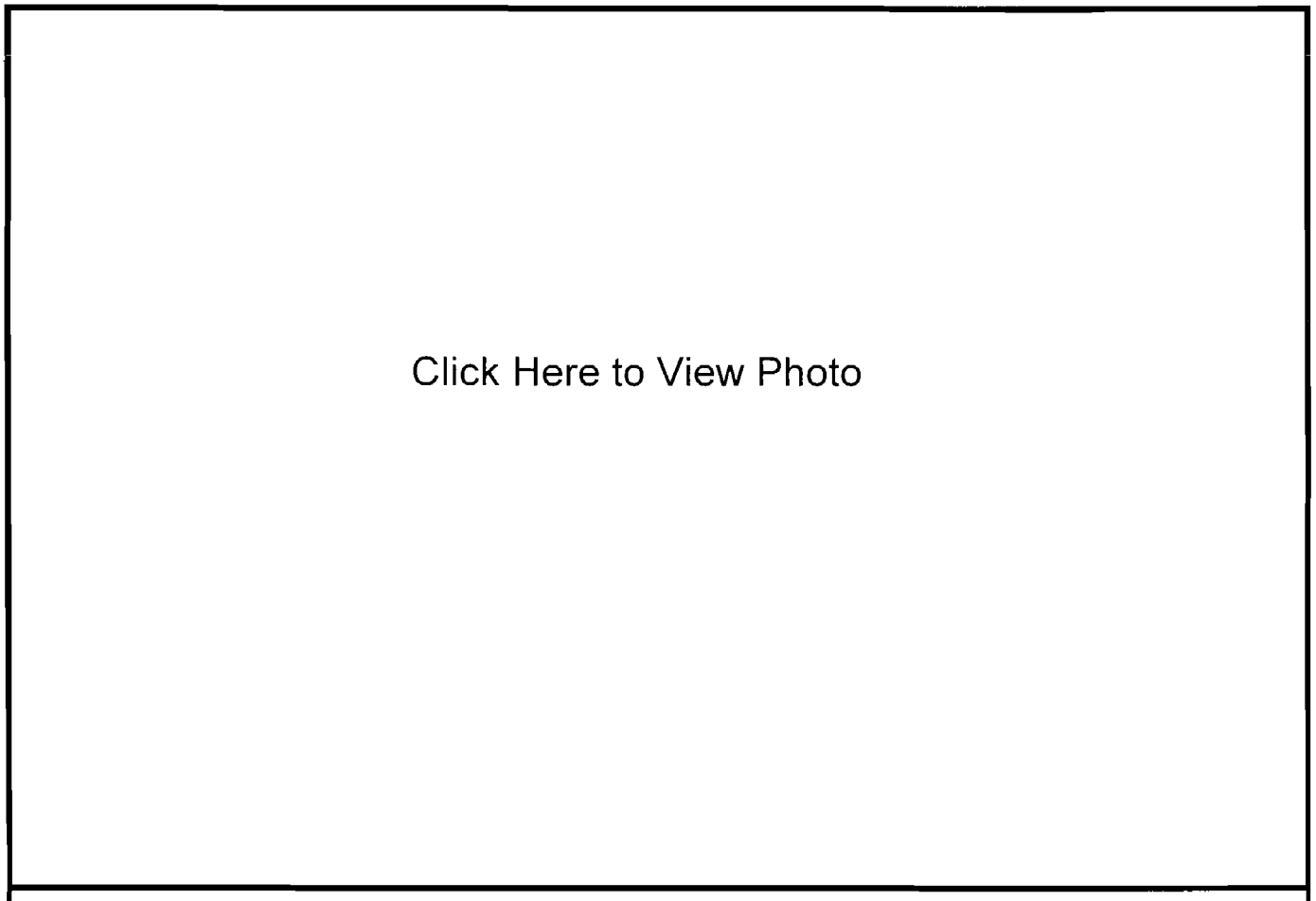
INTRODUCTION

The purpose of this report is to describe the results of final Phase II archaeological excavations at the Paradise Lane Site (7NC-D-125, N-10891), located within the Ogletown Interchange project area in White Clay Creek Hundred, north-central New Castle County, Delaware (Figure 1; Plate 1). The initial Ogletown project area right-of-way encompassed approximately 100 acres and 3.5 miles of linear right-of-way. The Paradise Lane Site was identified during a Phase I survey of the area in 1985 and 1986 (Coleman, Hoseth, and Custer 1987). The final Phase II field work at the Paradise Lane Site took place between June 1987 and February 1988. Report preparation occurred between February 1989 and December 1992. Excavations were undertaken by the University of Delaware Center for Archaeological Research (UDCAR) for the Delaware Department of Transportation (DelDOT) and the Federal Highway Administration (FHWA) under Section 106 of the National Historic Preservation Act to evaluate the effects of the proposed relocation and reconstruction of Delaware Routes 4 and 273 on significant, or potentially significant, cultural resources as defined by the National Register of Historic Places (36CFR60).

PLATE 2

Artifacts from Phase I Testing



Top row (left to right): Jasper Woodland I contracting stem point, jasper utilized late stage biface reject, jasper early stage biface reject, jasper flake.
Mid. row (left to right): Jasper early stage biface reject with cortex, jasper flake tool, distal portion of a jasper biface.
Bot. row (left to right): Chert core, jasper flake with cortex, jasper early stage biface reject, jasper flake with cortex.

