V5	V6	V7	V9	Ptn	Note
28MO386	25	9	2	118	TU 1	Str C Lev 3	Bw	LDB 9	Flake Fragment	4	0.5	- -	1	-	-	-	1	5	9.90	-
28MO386	25	10	2	118	TU 1	Str C Lev 3	Bw	LDB 9	Flake Fragment	6	0.6	- -	1	-	-	-	1	1	9.90	-
28MO386	25	11	2	118	TU 1	Str C Lev 3	Bw	LDB 9	Flake Fragment	4	0.6	- -	501	-	-	-	1	5	9.90	-
28MO386	25	12	2	118	TU 1	Str C Lev 3	Bw	LDB 9	Flake Fragment	5	0.4	- -	501	-	-	-	1	1	9.90	-
28MO386	25	13	2	118	TU 1	Str C Lev 3	Bw	LBF 11	Indeterminate Biface	1	1.3	- -	501	-	-	2	1	1	9.90	biface edge fragment
28MO386	25	14	2	118	TU 1	Str C Lev 3	Bw	LDB 6	Finishing Flake	1	0.1	- -	531	-	-	-	1	1	9.90	-
28MO386	25	15	2	118	TU 1	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	1	22.9	- -	531	-	-	-	-	-	9.92	-
28MO386	25	16	2	118	TU 1	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	1	11.8	- -	551	-	-	-	-	-	9.92	-
28MO386	25	17	2	118	TU 1	Str C Lev 3	Bw	ACV 11	Crumb	4	1.2	- -	-	-	-	-	-	2	10.95	-
28MO386	26	1	2	119	TU 1	Str C Lev 4	Bw	LDB 2	Early Reduction Flake	1	0.6	- -	1	-	-	-	1	5	9.90	-
28MO386	26	2	2	119	TU 1	Str C Lev 4	Bw	LDB 6	Finishing Flake	3	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	26	3	2	119	TU 1	Str C Lev 4	Bw	LDB 6	Finishing Flake	3	0.2	- -	501	-	-	-	1	1	9.90	-
28MO386	26	4	2	119	TU 1	Str C Lev 4	Bw	LDB 9	Flake Fragment	3	0.3	- -	501	-	-	-	1	1	9.90	-
28MO386	26	5	2	119	TU 1	Str C Lev 4	Bw	LDB 9	Flake Fragment	1	0.6	- -	501	-	-	-	1	5	9.90	-
28MO386	26	6	2	119	TU 1	Str C Lev 4	Bw	LDB 9	Flake Fragment	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	26	7	2	119	TU 1	Str C Lev 4	Bw	LFC 1	Fire-cracked Rock	1	35.1	- -	551	-	-	-	-	-	9.92	-
28MO386	26	8	2	119	TU 1	Str C Lev 4	Bw	ACV 11	Crumb	1	0.2	- -	-	-	-	-	-	2	10.95	-
28MO386	27	1	2	120	TU 1	Str C Lev 5	C	LDB 9	Flake Fragment	2	0.3	- -	1	-	-	-	1	5	9.90	-
28MO386	27	2	2	120	TU 1	Str C Lev 5	C	LDB 10	Block Shatter	1	26.3	- -	1	-	-	-	1	5	9.90	-
28MO386	28	1	2	121	TU 2	Str A Lev 1	A	GBU 4	Unidentified Bottle/Jar-Body	2	-	- -	-	-	-	-	-	3	0.2	-
28MO386	28	2	2	121	TU 2	Str A Lev 1	A	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	9	0.2	-
28MO386	28	3	2	121	TU 2	Str A Lev 1	A	GOU 1	Unidentified Curved/Vessel Glass	1	-	- -	-	-	-	-	-	1	0.0	-
28MO386	28	4	2	121	TU 2	Str A Lev 1	A	SAE 5	Glass Insulator	1	-	- -	320	-	-	2	-	11	2.14	-
28MO386	28	5	2	121	TU 2	Str A Lev 1	A	SHB 1	Coal	1	0.2	- -	520	-	-	2	-	-	8.63	-
28MO386	28	6	2	121	TU 2	Str A Lev 1	A	SAF 74	Machine Cut Nail - Unknown Head	10	-	1790 -	624	-	414	2	-	-	2.12	-
28MO386	29	1	2	122	TU 2	Str B Lev 2	Ap	LDB 9	Flake Fragment	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	29	2	2	122	TU 2	Str B Lev 2	Ap	LDB 9	Flake Fragment	1	0.2	- -	531	-	-	-	1	5	9.90	-
28MO386	29	3	2	122	TU 2	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	3	100.5	- -	641	-	-	-	-	-	9.92	-
28MO386	29	4	2	122	TU 2	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	1	9.5	- -	-	-	-	-	-	-	9.92	-
28MO386	29	5	2	122	TU 2	Str B Lev 2	Ap	ACV 2	Rim Sherd	1	2.0	- -	3	50	-	20	-	10	10.95	possible hornblende temper; possible Indian Head Incised (McCann 1950)
28MO386	29	6	2	122	TU 2	Str B Lev 2	Ap	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	3	0.2	-
28MO386	29	7	2	122	TU 2	Str B Lev 2	Ap	SAF 6	Wire Nail	1	-	1880 -	624	-	414	1	-	-	2.12	-
28MO386	30	1	2	123	TU 2	Str C Lev 3	Bw	LDB 6	Finishing Flake	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	30	2	2	123	TU 2	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	1	15.9	- -	641	-	-	-	-	-	9.92	-

