INTERPRETATIONS - AREA B

The interpretations of the excavation results from Area B are presented below.

Chronology

Chronological interpretations from Area B can be drawn from diagnostic projectile points, ceramics, and radiocarbon dates, and these data are discussed below. The distribution of features with diagnostic artifacts and radiocarbon dates across Area B is also discussed with reference to the history of Area B's occupation.

Diagnostic Projectile Points. Figure 69 illustrates the diagnostic projectile points from Area B. Fifteen diagnostic projectile points were recovered from plow zone soils during the Phase II and Phase III excavations and include a Kirk/Palmer variant (Figure 69a), a bifurcate base point (Figure 69b), a Type I stemmed point (Figure 69c), a Type E stemmed point (Figure 69d), two Type D stemmed points (Figure 69e-f), two small variants of Type B stemmed points (Figure 69g-h), a Lehigh/Koens-Crispin broadspear (Figure 69i), a small variant of a Susquehanna broadspear (Figure 69j), and five triangular points (Figure 69k-o). Fifteen diagnostic projectile points were recovered from features during the Phase III excavations of Area B including a bifurcate-based point, probably of the LeCroy variety (Figure 69p), two small variants ofType I stemmed points (Figure 69q-r), two small variants of Type B stemmed points (Figure 69s-t), three Susquehanna broadspears (Figure 69u-w), one teardrop point (Figure 69x), a generalized side-notched point (Plate 13d), and five triangular points (Figure 69y-aa, Plate 13b-c, and f). One diagnostic point was recovered from excavations of the buried soil beneath the plow zone and it is a Type B contracting stem point (Figure 69bb). Figure 70 summarizes the date ranges of the diagnostic projectile points from Area B based on the dates noted in Table 16.

It is important to note that in two cases, pre-Woodland I projectile points were found in pit features. While it is remotely possible that these two features do indeed date to pre-Woodland I times, research at other sites (e.g., Dover Downs - Riley, Watson, and Custer 1994) has shown that it is more likely that the older projectile points were accidentally incorporated into the pit fill of features dating to the Woodland Period. Indeed, a similar situation will be described for Feature 1 in the Woods Area of the Pollack Site. Thus, the most likely interpretation of the features with Archaic points in Area B is that they are Woodland features with earlier points accidentally included within them. However, we should realize that this line of reasoning would keep us from ever finding an Archaic pit feature. Therefore, we should recognize the rather remote possibility that these pits do indeed date to pre-Woodland times.

Ceramics. Diagnostic ceramics recovered from plow zone excavations in Area B included Hell Island, Minguannan, Killens, and Townsend ceramics. Figure 70 shows the date ranges of these ceramics in relation to the date ranges of the diagnostic projectile points based on the data in Table 17. The diagnostic ceramics were found in 13 different excavation units and only one of these units produced Hell Island ceramics. All of the other plow zone units produced Woodland II wares.