After the completion of initial Phase II testing, the Paradise Lane Site was found to be eligible for listing on the National Register of Historic Places. This determination was based on the following factors: 1) the potential for good site integrity as indicated by geomorphological investigation at the site (Appendix I); 2) the recovery of a variety of prehistoric artifacts, including lithic debitage, bifaces, fire-cracked rocks, projectile points and ceramic sherds diagnostic of the Woodland I Period (Plates 2 and 3) from undisturbed subsoil contexts between 5 cm and 70 cm below surface (Figures 2 and 3); and 3) the size of the site (8,000 sq. m) which indicated that it may have functioned as either a micro-band base camp or a procurement/staging locale.

FIGURE 2

Representative North Wall Profile, 1985 Excavations

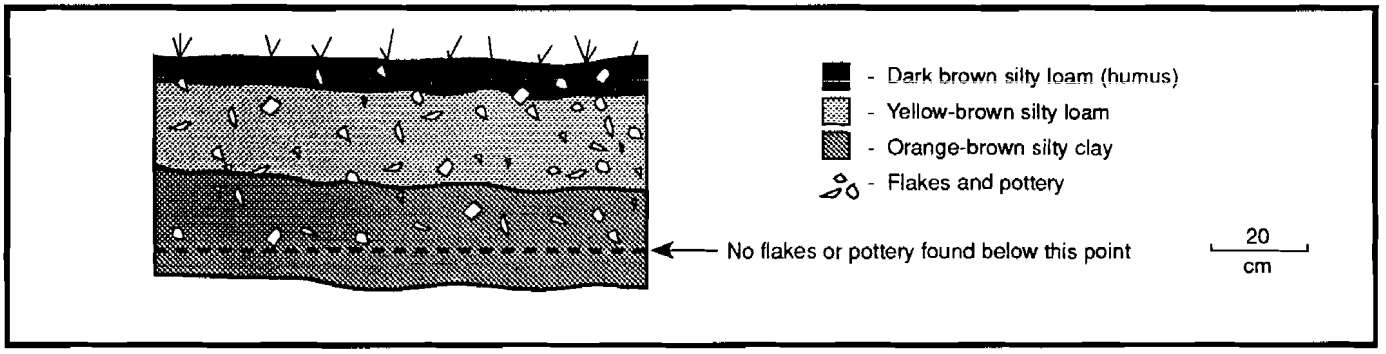
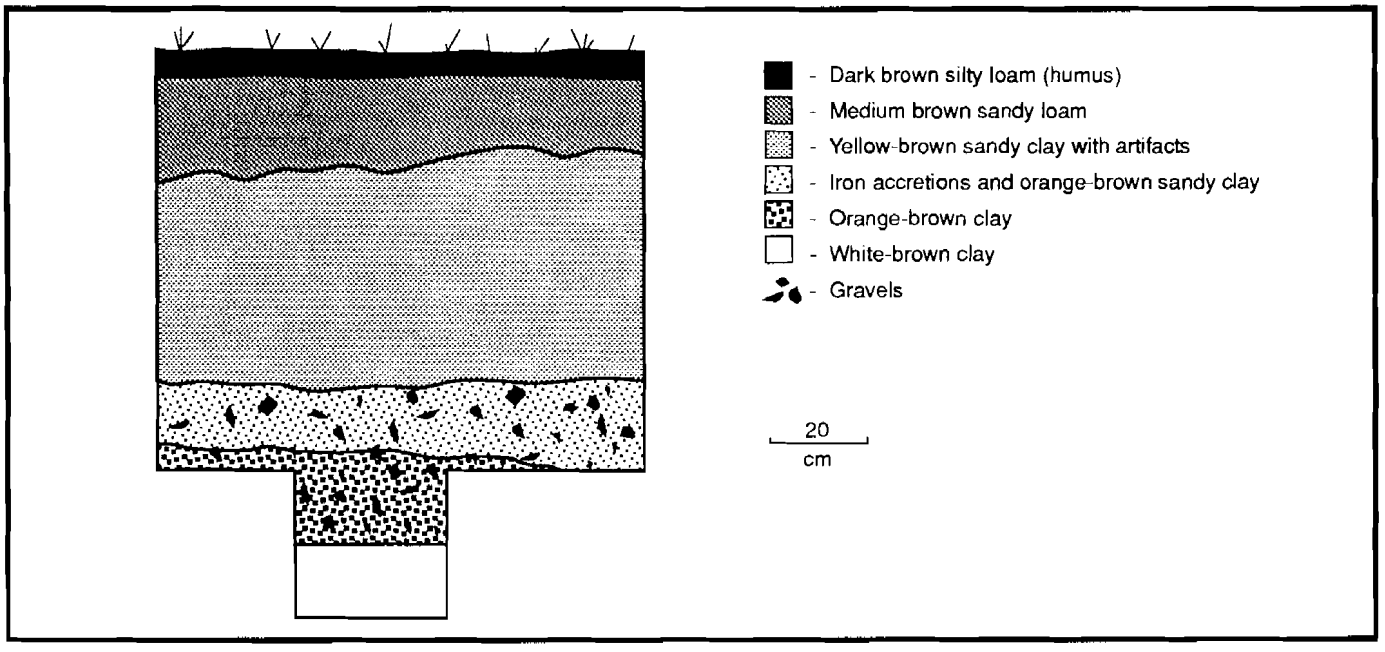