Site	Cat	Spec	Ph	Fld	Horizontal	Vertical	DepUnit	Type Stype	Translation	Cnt	Wght	Beg-End Date	V3	V4	V5	V6	V7	V9	Ptn	Note
28MO386	30	3	2	123	TU 2	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	1	4.4	- -	551	-	-	-	-	-	9.92	-
28MO386	31	1	2	124	TU 2	Str C Lev 4	Bw	LFC 1	Fire-cracked Rock	1	92.0	- -	641	-	-	-	-	-	9.92	-
28MO386	31	2	2	124	TU 2	Str C Lev 4	Bw	LFC 1	Fire-cracked Rock	1	35.6	- -	531	-	-	-	-	-	9.92	-
28MO386	32	1	2	125	TU 3	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	1	0.6	- -	501	-	-	-	1	1	9.90	-
28MO386	32	2	2	125	TU 3	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	1	0.2	- -	1	-	-	-	1	5	9.90	-
28MO386	32	3	2	125	TU 3	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	1	0.5	- -	712	-	-	-	-	-	9.92	-
28MO386	33	1	2	126	TU 3	Str C Lev 4	Bw	LDB 6	Finishing Flake	1	0.1	- -	531	-	-	-	1	1	9.90	-
28MO386	34	1	2	127	TU 4	Str A Lev 1	A	LDB 3	Biface Reduction Flake	1	1.1	- -	1	-	-	-	1	1	9.90	-
28MO386	35	1	2	128	TU 4	Str B Lev 2	Ap	LBF 1	Projectile Point	1	1.4	- -	501	-	-	2	1	1	9.90	broken and reworked base; impact fracture
28MO386	35	2	2	128	TU 4	Str B Lev 2	Ap	LDB 2	Early Reduction Flake	1	0.3	- -	501	-	-	-	1	1	9.90	-
28MO386	35	3	2	128	TU 4	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	4	1.0	- -	501	-	-	-	1	1	9.90	-
28MO386	35	4	2	128	TU 4	Str B Lev 2	Ap	LDB 3	Biface Reduction Flake	3	1.1	- -	1	-	-	-	1	1	9.90	-
28MO386	35	5	2	128	TU 4	Str B Lev 2	Ap	LDB 6	Finishing Flake	2	0.2	- -	1	-	-	-	1	1	9.90	-
28MO386	35	6	2	128	TU 4	Str B Lev 2	Ap	LDB 6	Finishing Flake	2	0.2	- -	501	-	-	-	1	1	9.90	-
28MO386	35	7	2	128	TU 4	Str B Lev 2	Ap	LDB 9	Flake Fragment	5	1.8	- -	501	-	-	-	1	1	9.90	-
28MO386	35	8	2	128	TU 4	Str B Lev 2	Ap	LDB 9	Flake Fragment	3	0.6	- -	1	-	-	-	1	1	9.90	-
28MO386	35	9	2	128	TU 4	Str B Lev 2	Ap	LDB 9	Flake Fragment	5	9.6	- -	521	-	-	-	1	1	9.90	-
28MO386	35	10	2	128	TU 4	Str B Lev 2	Ap	LFC 1	Fire-cracked Rock	2	24.6	- -	551	-	-	-	-	-	9.92	-
28MO386	36	1	2	129	TU 4	Str C Lev 3	Bw	LBF 1	Projectile Point	1	15.6	- -	521	-	-	9	1	1	9.90	Orient Fishtail (Ritchie 1961:39); Late Archaic- Early Woodland; whole except for impact fracture
28MO386	36	2	2	129	TU 4	Str C Lev 3	Bw	LDB 3	Biface Reduction Flake	2	0.8	- -	1	-	-	-	1	1	9.90	-
28MO386	36	3	2	129	TU 4	Str C Lev 3	Bw	LDB 6	Finishing Flake	2	0.2	- -	1	-	-	-	1	1	9.90	-
28MO386	36	4	2	129	TU 4	Str C Lev 3	Bw	LDB 9	Flake Fragment	7	3.3	- -	1	-	-	-	1	1	9.90	-
28MO386	36	5	2	129	TU 4	Str C Lev 3	Bw	LDB 9	Flake Fragment	3	1.7	- -	501	-	-	-	1	5	9.90	-
28MO386	36	6	2	129	TU 4	Str C Lev 3	Bw	LDB 9	Flake Fragment	3	54.0	- -	521	-	-	-	1	1	9.90	-
28MO386	36	7	2	129	TU 4	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	8	168.8	- -	551	-	-	-	-	-	9.92	-
28MO386	37	1	2	130	TU 4	Str D Lev 4	BC	LDB 3	Biface Reduction Flake	1	0.1	- -	1	-	-	-	1	5	9.90	-
28MO386	37	2	2	130	TU 4	Str D Lev 4	BC	LFC 1	Fire-cracked Rock	2	29.6	- -	551	-	-	-	-	-	9.92	-
28MO386	38	1	2	131	TU 4	Str C,D wall	BC	LFC 1	Fire-cracked Rock	1	92.6	- -	521	-	-	-	-	-	9.92	-
28MO386	38	2	2	131	TU 4	Str C,D wall	BC	LUM 1	Unmodified Cobble	1	201.8	- -	-	-	-	-	-	-	9.93	-
28MO386	39	1	2	132	TU 5	Str A Lev 1	Fill	LFC 1	Fire-cracked Rock	1	16.3	- -	703	-	-	-	-	-	9.92	-
28MO386	39	2	2	132	TU 5	Str A Lev 1	Fill	GBU 4	Unidentified Bottle/Jar-Body	2	-	- -	-	-	-	-	-	1	0.2	-
28MO386	39	3	2	132	TU 5	Str A Lev 1	Fill	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	5	0.2	-
28MO386	39	4	2	132	TU 5	Str A Lev 1	Fill	GBU 2	Unidentified Bottle/Jar-Base	1	-	- -	-	55	-	-	-	7	0.2	-
28MO386	39	5	2	132	TU 5	Str A Lev 1	Fill	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	3	0.2	-
28MO386	39	6	2	132	TU 5	Str A Lev 1	Fill	SMH 71	Nut	1	-	- -	624	-	451	1	-	-	19.115	-