FIGURE 69

Diagnostic Projectile Points from Area B

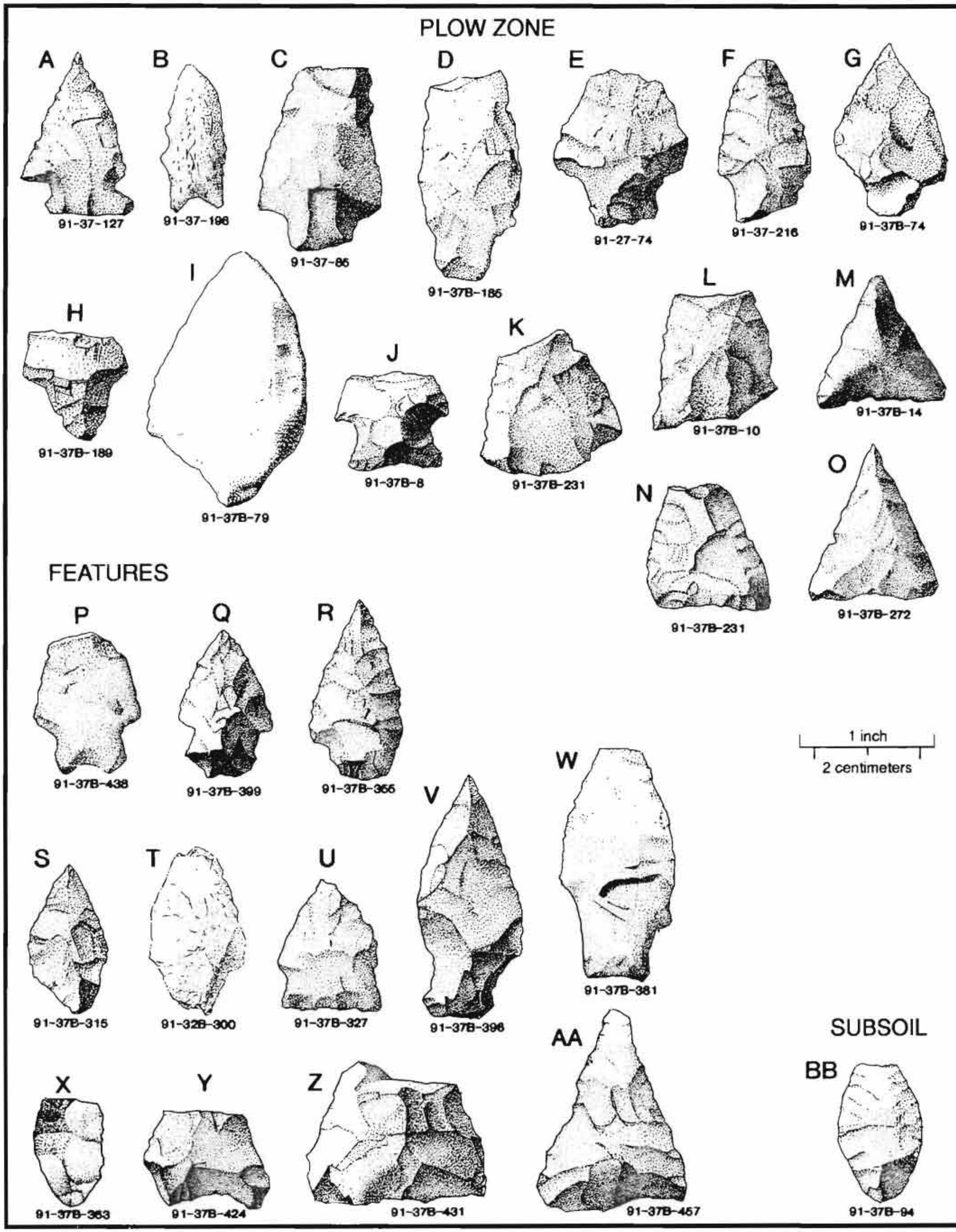
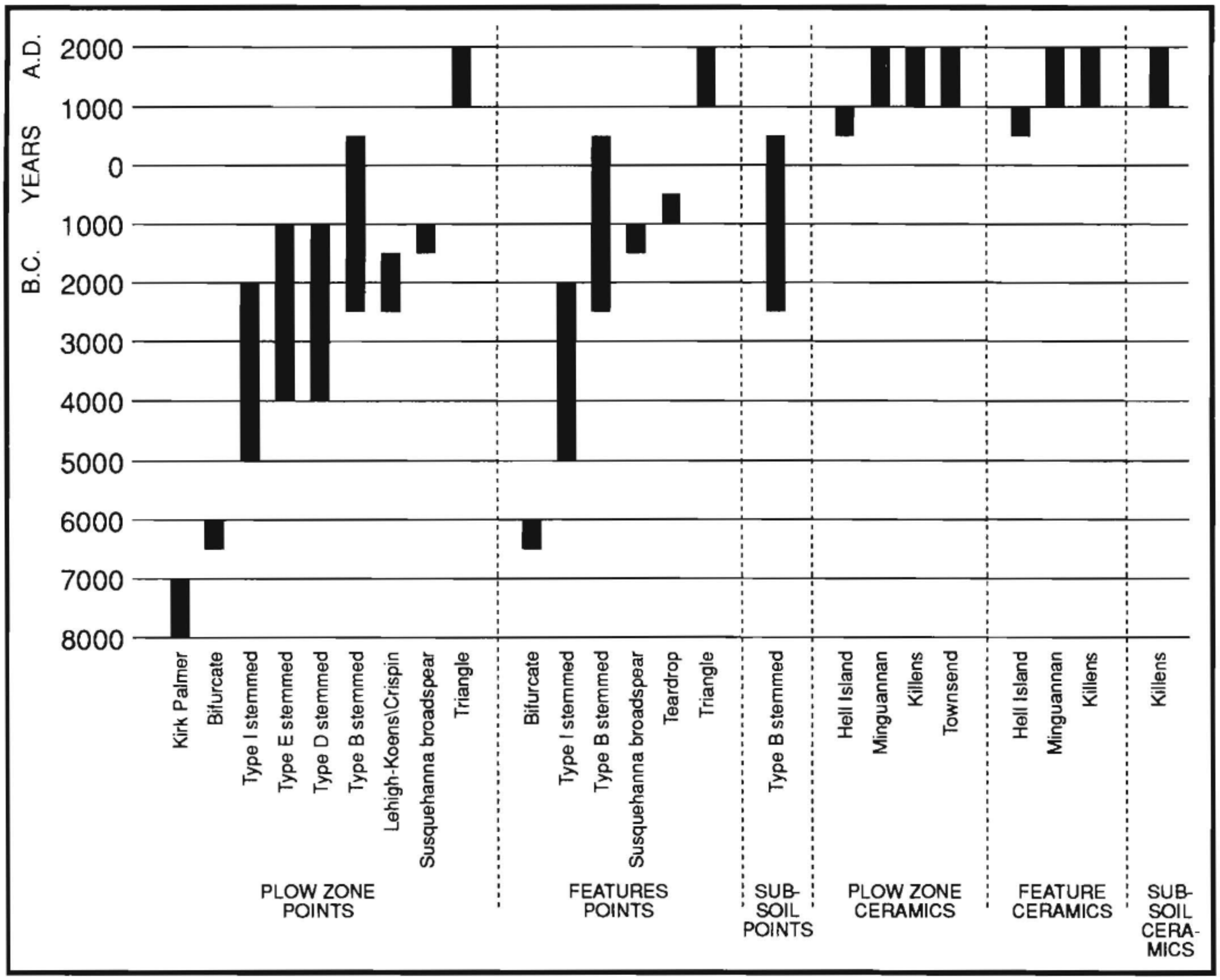