FIGURE 3

Representative West Wall Profile, 1986 Excavations



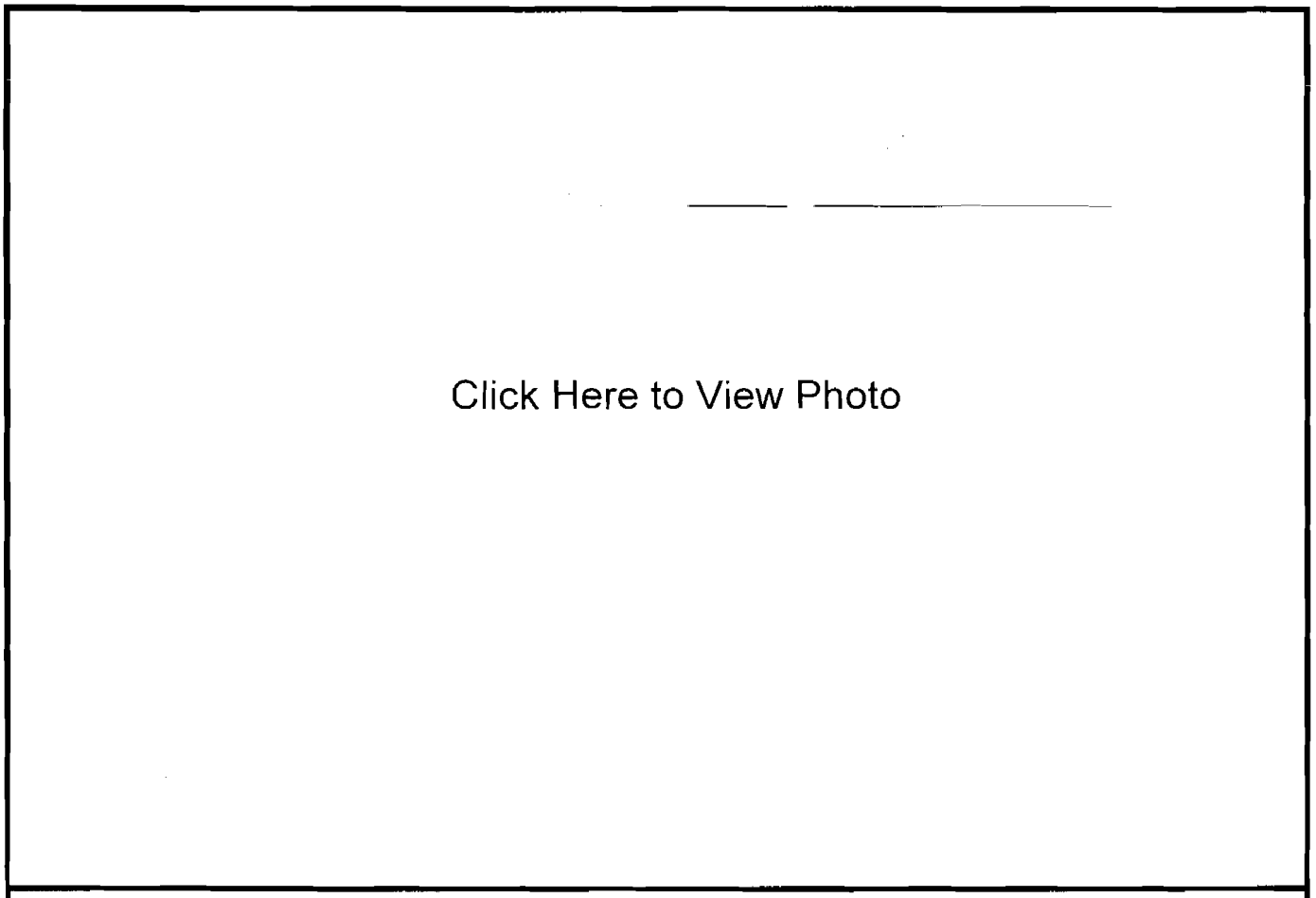
Environmental Setting

The Ogletown Interchange project area and the Paradise Lane Site are located in the north-central portion of New Castle County (Figure 1) in an area that is transitional between the Fall Line and High Coastal Plain physiographic zones of Delaware (Figure 4). The summary of the local environmental setting presented below is abstracted from the work of Custer (1984:23-25) and Custer and De Santis (1986).

The Fall Line/High Coastal Plain transition zone of Delaware represents a northeast-southwest trending zone through the northern portion of the Delmarva Peninsula and is characterized by a combination of features common to both the Fall Line and High Coastal Plain (Spoljaric 1967:3). The

PLATE 3

Artifacts from Phase I Testing



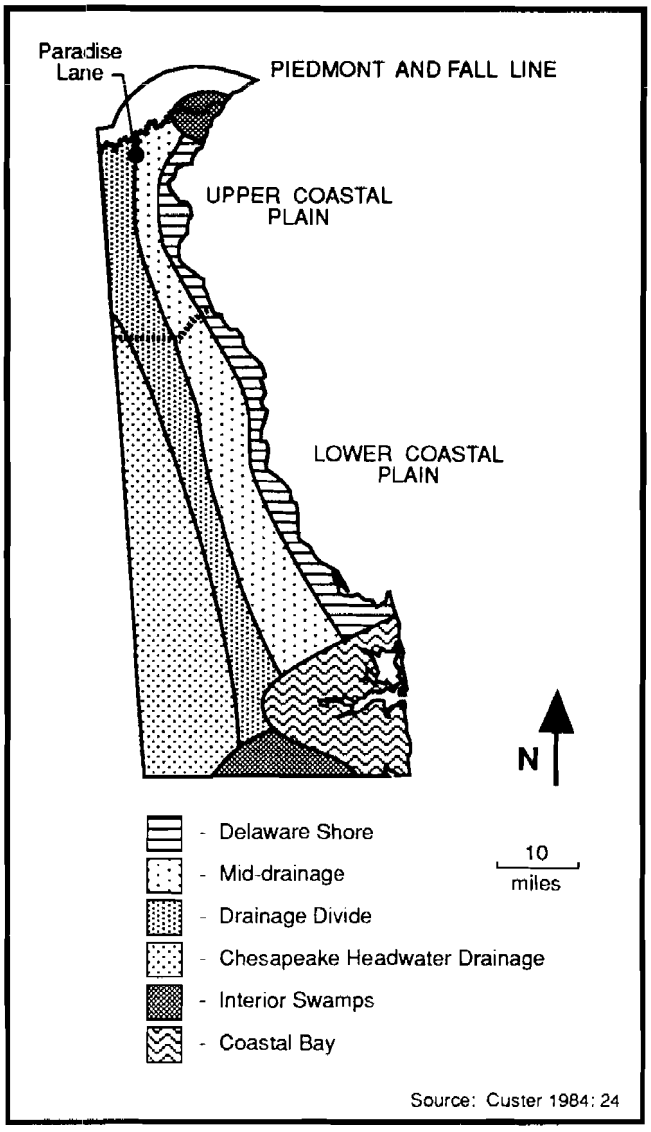
Top row (left to right): Quartz late stage biface reject, quartz flake tool, argillite flake, Minguannan ceramic, quartz Woodland I side-notched biface.