Site	Cat	Spec	Ph	Fld	Horizontal	Vertical	DepUnit	Type Stype	Translation	Cnt	Wght	Beg-End Date	V3	V4	V5	V6	V7	V9	Ptn	Note
28MO386	40	1	2	133	TU 5	Str A Lev 2	Fill	GBU 4	Unidentified Bottle/Jar-Body	3	-	- -	-	-	-	-	-	1	0.2	-
28MO386	40	2	2	133	TU 5	Str A Lev 2	Fill	GBU 4	Unidentified Bottle/Jar-Body	2	-	- -	-	-	-	-	-	7	0.2	-
28MO386	40	3	2	133	TU 5	Str A Lev 2	Fill	SCF 50	Pressed Glass Button	1	-	1840 -	320	-	25	1	-	13	5.31	-
28MO386	40	4	2	133	TU 5	Str A Lev 2	Fill	SMH 1	Screw	1	-	- -	624	-	420	1	-	-	19.115	-
28MO386	40	5	2	133	TU 5	Str A Lev 2	Fill	SAF 6	Wire Nail	2	-	1880 -	624	-	414	1	-	-	2.12	-
28MO386	40	6	2	133	TU 5	Str A Lev 2	Fill	SMH 20	Miscellaneous Wire	2	-	1831 -	624	-	-	2	-	-	19.115	-
28MO386	41	1	2	134	TU 5	Str A Lev 3	Fill	SAF 6	Wire Nail	1	-	1880 -	624	-	414	2	-	-	2.12	-
28MO386	41	2	2	134	TU 5	Str A Lev 3	Fill	SAG 11	Broad Glass	1	-	- 1926	320	-	-	2	-	11	2.11	-
28MO386	42	1	2	135	TU 6	Str B Lev 3	Bw	LBF 5	Middle-Stage Biface	1	42.2	- -	521	-	-	1	1	1	9.90	-
28MO386	43	1	2	136	TU 6	Str B Lev 2	Bw	LDB 3	Biface Reduction Flake	1	0.2	- -	1	-	-	-	1	5	9.90	-
28MO386	43	2	2	136	TU 6	Str B Lev 2	Bw	LDB 6	Finishing Flake	1	0.1	- -	1	-	-	-	1	1	9.90	-
28MO386	43	3	2	136	TU 6	Str B Lev 2	Bw	LDB 1	Decortication Flake	1	0.8	- -	1	-	-	-	1	5	9.90	-
28MO386	44	1	2	137	TU 7	Str A Lev 1	A	GBU 4	Unidentified Bottle/Jar-Body	2	-	- -	-	-	-	-	-	1	0.2	-
28MO386	44	2	2	137	TU 7	Str A Lev 1	A	GBU 4	Unidentified Bottle/Jar-Body	1	-	- -	-	-	-	-	-	7	0.2	-
28MO386	44	3	2	137	TU 7	Str A Lev 1	A	SKC 4	Screw Top Lid	1	-	- -	420	-	-	2	-	10	1.9	-
28MO386	45	1	2	138	TU 7	Str B Lev 2	Ap	ACV 6	Body Sherd	1	2.4	- -	2	-	-	20	-	14	10.95	possibly fabric impressed; quartz 4-6 mm; possible Bowmans Brook (Staat 1974)
28MO386	46	1	2	139	TU 7	Str C Lev 3	Bw	LFC 1	Fire-cracked Rock	2	12.9	- -	551	-	-	-	-	-	9.92	-
28MO386	46	2	2	139	TU 7	Str C Lev 3	Bw	ZAZ 1	Unidentified Bone	1	0.6	- -	-	-	999	2	-	-	11.127	-
28MO386	47	1	2	140	TU 7	Str C Lev 4	Bw	ZAZ 1	Unidentified Bone	1	0.1	- -	-	-	999	2	-	-	11.127	-

APPENDIX C

EXCAVATION LOGS

Shovel Tests

Notes: Depths are centimeters below ground surface. NCM = No Cultural Material

A-1

A 0-16	10YR 4/3	Loamy sand	A horizon	Positive (Fld 101)
B 16-30	2.5Y 5/6	Sand	Ap horizon	Positive (Fld 102)
C 30-65	2.5Y 6/6	Sand	Bw horizon	NCM
D 65-110	2.5Y 6/3	Sand	C horizon	NCM