FIGURE 70

Date Ranges - Area B

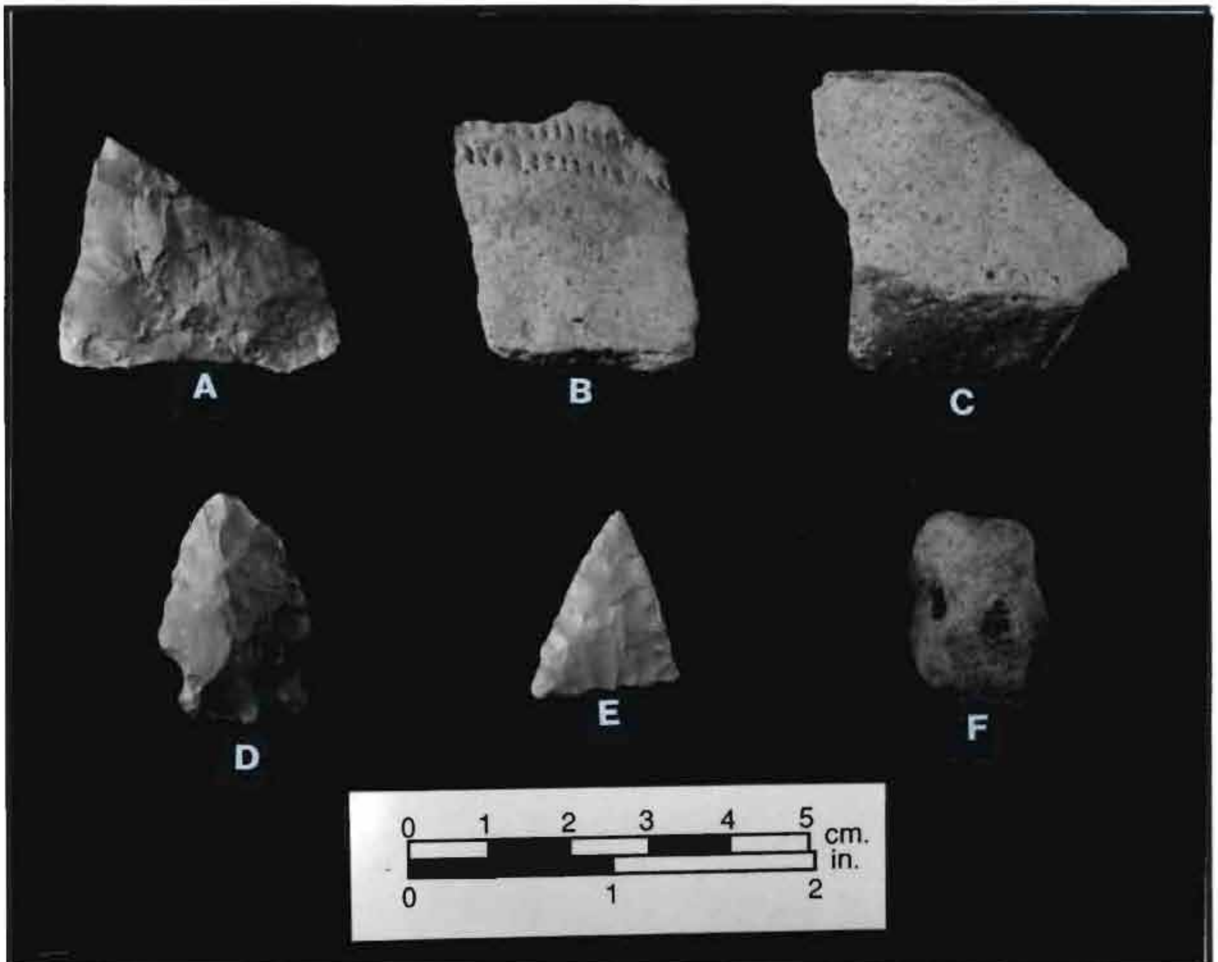


Features produced Hell Island, Minguannan, and Killens ceramics and their date ranges are also shown in Figure 70. Of the eight features with diagnostic ceramics in Area B, only two produced Hell Island ceramics. The remainder produced Woodland II wares post-dating A.D. 1000. One Killens sherd was found in the subsoil of Unit S85 W517. The date ranges of these ceramics are shown in Figure 70.