Bot. row (left to right): Quartz early stage biface reject with cortex, quartz flake with cortex, quartz late stage biface reject, quartz early stage biface reject.

Fall Line zone is itself a transitional zone from the Piedmont Uplands to the flatter Coastal Plain areas to the south. Streams with steep gradients flowing from the Piedmont reach the Fall Line zone, which is less steep, and drop their bed loads. At present, the bed loads of the Piedmont streams are quite small, but at various times in the past these streams carried tremendous loads and dropped gravels, cobbles, boulders, and various sorted sands that make up the Columbia Formation described by Jordan (1964). Sands, the primary component of Columbia Formation sediments, consist mostly of quartz and feldspar, and gravels are dominated by sandstone, vein quartz, and chert (Jordan 1964). The deposition of the Columbia Formation created a series of well-drained soils, interspersed with cobble beds in the vicinity of the Fall Line zone. The cobble beds are of special interest because they provide good sources of raw material for the manufacture of stone tools. The White Clay Creek, which flows parallel to the Fall Line, supplies abundant fresh water to the area.

FIGURE 4

Delaware Physiographic Zones



The High Coastal Plain represents the southeastern extension of the very coarse glacial deposits of the Columbia sediments (Jordan 1964:40). In many areas these coarse deposits resisted erosion, creating a rolling topography with up to 16 m (50 ft.) of elevation difference between the headlands bordering the larger streams and the adjacent floodplain marshes. Elevation differences surrounding the project area range up to 52 m (170 ft.) from the floodplains of White Clay Creek to the edge of the Fall Line. Even though the High Coastal Plain elevation differences are considerably less than those noted for the Piedmont and Fall Line, they are great enough to significantly influence seasonal differences in plant communities (Braun 1967:246-247). Water courses tend to be deeply incised and are lined by a veneer of relatively recent sediments that is thin along the upper reaches of drainages and thickens toward their mouths (Kraft et al. 1976:13). Most streams in the High Coastal Plain are tidal and the saltwater/freshwater mix allows for a wide range of resources. Soil types present include a variety of well-drained and poorly-drained series that are distributed in a mosaic pattern across the region.

The Paradise Lane Site is located on a heavily wooded east-west trending rise of land in an interior area characterized by extensive poorly-drained woodlands (Figure 5; Plate 4). Spring-fed ephemeral streams and bay/basin features are present near the site and provide ample sources of fresh water and favorable hunting and gathering locales. Soil profiles recorded throughout the Ogletown project area during the Phase I/II survey (Coleman, Hoseth, and Custer 1987) indicate that most of the poorly-drained wooded areas probably have remained poorly drained for the past 10,000 years. However, it is likely that the size of the poorly-drained woodlands waxed and waned in response to both seasonal and long-term fluctuations in local climates. Vegetation on the knoll at 7NC-D-125 probably changed through time as did regional vegetation (Custer 1984). Prior to 3000 B.C., the knoll probably was wooded with stands of first spruce and pine, and then hemlock and oak. From 3000 B.C. to 800 B.C., it is likely that the site environs may have consisted of an oak-hickory woodland which at times gave way to an open woodland or even grasslands. After 800 B.C., the knoll at 7NC-D-125 would have been covered by a mixed hardwood woodland. Throughout the prehistoric period of human occupation, the surrounding environments of 7NC-D-125 would have provided an interface between well-drained and poorly-drained woodlands which would have been a productive setting for prehistoric hunters and gatherers. At present, the site's local environment is characterized by fallow agricultural fields and scrub woodlands.