A-2

A 0-20	10YR 4/3	Loamy sand	A horizon	NCM
B 20-33	2.5Y 5/6	Sand	Ap horizon	NCM
C 33-50	2.5Y 6/6	Sand	Bw horizon	NCM
D 50-86	2.5Y 6/3	Sand	C horizon	NCM

A-3

A 0-21	10YR 4/3	Loamy sand	A horizon	Positive (Fld 103)
B 21-40	2.5Y 5/6	Sand	Ap horizon	Positive (Fld 104)
C 40-85	2.5Y 6/6	Sand	Bw horizon	NCM
D 85-102	2.5Y 6/3	Sand	C horizon	NCM

A-4

A 0-12	10YR 2/1	Sandy loam	A horizon	NCM
B 12-28	10YR 4/6	Sandy loam	Ap horizon	NCM
C 28-52	10YR 6/6	Sand	Bw horizon	NCM
D 52-82	10YR 8/6	Sand	C horizon	NCM

A-5

A 0-48	10YR 2/1	Sandy loam	A/Ap horizon	NCM
B 48-50	10YR 4/6	Sandy loam	Bw horizon	NCM
C 50-70	10YR 6/6	Sand	C horizon	NCM
D 70-83	10YR 6/6	Sand with pebbles	C horizon	NCM
E 83-104	10YR 8/6	Sand	C horizon	NCM

A-6

A 0-20	10YR 2/1	Sandy loam	A/Ap horizon	NCM
B 20-46	10YR 4/6	Sandy loam	Bw horizon	NCM
C 46-63	10YR 6/6	Sand	C horizon	NCM
D 63-84	10YR 6/6	Sand with pebbles	C horizon	Positive (Fld 105)
E 84-90	10YR 8/6	Sand	C horizon	NCM

Phase II, Fort Monmouth

Excavation Log

A-7

A 0-16	10YR 2/1	Sandy loam	A/Ap horizon	NCM
B 16-36	10YR 4/6	Sandy loam	Bw horizon	NCM
C 36-54	10YR 6/6	Sand	C horizon	NCM
D 54-72	10YR 8/6	Sand	C horizon	NCM
E 72-81	10YR 5/6	Sand	C horizon	NCM

A-8

A 0-10	10YR 4/3	Sandy loam	A horizon	NCM
B 10-28	2.5Y 5/6	Sand	Ap horizon	NCM
C 28-57	2.5Y 6/6	Sand	Bw horizon	NCM
D 57-73	2.5Y 6/3	Sand	C horizon	NCM

A-9

A 0-12	10YR 4/3	Sandy loam	A horizon	NCM
B 12-28	2.5Y 5/6	Sand	Ap horizon	NCM
C 28-64	2.5Y 6/6	Sand	Bw horizon	NCM
D 64-86	2.5Y 6/3	Sand	C horizon	NCM

A-10

A 0-18	10YR 2/1	Sandy loam	A/Ap horizon	NCM
B 18-30	10YR 4/1	Sandy loam	Fill	NCM
C 30-76	5Y 6/6	Sand	C horizon	NCM
D 76-78	5Y 6/4	Sand	C horizon	NCM
			C horizon	NCM

A-11

A 0-26	10YR 4/4	Sandy loam	A/Ap horizon	NCM
B 26-46	5Y 6/4	Sand	Bw horizon	NCM
C 46-62	2.5Y 6/6	Sand	BC horizon	NCM
D 62-76	2.5Y 7/4	Sand	C horizon	NCM

A-12

A 0-12	10YR 4/4	Sandy loam	A/Ap horizon	NCM
B 12-32	5Y 6/4	Sand	Bw horizon	NCM
C 32-46	2.5Y 6/6	Sand	BC horizon	NCM
D 46-62	2.5Y 7/4	Sand	C horizon	NCM

A-13

A 0-13	10YR 4/3	Sandy loam	Fill	Positive (Fld 106)
	10YR 4/3 mixed with 7.5YR 6/6			
B 13-45	and 2.5YR 5/6	Sand	Fill	NCM
C 45-60	7.5YR 4/4	Sand	Fill	Positive (Fld 107)
D 60-84	7.5YR 7/4	Sand	C horizon	NCM
E 84-100	2.5Y 7/3	Sand	C horizon	NCM

Phase II, Fort Monmouth

Excavation Log

A-14

A 0-14	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 14-26	10YR 5/6	Sandy loam	Bw horizon	NCM
C 26-51	5Y 5/6	Sand	C horizon	NCM
D 51-74	5Y 6/3	Sand	C horizon	NCM

A-15

A 0-13	10YR 4/3	Sandy loam	Fill	NCM
	10YR 4/3 mixed with 7.5YR 6/6 and 2.5YR 5/6	Sand	Fill	NCM
B 13-27	7.5YR 7/4	Sand	C horizon	NCM
C 27-57	2.5Y 7/3	Sand	C horizon	NCM
D 57-67				

A-16

A 0-23	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 23-37	10YR 5/6	Sandy loam	Bw horizon	NCM
C 37-62	5Y 5/6	Sand	C horizon	NCM

A-17

A 0-12	10YR 4/2	Sandy loam	A/Ap horizon	NCM
B 12-22	10YR 5/6	Sand	Bw horizon	NCM
C 22-80	2.5Y 6/6	Sand	C horizon	NCM
D 80-100	2.5Y 7/2	Sand	C horizon	NCM