Radiocarbon Dates. Two radiocarbon dates were obtained from charcoal in Features B218 and B180. The sample from Feature B218 (Beta-69339) was dated to 530 B.P. ± 70 years which has a calibrated intercept of A.D. 1409 using the methods of (Stuiver and Becker 1986). The calibrated date range for one standard deviation is A.D. 1317 - 1437 and for two standard deviations is A.D. 1280 - 1470. This date is associated with a triangular projectile point and two sherds of Killens ceramics (Plate 27a-c). A radiocarbon date (Beta-42882) with a calibrated one standard deviation range of A.D.

PLATE 27

Artifacts from Dated Features - Area B



Feature B218 : A - Jasper Triangular Projectile Point, B - Killens Ceramic Sherd, C - Killens Ceramic Sherd
Feature B180: D - Chert Side-Notched Projectile Point, E - Jasper Triangular Projectile Point, F - Killens Ceramic Sherd

1040 - 1390 was associated with Killens ceramics at the Leipsic Site (7K-C-194A) on the opposite side of the Leipsic River from Area B (Figure 3), and these dates are very similar. Both of these dates confirm the hypothesized age for these crushed shell and grit-tempered ceramics (Custer 1989:308-309).

It can also be noted that one of the Killens sherds (Plate 27b) is decorated with direct cord impressions. Chronological studies of Woodland II ceramics in Delaware (Griffith 1982; Custer and Griffith 1986) have suggested that these kinds of designs date to after A.D. 1250. The range of the radiocarbon date associated with this sherd in Area B postdates A.D. 1250 and provides a preliminary indication that the internal chronology of design motifs developed for Townsend and Minguannan ceramics may also be applicable to Killens ceramics as well.

The radiocarbon sample from Feature B180 (Beta-69340) was dated to 1910 B.P. ± 50 which has a calibrated intercept of A.D. 82. The calibrated date range for one standard deviation is A.D. 27 - 129 and the calibrated date range for two standard deviations is B.C. 30 - A.D. 220. Plate 27d-f shows two projectile points and a ceramic sherd associated with the date. One of the points is a generalized side-notched type (Plate 27d) that is not particularly diagnostic of any given time period (Table 16), but the triangular projectile point (Plate 27e) most likely postdates A.D. 1000. The ceramic sherd from the feature is a rather thick fragment of Hell Island pottery which is well dated to the A.D. 600-1000 time interval in Delaware (Custer 1989:175-176). The date is too old for the associated artifacts and is believed to represent an intrusion of older carbon material into a feature that probably dated to the time period of the Woodland I/Woodland II transition.

In general, the diagnostic artifacts from Area B suggest that the occupations of Area B began to occur during the later portion of the Paleo-Indian Period (ca. 8000 B.C.), and extended up until the end of the Woodland II Period (ca. A.D. 1600). The majority of the diagnostic artifacts date from the Woodland II time period and provide an indication that the most intensive use of Area B occurred at that time.

Distribution of Dated Features. Figure 71 shows the distribution of features that can be dated in Area B. At some sites, (e.g., Snapp Site - Custer and Silber 1994), distributions of dated features were used to identify feature clusters which might have been occupied during limited time periods. However, there are too few dated features, and these features are too widely scattered to define feature clusters in Area B.

Plow Zone Artifact Distributions

Figure 72 shows the distribution of total artifacts based on the excavated plow zone units in Area B. The highest artifact densities are seen in the northeastern portion of the area and along its northern border. There are some features in the northeast section of Area B (Figure 52), but except for this section, the plow zone artifact concentrations are not found in areas of high feature densities. In general, the plow zone artifact distribution does not reflect the distribution of features. The northeastern section and northern border of Area B are at the foot of a gentle slope that runs from south to north across the entire area. Like Area A, there is evidence of substantial erosion in Area B including the exposure of Pleistocene gravels in the plow zone and truncated soil profiles, as was noted earlier. The artifact concentrations on the area's northern edge may be a result of that erosion.

Figure 73 shows the distribution of debitage and, as might be expected, the debitage distribution is the same as the total artifact distribution because debitage is the most numerous type of artifact. Figures 74 and 75 show the distributions of debitage with and without cortex. The overall distributions of these different types of flakes are similar and this similarity indicates that there were no special activity areas for reduction of primary and secondary cobble resources, or different areas for varied stages of lithic tool production. On the other hand, if erosion did alter the plow zone distribution of artifacts, then separate activity areas may have once existed, but have since been mixed by erosion. Figure 76 shows the distribution of fire-cracked rock and it is the same as the overall artifact distribution.