Regional Prehistory

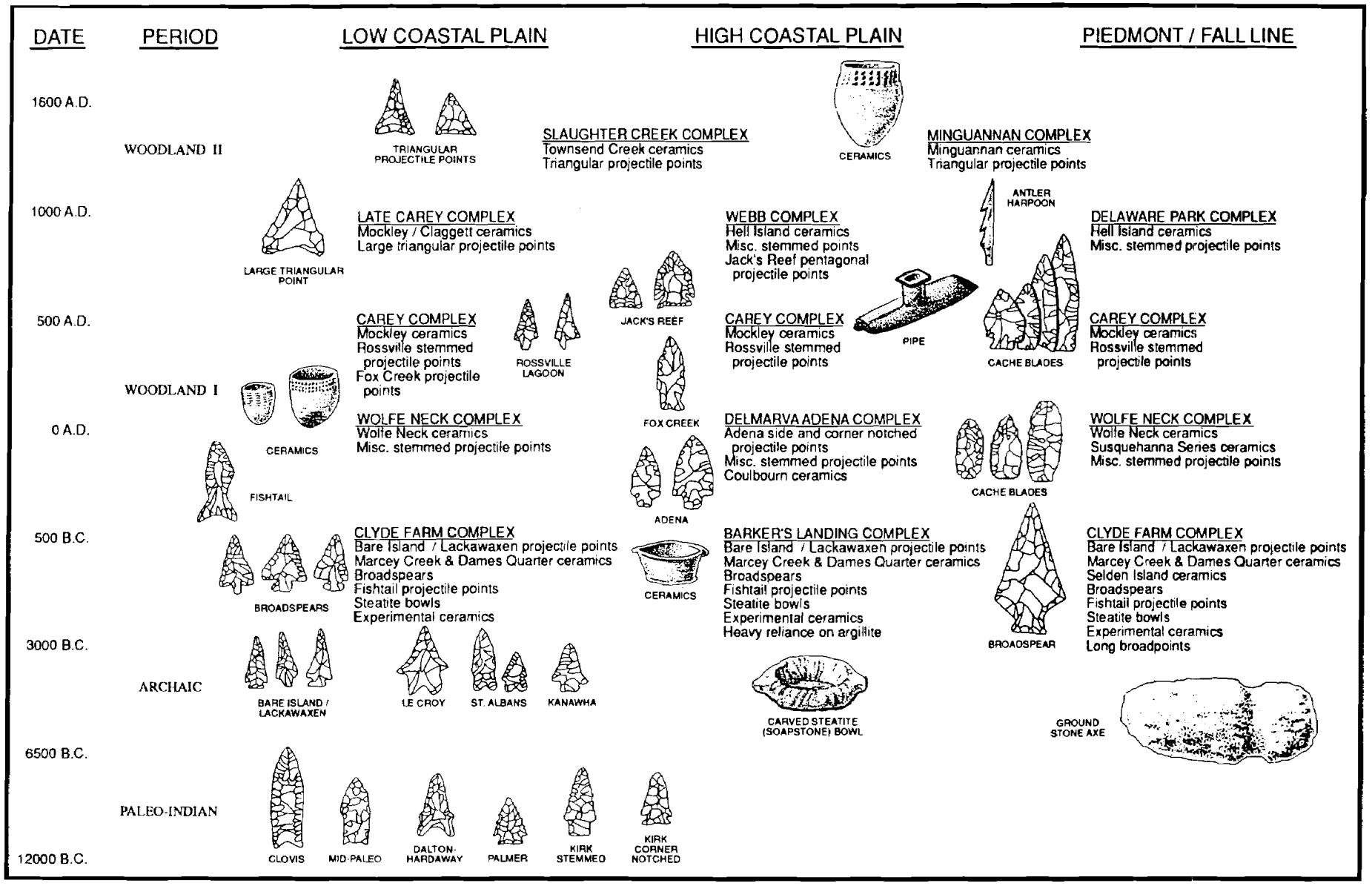
The prehistoric archaeological record of the northern New Castle County area can be divided into four blocks of time: the Paleo-Indian Period (ca. 12,000 B.C. - 6500 B.C.), the Archaic Period (6500 B.C. - 3000 B.C.), the Woodland I Period (3000 B.C. - A.D. 1000), and the Woodland II Period (A.D. 1000 - A.D. 1650). A fifth time period, the Contact Period, may also be considered and includes the time period from A.D. 1650 to A.D. 1750, the approximate date of the final Indian habitation of northern Delaware in anything resembling their pre-European Contact form. Each of these periods is described below and the descriptions are summarized from Custer (1984) and Custer and De Santis

(1986). These divisions are based on changes in adaptive strategies that are evident from the archaeological record. Figure 6 presents a chart of the artifact types associated with various culture complexes through time.

Paleo-Indian Period (12,000 B.C. - 6500 B.C.). The Paleo-Indian Period encompasses the time of the final disappearance of Pleistocene glacial conditions from eastern North America and the establishment of more modern Holocene environments. The distinctive feature of the Paleo-Indian Period is human adaptation to the cold, and alternately wet and dry, conditions at the end of the Pleistocene and the beginning of the Holocene. This adaptation was primarily based on hunting and gathering, with hunting providing a large portion of the diet. Hunted animals may have included now extinct megafauna and moose. A mosaic of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for these game animals throughout northern Delaware, and watering areas in the study area may have been particularly good hunting settings.

FIGURE 6

Cultural Complexes of Delaware



Tool kits of Paleo-Indian groups were oriented toward the procurement and processing of hunted animal resources. A preference for high quality lithic materials is evident and careful resharpening and maintenance of tools was common. A lifestyle of movement among the game attractive environments has been hypothesized with social organizations based on single and multiple family bands. Throughout the 5500 year time span of the period, the basic settlement structure remained relatively constant with some modifications seen as Holocene environments appeared at the end of the Paleo-Indian Period.

Numerous Paleo-Indian sites are known for northern Delaware including hunting and processing sites near Hockessin (Custer and De Santis 1986) and adjacent to the Wilmington Medical Center (Custer, Catts, and Bachman 1982), possible quarry sites near Iron Hill (Custer, Ward, and Watson 1986), and isolated point finds.

Archaic Period (6500 B.C. - 3000 B.C.). The Archaic Period is characterized by a series of adaptations to the newly emerged full Holocene environments. These environments were dominated by mesic forests of hemlock and oak. A reduction in open grasslands in the face of warm and wet conditions caused the extinction of many of the grazing animals hunted during Paleo-Indian times; however, browsing species such as deer flourished. Sea-level rise was also associated with the beginning of the Holocene Period in northern Delaware. The major effect of the rise in sea level was to raise the local water table, which helped to create a number of large swamps, such as Churchmans Marsh, approximately 6 km east of the study area. Human adaptations changed from the hunting focus of the Paleo-Indians to a more generalized foraging pattern in which plant food resources would have played a more important role. Large swamp settings such as Churchmans Marsh supported large base camps as indicated by the remains at the Clyde Farm Site. A number of small procurement sites at favorable hunting and gathering locales are also known in northern Delaware.