A-18

	10YR 4/3 mixed with 10YR 5/6	Sandy loam	Fill	NCM
A 0-30				
B 30-45	10YR 5/6	Sandy loam	Bw horizon	NCM

A-19

A 0-12	10YR 4/3	Sandy loam	Fill	NCM
B 12-15	10YR 5/4	Sandy loam	Fill	NCM
C 15-26	10YR 2/1	Sandy loam	Fill	NCM
D 26-35	5Y 4/6	Sand	Bw horizon	NCM
E 35-70	5Y 6/6	Sand	C horizon	NCM
F 70-89	10YR 5/6	Sand	C horizon	NCM

A-20

A 0-17	10YR 4/3	Sandy loam	Fill	NCM
B 17-25	10YR 5/4	Sandy loam	Fill	NCM
C 25-66	5Y 4/6	Sand	Bw horizon	NCM
D 66-85	5Y 6/6	Sand	C horizon	NCM

Phase II, Fort Monmouth

Excavation Log

A-21

A 0-15	10YR 4/3	Sandy loam	Fill	NCM
B 15-29	10YR 4/3 mixed with 5Y 6/8	Sandy loam	Fill	NCM
C 29-58	2.5Y 5/4	Sand	Bw horizon	NCM
D 58-76	5Y 5/3	Sand	C horizon	NCM

A-22

A 0-38	10YR 4/3	Sandy loam	Fill	NCM
B 38-76	5Y 4/3	Sand	C horizon	NCM

A-23

A 0-16	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 16-58	5Y 4/6	Sand	Bw horizon	NCM
C 58-77	5Y 4/3	Sand	C horizon	NCM

A-24

A 0-20	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 20-78	7.5YR 5/6	Sand	Bw horizon	NCM

B-1

A 0-12	10YR 3/1	Loamy sand	A horizon	NCM
B 12-23	7.5YR 4/4	Loamy sand	Ap horizon	Positive (Fld 108)
C 23-71	10YR 6/6	Sand	Bw horizon	NCM

B-2

A 0-9	10YR 3/1	Loamy sand	A horizon	NCM
B 9-19	7.5YR 4/4	Loamy sand	Ap horizon	NCM
C 19-63	10YR 5/6	Loamy sand	Bw horizon	Positive (Fld 110)
D 63-85	2.5Y 6/6	Sand	C horizon	NCM

B-3

A 0-11	10YR 3/1	Loamy sand	A horizon	NCM
B 11-21	7.5YR 4/4	Loamy sand	Ap horizon	Positive (Fld 109)
C 21-62	7.5YR 6/6	Loamy sand	Bw horizon	NCM
D 62-85	2.5Y 6/6	Sand	C horizon	NCM

B-4

A 0-9	10YR 3/1	Loamy sand	A horizon	NCM
B 9-25	7.5YR 4/4	Loamy sand	Ap horizon	NCM
C 25-71	10YR 6/6	Loamy sand	Bw horizon	NCM
D 71-89	2.5Y 6/6	Sand	C horizon	NCM

Phase II, Fort Monmouth

Excavation Log

B-5

A 0-12	10YR 3/1	Loamy sand	A horizon	NCM
B 12-22	7.5YR 4/4	Loamy sand	Ap horizon	Positive (Fld 111)
C 22-56	10YR 6/6	Loamy sand	Bw horizon	NCM
D 56-85	2.5Y 6/6	Sand	C horizon	NCM

B-6

A 0-12	10YR 3/1	Loamy sand	A horizon	NCM
B 12-22	7.5YR 4/4	Loamy sand	Ap horizon	NCM
C 22-65	10YR 6/6	Loamy sand	Bw horizon	NCM
D 65-79	2.5Y 6/6	Sand	C horizon	NCM

B-7

A 0-10	10YR 3/1	Sandy loam	A horizon	NCM
B 10-19	7.5YR 4/4	Loamy sand	Ap horizon	NCM
C 19-70	2.5Y 6/6	Loamy sand	Bw horizon	NCM

B-8

A 0-11	10YR 3/1	Sandy loam	A horizon	NCM
B 11-15	7.5YR 4/4	Loamy sand	Ap horizon	NCM
C 15-65	2.5Y 6/6	Loamy sand	Bw horizon	NCM

C-1

A 0-12	10YR 4/3	Sandy loam	A horizon	Positive (Fld 112)
B 12-15	10YR 5/4	Sandy loam	Ap horizon	NCM
C 26-35	5Y 5/4	Sand	Bw horizon	NCM
D 35-70	7.5YR 5/8	Sand	C horizon	NCM

C-2

A 0-31	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 31-76	7.5YR 6/8	Sand	C horizon	NCM

C-3

A 0-21	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 21-78	7.5YR 5/6	Sand	C horizon	NCM

C-4

A 0-21	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 21-78	7.5YR 5/8	Sand	C horizon	NCM

C-4

A 0-24	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 24-82	7.5YR 5/6	Sand	C horizon	NCM

Phase II, Fort Monmouth

Excavation Log

D-1

A 0-19	10YR 4/3	Sandy loam	A/Ap horizon	Positive (Fld 113)
B 19-29	10YR 5/4	Sandy loam	Bw horizon	NCM
C 29-70	5Y 5/6	Sand	C horizon	NCM
D 70-93	7.5YR 5/8	Sand	C horizon	NCM