In sum, for the most part the distribution of artifacts in the plow zone of Area B does not match the distribution of sub-surface features, except in the northeast corner of the area. Erosion of Area B from south to north seems to have been the main determinant of the plow zone artifact distributions.

Subsoil Artifact Distributions

Intact subsoil deposits with artifacts were identified in four sections of Area B and blocks of one-meter test units were excavated in each section (Figure 77). The results of these excavations are presented below for each separate section.

Section I. Figure 78 shows the distribution of total artifacts within the 73 units excavated in Section I of Area B. The artifact counts are quite low for each unit, but there is a concentration of artifacts in the northeastern corner of the section. In general, there are more artifacts in the eastern end of this section.

Figures 79 and 80 show the distribution of flakes with and without cortex and in both cases there is a concentration in the eastern portion of Section I with the highest artifact counts in the northeastern portion. The higher counts of flakes may represent a tool manufacturing area in the northeastern portion

FIGURE 78

Area B, Section I - Subsoil Total Artifact Distribution

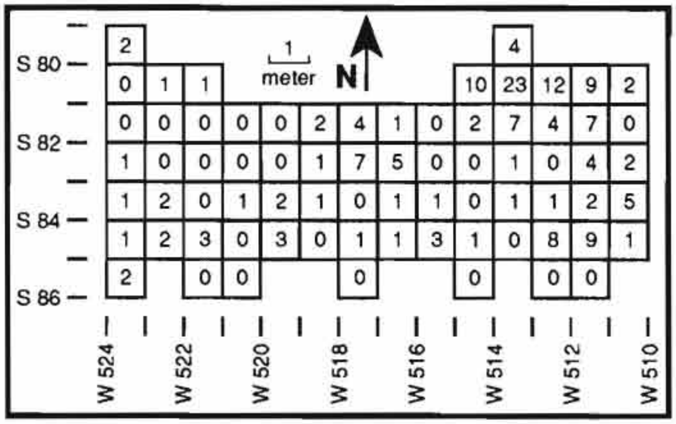


FIGURE 79

Area B, Section I - Subsoil Artifact Distribution - Flakes without Cortex

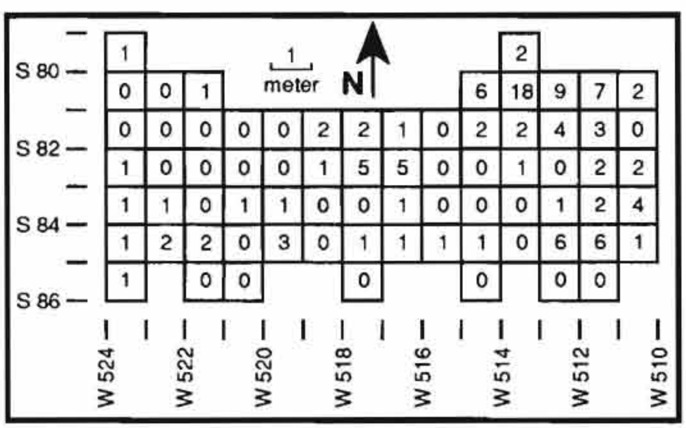


FIGURE 80

Area B, Section I - Subsoil Artifact Distribution - Flakes with Cortex

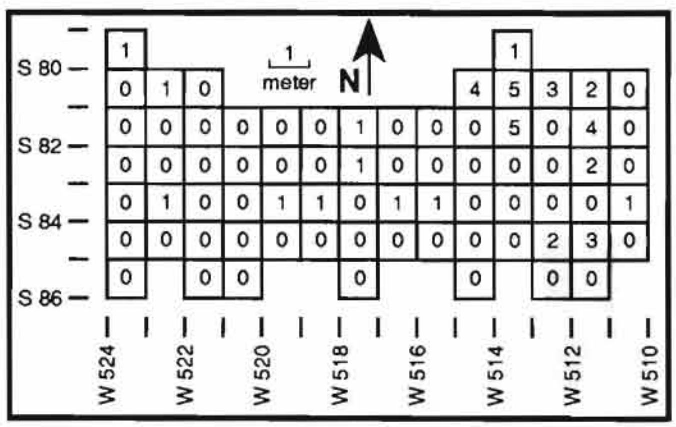


FIGURE 81

Area B, Section I - Subsoil Artifact Distribution - Tools, Ceramics, and Fire-Cracked Rock