Archaic tool kits were more generalized than earlier Paleo-Indian tool kits and showed a wider array of plant processing tools such as grinding stones, mortars, and pestles. A mobile lifestyle was probably common allowing for the use of a wide range of resources and environmental settings on a seasonal basis. A fluid band-level organization which enabled the adjustment of group size in relation to resource availability is evident.

Woodland I Period (3000 B.C. - A.D. 1000). The Woodland I Period can be correlated with a dramatic change in local climates and environments that occurred throughout the Middle Atlantic region. A pronounced warm and dry period lasted from ca. 3000 B.C. to 1000 B.C. Mesic forests were replaced by xeric forests of oak and hickory, and grasslands again became common. Some interior streams dried up, but the overall effect of the environmental changes was an alteration of the environment, not a degradation. Continued sea-level rise also made many areas of the Delaware River and Bay shore the sites of large brackish water marshes which were especially high in productivity.

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

Woodland I tool kits show some minor variations as well as some major additions from previous Archaic tool kits. Plant processing tools became increasingly common and seem to indicate an intensive harvesting of wild plant foods that may have approached the efficiency of horticulture by the end of the Woodland I Period. Chipped stone tools changed little from the preceding Archaic Period; however, more broad-bladed knife-like processing tools became prevalent. Also, the presence of a number of non-local lithic raw materials indicates that trade and exchange systems with other groups were beginning to develop. Stone, and then ceramic, containers are also added. These items allowed more efficient cooking of certain types of food and may also have functioned as storage for surplus food resources. Storage pits and house features during this period are also known from the Delaware Park Site (Thomas 1981) and the Clyde Farm Site (Custer 1982). Social organization also seems to have undergone radical changes during the Woodland I Period. With the onset of relatively sedentary lifestyles and intensified food production that might have produced occasional surpluses, incipient ranked societies may have begun to develop, as indicated by the presence of extensive trade and exchange and caching of special artifact forms. By the end of the Woodland I Period a relatively sedentary lifestyle existed in northern Delaware.

Woodland II Period (A.D. 1000 - A.D. 1650). In many areas of the Middle Atlantic, the Woodland II Period is marked by the appearance of agricultural food production. However, no such shift in subsistence strategies is apparent in Delaware. Some of the settlements of the Woodland I Period, especially the large base camps, were also occupied during the Woodland II Period and very few changes in basic lifestyles and artifact assemblages are evident (Custer and Cunningham 1986:24; Stewart, Hummer, and Custer 1986). Intensive plant utilization and hunting remained the major subsistence activities up to European Contact. Similarly, no major changes are seen in social organization for the Woodland II Period of northern Delaware.

Contact Period (A.D. 1650 - A.D. 1750). The Contact Period, which began with the arrival of the first substantial numbers of Europeans, is an enigmatic period in the archaeological record of northern Delaware. The time period is enigmatic because few Native American archaeological sites that clearly date to this period have yet been discovered in Delaware, although numerous Contact Period sites are known in southeastern Pennsylvania. It seems clear that Native American groups of Delaware did not interact much with Europeans and were under the virtual domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. The Contact Period ended with the virtual extinction of Native American lifeways in the Middle Atlantic area except for a few remnant groups.

Previous Investigations

The Paradise Lane Site (7NC-D-125) was located by the University of Delaware Center for Archaeological Research (UDCAR) during Phase I/II testing of the right-of-way for the proposed Ogletown Interchange improvements (Coleman, Hoseth, and Custer 1987). Initial work at the site was undertaken by Thomas (1980) as part of the Phase I survey of proposed improvements to Routes 4, 7, and 273. A predictive model developed by Thomas (1980) identified this location to be a likely site of prehistoric occupation. However, Thomas's testing at the site, which consisted of the excavation of four shovel test pits, produced no evidence of prehistoric occupation and no further work was recommended.

TABLE 1

Distribution of Prehistoric Artifacts with Depth (Phase II, 1986)

Test Unit	Level 1	2	3	4	5	6	7	8
1	0	2	0	0	--	--	--	--
2	1*	0*	0	0	0	--	--	--
3	23*	50*	69	12	8	2	7	--
4	0*	1*	0	0	--	--	--	--
5	0*	20*	17	7	3	1	0	0
6	1	1	0	0	--	--	--	--
7	3*	1*	1	1	0	0	--	--
8	0*	9*	4	1	0	0	--	--
9	2	1	0	1	0	0	--	--
10	4	6	1	0	0	--	--	--
11	0	0	--	--	--	--	--	--
12	0	0	--	--	--	--	--	--
13	0	0	0	--	--	--	--	--
14	0	0	--	--	--	--	--	--
15	0	0	--	--	--	--	--	--
16	4	8	4	0	0	--	--	--
17	0	0	--	--	--	--	--	--
18	5	10	14	9	1	1	0	--
19	0	3	5	0	0	--	--	--
20	0	0	1	--	--	--	--	--
21	0*	6*	0	0	--	--	--	--
22	0	0	0	0	--	--	--	--
23	6	24	24	11	3	1	0	--
24	0	0	0	--	--	--	--	--
25	0	0	0	--	--	--	--	--