D-2

A 0-18	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 18-37	5Y 4/3	Sandy loam	Bw horizon	NCM
C 37-75	5Y 5/6	Sand	C horizon	NCM

D-3

A 0-20	10YR 4/3	Sandy loam	A/Ap horizon	NCM
B 20-82	5Y 4/6	Sand	C horizon	NCM

D-4

A 0-22	10YR 4/3	Sandy loam	A/Ap horizon	Positive (Fld 114)
B 22-81	5Y 4/6	Sand	C horizon	NCM

E-1

A 0-18	10YR 3/2	Sandy loam	A/Ap horizon	NCM
B 18-67	2.5Y 6/8	Sand	Bw horizon	Positive (Fld 115)

E-2

A 0-14	10YR 3/2	Sandy loam	A horizon	NCM
B 14-21	10YR 4/3	Sand	Ap horizon	NCM
C 21-82	2.5Y 6/8	Sand	Bw horizon	NCM

E-3

A 0-14	10YR 3/2	Sandy loam	A horizon	NCM
B 14-22	10YR 4/3	Sand	Ap horizon	NCM
C 22-80	2.5Y 6/8	Sand	Bw horizon	NCM

E-4

A 0-20	10YR 3/2	Sandy loam	A horizon	NCM
B 20-80	2.5Y 6/8	Sand	Bw horizon	NCM

F-1

A 0-22	10YR 3/1	Sandy loam	Fill	NCM
B 22-38	10YR 5/4	Sand	Bw horizon	NCM
C 38-61	10YR 7/3	Sand	C horizon	NCM

F-2

A 0-21	10YR 3/1 2.5Y 5/6 mottled with 5Y	Sandy loam	Fill	NCM
B 21-72	6/3	Sand	Bw horizon	NCM
C 72-94	10YR 7/3	Sand	C horizon	NCM

F-3

A 0-13	10YR 3/1 7.5YR 5/6 mottled with 5Y	Sandy loam	Fill	NCM
B 13-90	6/3	Sandy loam	Bw horizon	NCM

G-1

A 0-23	10YR 3/1	Sandy loam	Fill	NCM
B 23-50	10YR 5/3	Sand	A/Ap horizon	NCM
C 50-90	2.5Y 6/4	Sand	Bw horizon	NCM

G-2

A 0-10	7.5YR 5/2	Sandy loam	Fill	NCM
B 10-21	10YR 5/6	Sand	Fill	NCM
C 21-47	10YR 6/6	Sand	Bw horizon	NCM
D 47-119	2.5Y 7/4	Sand	C horizon	NCM

Test Units

Notes: Depths are centimeters below unit datum. NCM = No Cultural Material

Unit 1

1 15-25	10YR 3/1	Loamy sand	A horizon	Positive (Fld 116)
2 25-35	10YR 4/3	Loamy sand	Ap horizon	Positive (Fld 117)
3 35-44	10YR 5/6	Sand	Bw horizon	Positive (Fld 118)
4 44-54	10YR 5/6	Sand	Bw horizon	Positive (Fld 119)
5 54-64	2.5Y 7/4	Sand	C horizon	Positive (Fld 120)
6 64-74	2.5Y 7/4	Sand	C horizon	NCM
7 74-84	2.5Y 7/4	Sand	C horizon	NCM

Unit 2

1 12-21	10YR 3/1	Loamy sand	A horizon	Positive (Fld 121)
2 21-32	10YR 4/3	Loamy sand	Ap horizon	Positive (Fld 122)
3 32-41	10YR 5/6	Sand	Bw horizon	Positive (Fld 123)
4 41-52	10YR 5/6	Sand	Bw horizon	Positive (Fld 124)
5 52-61	2.5Y 7/4	Sand	C horizon	NCM
6 61-71	2.5Y 7/4	Sand	C horizon	NCM

Unit 3

1	18-27	10YR 3/2	Loamy sand	A horizon	NCM
2	27-39	2.5Y 4/3	Loamy sand	Ap horizon	Positive (Fld 125)
3	39-51	2.5Y 5/6	Sand	Bw horizon	NCM
4	51-64	2.5Y 5/6	Sand	Bw horizon	Positive (Fld 126)
5	64-74	2.5Y 5/6	Sand	Bw horizon	NCM
6	74-86	2.5Y 7/4	Sand	C horizon	NCM

Unit 4

1	9-25	10YR 2/2	Sandy loam	A horizon	Positive (Fld 127)
2	25-35	10YR 4/3	Sandy loam	Ap horizon	Positive (Fld 128)
3	35-48	7.5YR 4/6	Sand	Bw horizon	Positive (Fld 129)
4	48-59	10YR 6/8	Sand	BC horizon	Positive (Fld 130, 131)
5	59-72	10YR 5/8	Sand	C horizon	NCM
6	72-80	10YR 5/8	Sand	C horizon	NCM

Unit 5

1	9-25	10YR 4/2	Loamy sand	Fill	Positive (Fld 132)
2	25-35	10YR 4/2	Loamy sand	Fill	Positive (Fld 133)
3	35-48	10YR 4/2	Loamy sand	Fill	Positive (Fld 134)
4	48-59	10YR 5/8	Sand	Bw horizon	NCM
5	59-72	10YR 5/8	Sand	Bw horizon	NCM
6	72-80	10YR 5/8	Sand	Bw horizon	NCM