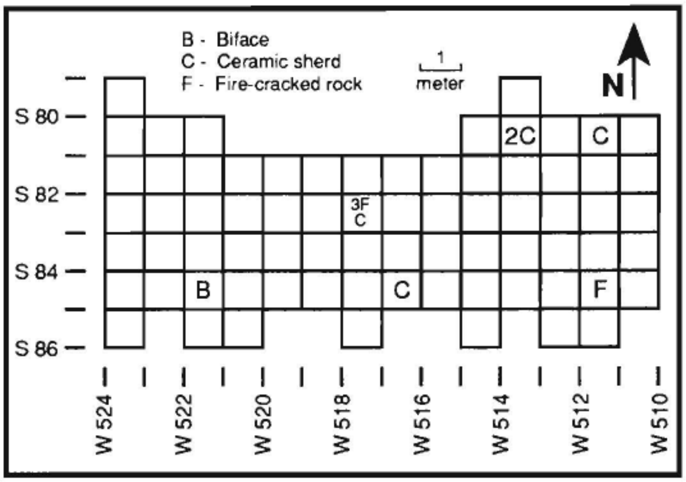
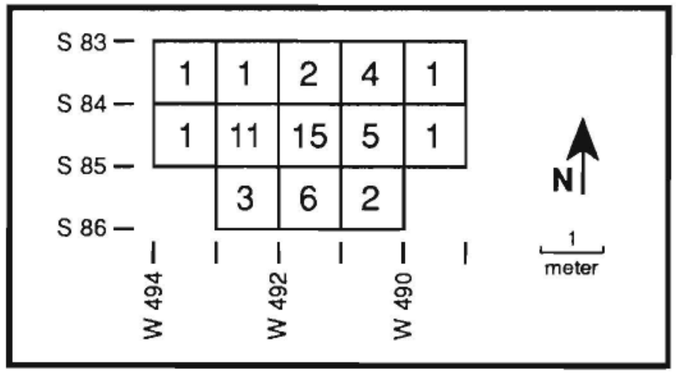


FIGURE 82

Area B, Section II - Subsoil Total Artifact Distribution



of Section I. Figure 81 shows the distribution of tools, ceramics, and fire-cracked rock. Unfortunately, no diagnostic lithic artifacts were present and the ceramic sherds were too small to identify. The only tool present is a jasper biface. There are too few fire-cracked rocks present to comment on their distribution. No features were associated with Section I of Area B. In sum, Section I may include a lithic tool production area in the eastern portion. However, the age of the tool production area cannot be determined. The absence of features near the tool production area may indicate that work areas were located away from dwellings. However, it is also possible that features were present in this area, but were destroyed by plowing and erosion.

Section II. This section consisted of only 13 one-meter units (Figure 82). No tools, ceramics, or features were found in this section. The artifact assemblage consisted mainly of flakes and the relatively high artifact counts in two of the squares may indicate that it was a tool production area. Its age cannot be determined, however, due to the absence of diagnostic artifacts.

Section III. Figure 83 shows the total artifact distribution in Section III and the artifact counts are low, except in the north central portion of this section. Figures 84 and 85 show the distributions of flakes with and without cortex and these distributions are similar to one another and to the total artifact distribution. Figure 86 shows the distribution of the very few tools and fire-cracked rocks found in the area, but they are also located in the north central portion of Section III. No diagnostic artifacts were present, nor were any features. Section III may represent a small tool production area amid the general feature distribution.