KEY: -- = unexcavated
* = plow zone

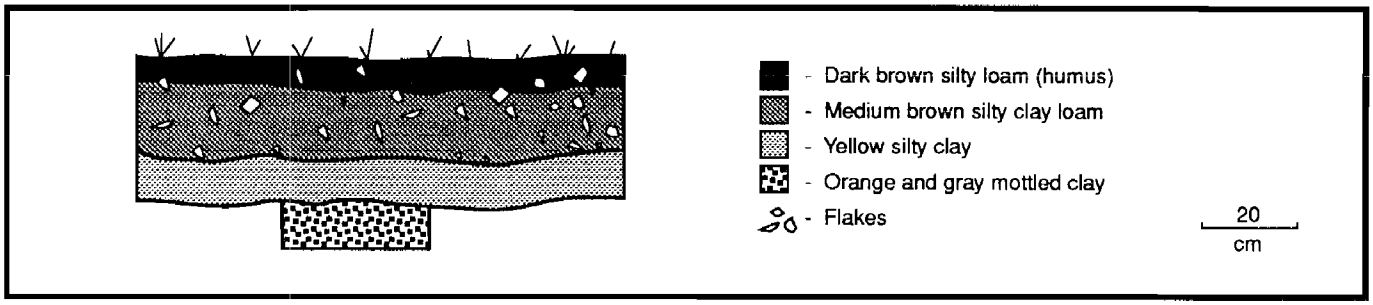
Each level = 10 cm

Additional Phase I testing of the Paradise Lane Site was undertaken by UDCAR in 1985 to test specific improvements to the Ogletown Interchange (Coleman, Hoseth, and Custer 1987). Testing consisted of a series of five 1 m sq. test units placed at 20 m intervals in a north-south transect within the proposed alignment (Figure 7). Chert, quartz and jasper debitage, and fire-cracked rock (Plate 2) were recovered from undisturbed soils at depths of 5 cm to 30 cm beneath an organic, humus horizon (Figure 2). A single Woodland II Minguannan body sherd was also recovered from the 1985 Phase I testing (Plate 3). No features were encountered during these excavations. The presence of prehistoric cultural artifacts in intact subsoil contexts indicated the potential of the site to render information significant to prehistory. Therefore, Phase II testing was undertaken in 1985.

Phase II testing at the Paradise Lane Site was intended to define site limits, determine stratigraphic context, and derive a larger sample of prehistoric artifacts. The 1985 Phase II survey included an additional 34 1 m sq. test units that were excavated at 10 and 20 m intervals to extend the grid established by the Phase I testing (Figure 7). Following completion of the 1985 Phase II testing, redesign of the road segment shifted the alignment to the east (Figure 7), and Phase II testing was extended to the new right-of-way in 1986. A significant quantity of jasper, chert, and quartz debitage, several quartz biface fragments and a large quantity of fire-cracked rock were recovered from deeply-buried contexts at depths of 20-70 cm below ground surface from soils consisting of a yellow-brown sandy clay (Figure 3; Table 1). Seven of the 1986 units (Test Units 2 - 8, and 21) contained a mixture of historic and prehistoric artifacts in a shallow plow zone horizon. These units also contained prehistoric artifacts in intact sub-plow zone soils (Figure 8). Clayey and gleyed soils were encountered indicating that poorly-drained swamps existed close to the site. The Phase II testing also recovered several stemmed and notched projectile points dating to the Woodland I time period.

FIGURE 8

Test Unit 24, North Wall Profile



The 1986 testing consisted of an additional 25 1 m sq. test units (Figure 7). Artifacts were recovered from most test units and included more debitage, flake tools, utilized flakes, rejected bifaces, and a point tip. Based on the 1985 and 1986 Phase II testing, the limits of the site were preliminarily determined to be 160 x 55 m, encompassing an area of approximately 8,800 sq. m (0.37 ha).

Based on the Phase II testing, the Paradise Lane Site seemed to be much larger (8,800 sq. m) than other prehistoric sites discovered during the Ogletown surveys (Coleman, Hoseth, and Custer 1987) and may have been repeatedly occupied. The presence of notched and stemmed points suggested a Woodland I occupation, however, more precise dating was not possible. The Paradise Lane Site was thought to represent a large base camp site, or staging site, which was periodically reoccupied during the Woodland I Period. The density of artifacts clearly represented something more than a procurement site. As at the nearby Dairy Queen Site (Custer et al. 1988), much of the debitage from the Paradise Lane Site was derived from jasper cores most likely obtained from primary outcrops of the Delaware Chalcedony Complex (Table 2; Custer, Ward, and Watson 1986).

Although it is clear that prehistoric artifacts are found in undisturbed soils at the Paradise Lane Site, the depositional context of the sediments and the artifacts is not clear. A more detailed description and evaluation of the deposits is given in the geomorphological assessment of the site (Appendix I). In some areas of the site the sediments have a very fine silty texture somewhat similar to that of aeolian loess deposits. However, in other areas of the site small pebbles are found within the fine silty sediments. The presence of pebbles precludes wind-blown deposition. It is possible that very little sediment deposition took place at the site over the past 10,000 years, and that the modern surface soils have developed on Pleistocene deposits. However, the deeply buried artifacts, less than 5,000 years old, contradict this scenario unless the artifacts moved vertically through the soil profile. Artifact movement has been observed at other sites in the Middle Atlantic Coastal Plain (McNamara 1981, 1982; Custer 1986a). On the other hand, it has been shown that living surfaces, features, and small artifacts can be preserved in Coastal Plain sediments of possible aeolian origin with little or no vertical movement (Custer and Watson 1985; Custer 1982; Custer and Bachman 1984). The ambiguity of the context indicated that more work was needed at the Paradise Lane Site to determine the extent of vertical artifact movement. A larger artifact sample was needed so that individual refitted flakes and cores could be identified and their vertical distribution analyzed as has been done in other studies (Custer 1986a; Custer and Watson 1985). This report describes the results of the additional Phase II testing.