Unit 6

1	19-26	10YR 3/2	Sandy loam	A/Ap horizon	NCM
2	26-36	10YR 6/6	Sand	Bw horizon	Positive (Fld 136)
3	36-42	10YR 6/6	Sand	Bw horizon	Positive (Fld 135)
4	42-55	2.5Y 5/6	Sand	C horizon	NCM
5	55-67	2.5Y 5/6	Sand	C horizon	NCM

Unit 7

1	7-18	10YR 3/2	Sandy loam	A horizon	Positive (Fld 137)
2	18-28	10YR 4/3	Loamy sand	Ap horizon	Positive (Fld 138)
3	28-39	10YR 6/6	Sand	Bw horizon	Positive (Fld 139)
4	39-50	10YR 6/6	Sand	C horizon	Positive (Fld 140)
5	50-63	2.5Y 6/6	Sand	C horizon	NCM

APPENDIX D

UPDATED SITE FORM



NEW JERSEY STATE MUSEUM
ARCHAEOLOGICAL SITE REGISTRATION PROGRAM
BUREAU OF ARCHAEOLOGY AND ETHNOLOGY
P.O. BOX 530, TRENTON, N.J. 08625-0530
Phone (609) 292-8594; Fax (609) 292-7636

Site Name: VSR-2

SITE #: 28-MO-386

☒ Check this box if you prefer to have this site information restricted to professional archaeologists, academics and environmental researchers conducting project background research. If so, this form will be considered donated information according to New Jersey State Law.

NJ State Atlas Coordinates:

USGS 7.5 Minute Series Quad.: Long Branch
State Plane Coordinates (required): E 620341 N 539335
UTM Coordinates (required): E 581509 N 4462722 Zone 18

County: Monmouth Township: Oceanport

Location (descriptive): Site is located on the Main Post of Fort Monmouth, in an open area east of Building 551, between NCO housing (Gosslein Ave) and Huskey Brook.

Period of Site: Prehistoric, Late Archaic and Late Woodland periods

Cultural Affiliation(s) (if known): Unknown

Owner's (Tenant's) Name: Department of the Army, Fort Monmouth Directorate of Public Works

Address: Riverside Avenue, Building 167

Phone: Wanda Green, Cultural Resource Manager, 732-5332-1475

Attitude Toward Preservation: Programmatic Agreement in place with NJ HPO

Surface Features: None

Prominent Landmarks: None

Vegetation Cover: Maintained lawn with scatter hardwoods

Nearest Water Source: Husky Brook Distance: 30 meters

Soil Type: Udorthents, smoothed, and Urban Land Erosion: Minimal

Stratified (if known): No

Threat of Destruction (if known): Fort Monmouth is undergoing closure and land ownership may pass into private hands

Previous Work and References (list below):

Name	Date	Reference (n/a if unpublished)
1. Versar, Inc.	2007	Phase I Archaeological Survey of Fort Monmouth, Monmouth County, New Jersey. On file at NJ HPO.
2. Katz, Gregory	2011	Phase II Archaeological Investigation of Site 28MO386, Fort Monmouth. Prepared by The Louis Berger Group, Inc. for the U.S. Army Corps of Engineers, Mobile District. (Final). On file at NJ HPO.
3. Katz, Gregory	2012	Phase II Archaeological Investigation of Site 28MO386, Fort Monmouth. Prepared by The Louis Berger Group, Inc. for the U.S. Army Corps of Engineers, Mobile District. (Revised Final). On file at NJ HPO.

Collections:

Name	Date	Collection Stored	Previous Designation
1. 2007 Phase I Survey of Fort Monmouth	2009	Fort Lee Regional Archaeological Curation Facility	
2. Phase II Investigation of Site 28MO386	2011	Fort Lee Regional Archaeological Curation Facility	

Sketch Map of the Site:

Indicate the chief topological features, such as streams, swamps, shorelines, and elevations (approximate). Also show buildings and roads. Indicate the site location by enclosing the site area with a dotted line. Use a scale (approximate) to indicate distance and dimensions.