FIGURE 83

Area B, Section III - Subsoil Total Artifact Distribution

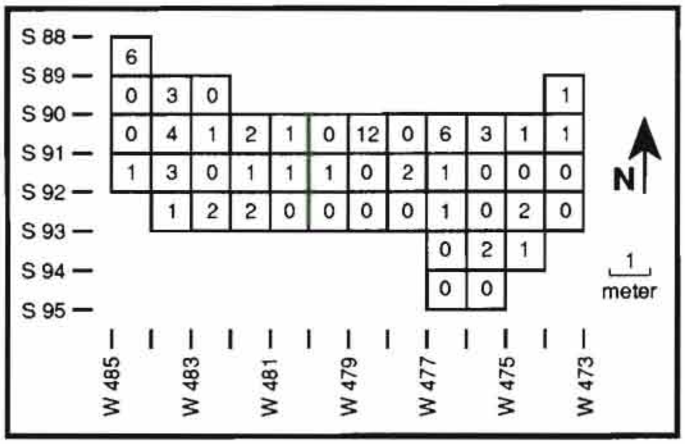


FIGURE 84

Area B, Section III - Subsoil Artifact Distribution - Flakes with Cortex

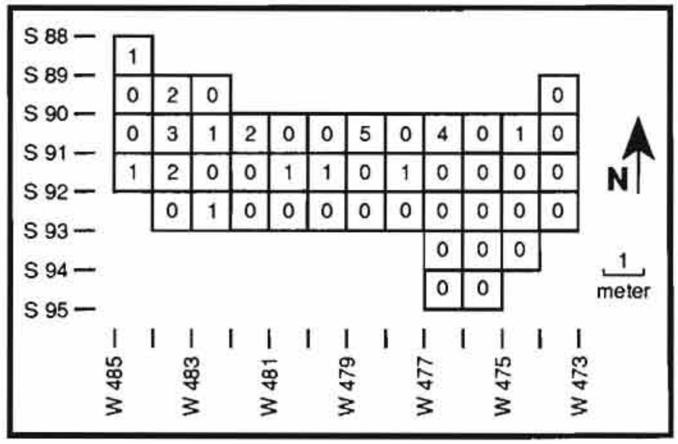


FIGURE 85

Area B, Section III - Subsoil Artifact Distribution - Flakes without Cortex

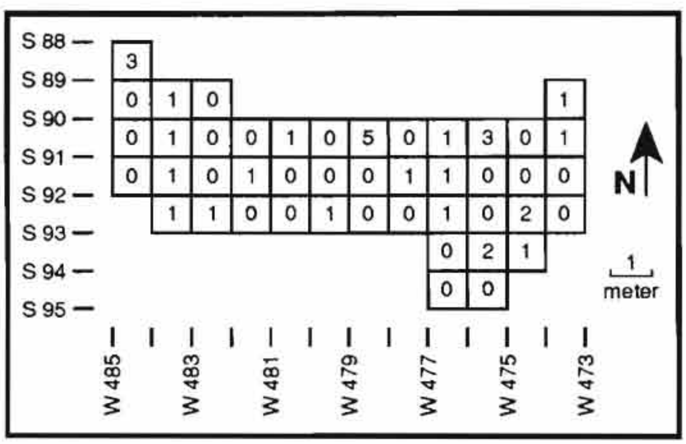


FIGURE 86

Area B, Section III - Subsoil Artifact Distribution - Fire-Cracked Rock, Biface, and Flake Tool

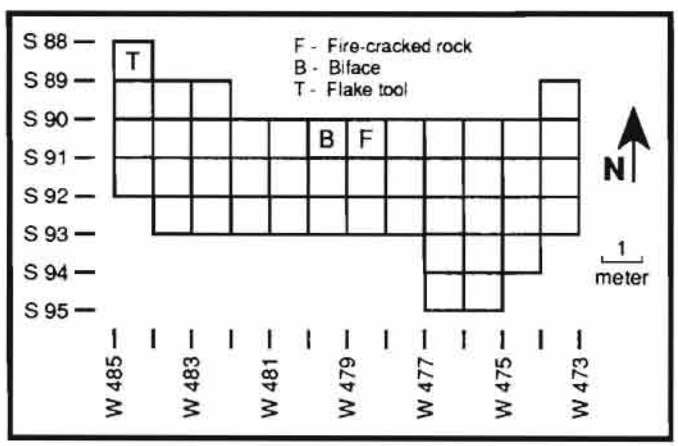


FIGURE 87

Area B, Section IV - Subsoil Total Artifact Distribution

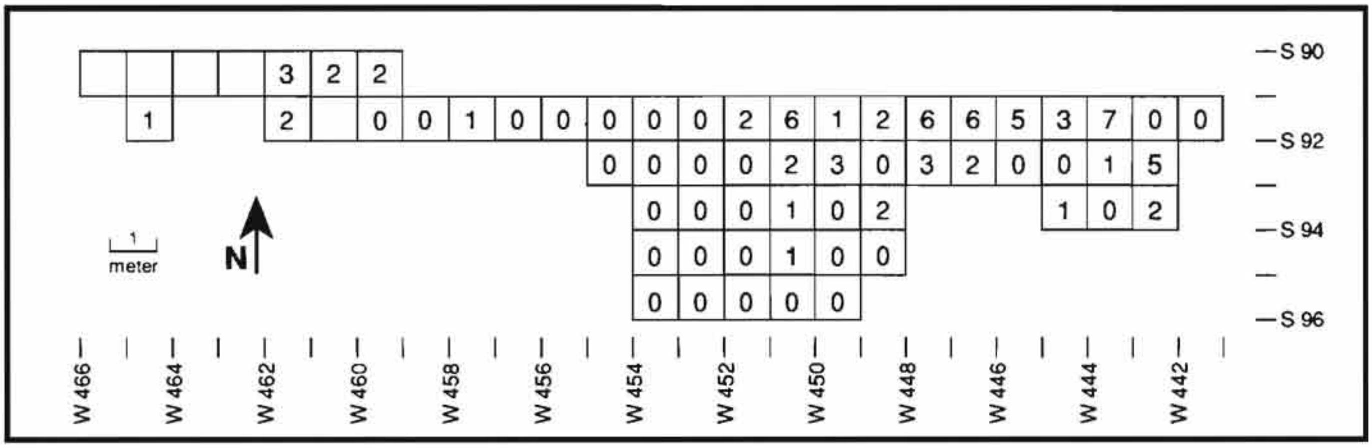
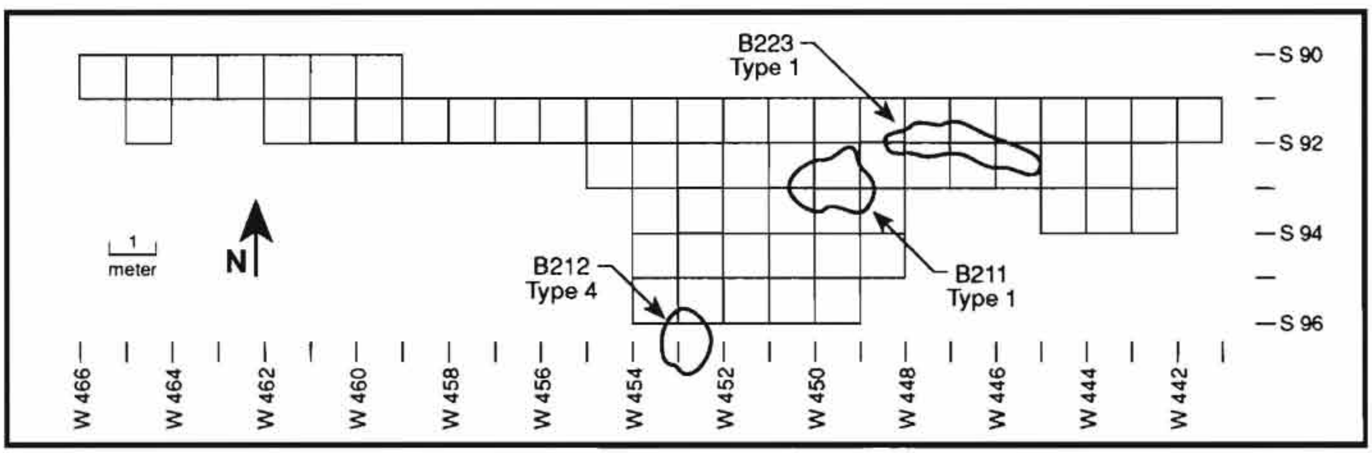