TABLE 2

Summary Catalog of Lithic Artifacts (Phase II, 1985)

	Jasper	Quartz	Chert	Quartzite
Flakes	359(8)	110(17)	33(9)	24(9)
Flake tools	1(1)	1(1)	---	---
Early Stage Biface Reject	6	1(1)	1(1)	---
Late Stage Biface Reject	2	2	---	---
Biface Fragment	2	---	---	---
Core	---	---	1	---

( ) = cortex

Research Design and Field Methods

The main goal of additional Phase II testing at the Paradise Lane Site was to gather additional information to clarify the eligibility of the site for listing on the National Register of Historic Places. Additional excavations would also aid in determining spatial variation of activities within the site and its role in regional settlement systems.

Three areas of high artifact densities were discovered during the preliminary Phase II testing (Figure 7; Plate 1). In order to accomplish the research goals above, further testing within each area was necessary. Selection of the squares for excavation was based on the Phase II test units which had produced the greatest number of artifacts from subsurface contexts. Units 3, 5, 6, 7, 8, 9, 10, 20, and 21, designated Area A, were located in the eastern portion of the site and produced the largest concentration of buried artifacts. Table 3 shows the artifact counts by level for the above mentioned test units. In order to determine the function of Area A, and to define the spatial variation of activities within this area, a series of 2 m sq. units was excavated surrounding Units 3 and 7 (Figure 9). The final investigation of Area A consisted of 16 2 m sq. test units and four partial 2 m sq. test units.

In all of the excavation units in Area A, the humus was removed in four 1 m sq. sections as a single stratigraphic unit. Subsoil sections of the units were excavated in 50 cm blocks and 5 cm levels. In each 2 m unit, a 50 cm block was removed as a flotation sample. All excavated soils were screened through 1/4-in. mesh. All gravels and pebbles which did not pass through the 1/4-in. screens were retained for one 50 cm block in each 2 m sq. unit. The distribution of these pebble samples was analyzed in order to understand depositional processes at the site.

FIGURE 9

Excavation Area A Test Units

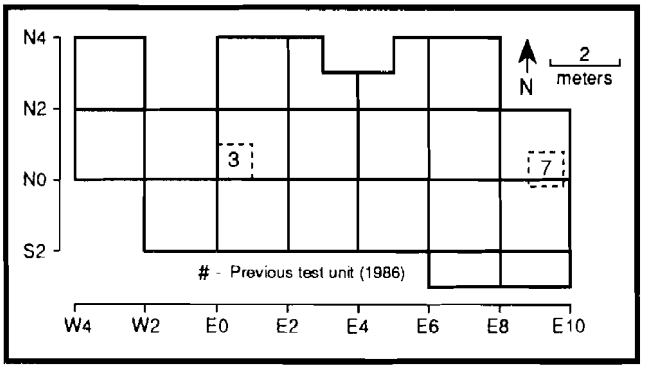


TABLE 3

Test Unit Artifact Counts Within Proposed Block Excavations

Area A Test Unit	Level 1	2	3	4	5	6	7	8
3	23	50	69	12	8	2	7	--
5	0	20	17	7	3	1	0	0
6	1	1	0	0	--	--	--	--
7	3	1	1	1	0	0	--	--
8	0	9	4	1	0	0	--	--
9	2	1	0	1	0	0	--	--
10	4	6	1	0	0	--	--	--
20	0	0	1	--	--	--	--	--
21	0	6	0	0	--	--	--	--
Area B Test Unit	**Level 1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
16	4	8	4	0	0	--	--	--
18	5	10	14	9	1	1	0	--
23	6	24	24	11	3	1	0	--
Area C Test Unit	**Level 1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
28	4	3(1)	3	0	0	--	--	--
33	23(2)	8	8	1	1	--	--	--
34	5(1)	2(1)	1	0	0	--	--	--
44	13	18(2)	17(2)	0	0	--	--	--

KEY: -- = unexcavated
( ) = cortex

Units excavated approximately 30 m west of Area A produced similar artifacts, though in smaller density, to those artifacts excavated in Area A (Table 3). The area around Units 16, 18, and 23 was designated as Area B (Figure 7). Due to the similarities between Area B and Area A, as well as the smaller artifact distribution in Area B, an expanded testing program of 1 m sq. units was employed, rather than the excavation of contiguous units. Eighteen additional 1 m sq. test units were excavated between Units 16, 18, and 23 (Figure 10). In Area B, the humus was excavated as one level. Subsoil sections of the units were excavated in four 50 cm blocks and 5 cm levels. All excavated soils were screened through 1/4-in. mesh. Flotation samples were not taken and gravel and pebbles were not retained.

Units located in the western portion of the site denoted as Area C (Figure 7) contained a greater variety of lithic resources than did Areas A and B. Table 3 shows the smaller artifact density in Area C compared with the densities of Areas A and B. The area surrounding units with the highest artifact counts (Units 28, 33, 34, 44, 45) was excavated using a combination of contiguous units and additional 1 m test units (Figure 11). In order to define the limits of this area, 24 additional 1 m test units were excavated between the above mentioned units. Excavation of units in each direction was terminated when artifact density sharply decreased. A series of 2 m units was then excavated around Test Unit 33 (Figure 11) which had produced the greatest number of artifacts from subsoil contexts. The excavation of these units followed the same procedure as the 1 m units located in Area B.

All artifacts were washed and marked using the standard accession system developed by the staff of the Island Field Museum. Lithic artifacts were analyzed for blood residue and were sorted by raw material and functional categories including projectile point/knives, bifaces, retouched flake tools, ground stone tools and debitage. Presence or absence of cortex was noted to study cobble utilization, and bifaces were sorted into discards and rejects, following the work of Callahan (1979) to study tool manufacturing activities. A sample of flakes from each area was also analyzed to determine if they were derived from cores or bifaces, and Appendix II describes the analytical methods and the basic data upon which they are based.

PLATE 5

Overview of Completed Excavations--Area A