↑
North

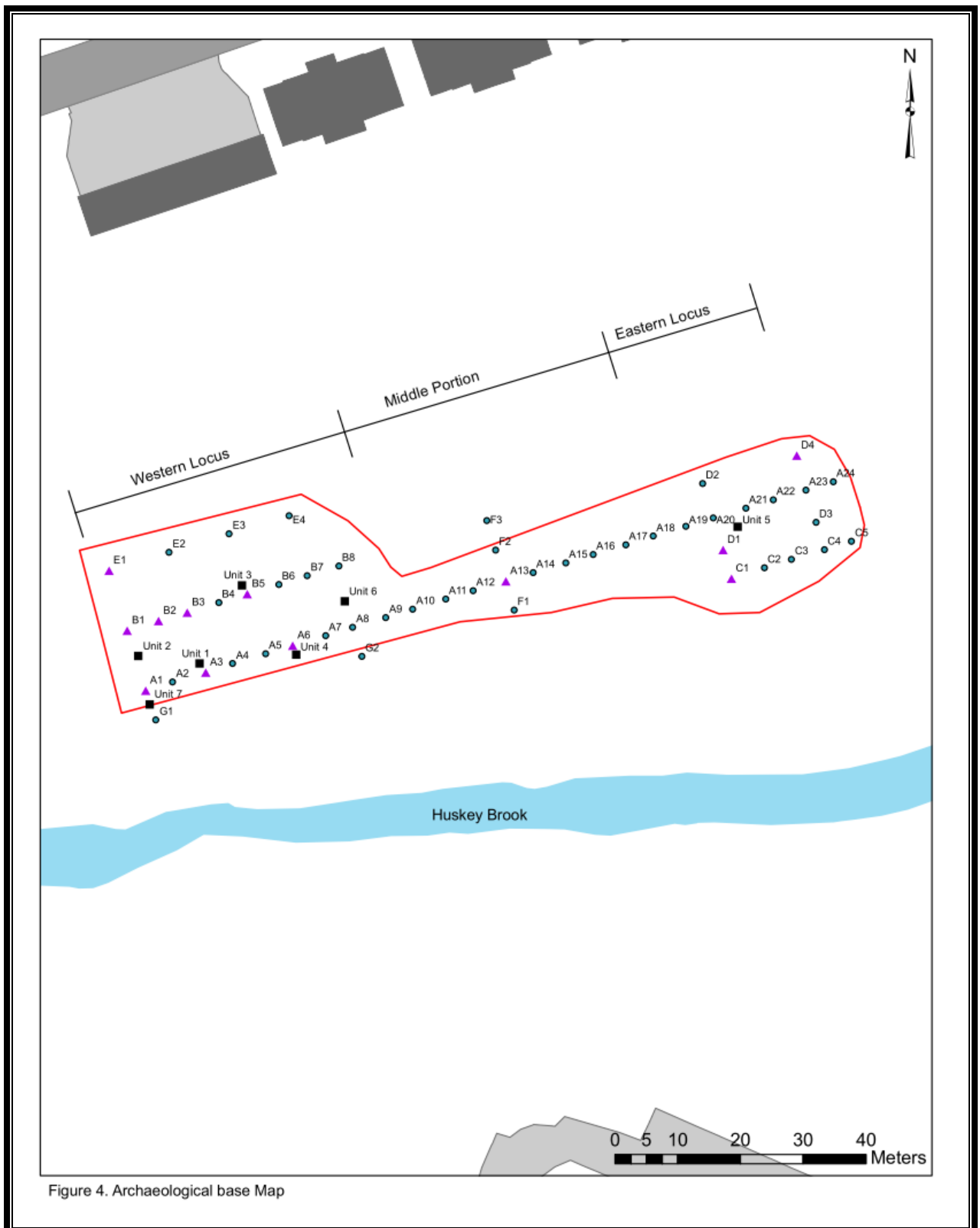


Figure 4. Archaeological base Map

Scale:

Observations, Remarks, or Recommendations:

Site 28MO386 was initially identified as part of a large-scale survey of Fort Monmouth (Versar, Inc. 2008). The site was defined as an approximately 0.6-acre (just over 2,400-square-meter) area along Huskey Brook with a prehistoric occupation of unknown age and function. During the Phase I, 54 shovel tests were excavated in the site area, and seven prehistoric artifacts were recovered.

The Phase II investigation of the site included the excavation of 50 shovel tests and seven test units across the site. A total of 448 prehistoric artifacts was recovered in the Phase II investigation, including fabric-impressed pottery (possibly Riggins Ware), and incised pottery (possibly Indian Head Incised and Bowmans Brook ware types). Riggins, Indian Head Incised, and Bowmans Brook are all Late Woodland wares (AD 1000 to 1607). Also recovered were a triangular point, also probably Late Woodland, and an Orient Fishtail projectile point, indicative of the Late Archaic period (3000 to 1200 BC) occupation of the site. The Phase II investigation yielded numerous pieces of chipped stone (N=377), including discarded projectile points and point fragments (N=3), bifaces (N=2), early-stage debitage (N=11), and later-stage debitage (N=217). The lithic material types include argillite, chert, jasper, quartz, and trace quantities of rhyolite).

The occupations may represent seasonal encampments associated with resource procurement, perhaps from Huskey Brook or from nearby wetlands. The site assemblage is consistent with an encampment, with tool refurbishment or production taking place in addition to cooking.

Artifacts at Site 28MO386 were principally recovered from a relatively thin plowzone. Although a number of artifacts (N=148; 33 percent) were recovered below the plowzone, these finds appear to have moved downward in the profile because of natural processes (bioturbation). No subsurface features were identified at the site. Fill was documented in isolated areas of the site, principally in the middle and eastern portions. Ground disturbance was documented in several shovel tests in the middle portion of the site but was not found elsewhere in the testing. The integrity of the site therefore varies.

The site is recommended eligible for listing in the National Register. Berger believes that the site has yielded and is likely to yield information important to prehistory (National Register Criterion D). The site has research potential related to local prehistory in the Late Archaic and Late Woodland periods. Significant deposits at the site are limited to the western locus (see map), which is 0.3 acre in size (1,200 square meters).

Management and treatment of the site is taking place in accordance with a 2009 Programmatic Agreement between the U.S. Army and the NJ HPO.

Recorder's Name (Company): Gregory Katz (The Louis Berger Group, Inc.)

Address: 1250 23rd Street, NW, Washington, DC. 20037

Phone: 202-331.7775

Date Recorder at Site: November 2010

Revised 2007