FIGURE 88

Area B, Section IV - Feature Locations



Section IV. Figure 87 shows the distribution of artifacts in Section IV, and again the artifact counts are very low. There does seem to be a concentration along the northern edge of the eastern end of the section, but this concentration may be due to erosion. One Woodland I small stemmed point was found in this section. Three undated features are present in this section (Figure 88). Two of the features (B211 and B223) are Type 1 house features and are located in the area of the artifact concentrations. The effects of erosion, however, make the association of the artifact and features difficult to ascertain. The third feature is a Type 4 storage/refuse pit located on the southern border of Section IV. No artifacts were found in subsoil units excavated around this feature.

In sum, the excavation of subsoil units revealed possible tool manufacturing areas. However, the low number of artifacts, the near absence of any diagnostic artifacts, and the potential effects of erosion on the artifact distributions all make it difficult to assess these tool production areas.

Analysis of Feature Distributions

Because of the low number of features that can be assigned to any particular time periods, feature distributions cannot be assessed in terms of individual occupations. Nevertheless, all of these features were clearly produced by the prehistoric inhabitants of Area B. The inability to determine their ages complicates the discussion of their cultural meaning; however, some insights can be gleaned from observing their distributions.

For the most part, prehistoric features are spread across all of Area B with the densest concentration located between grid lines W410 and W480 (Figure 52). No particular section of Area B seems to have been avoided for prehistoric settlement or excavation of pits.

From the total of 217 features identified in Area B, 191 of them (88%) are associated with prehistoric houses. Figure 52 shows the distribution of houses and in the central section of Area B there is considerable overlap of the houses associated with the "sub-basement" pit features. The feature overlap suggests that the site was repeatedly occupied by small groups over a long period of time, rather than by a large group over a short period of time. As was the case for Area A, Area B clearly shows no planned community such as those seen at some sites in the Middle Atlantic region (Kinsey and Graybill 1971; Custer, Hoseth, Cheshaek, Guttman, and Iplenski 1993). Unfortunately, the very low incidence of dated artifacts does not allow any assessment of settlement intensity over time.

Analysis of Lithic Technologies

The interpretations of lithic technologies specific to Area B are presented below. Additional analyses of topics in lithic technologies pertaining to all site areas are discussed in a separate section later in the report. Table 22 shows a summary artifact catalog of the lithic artifacts from Area B and notes the raw materials used and the number of artifacts with cortex present. The presence of cortex is an indicator of utilization of secondary cobble and pebble resources as opposed to primary outcrop raw materials (Custer and Galasso 1980). Table 23 is derived from Table 22 and shows the percentage of artifacts with cortex for each raw material. Table 24 is also derived from Table 22 and shows the raw material percentages used for each artifact type.

TABLE 22

Total Lithic Artifact Assemblage and Raw Materials - Area B

	RAW MATERIALS								
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	214 (28)	479 (108)	1381 (455)	828 (450)	6 (0)	7 (0)	7 (1)	3 (0)	2925 (1042)
Utilized flakes	3 (0)	11 (2)	35 (15)	27 (12)	0	0	0	1 (0)	77 (29)
Flake tools	14 (4)	24 (7)	28 (16)	28 (23)	0	1 (0)	0	0	95 (50)
Points	1 (0)	2 (0)	3 (0)	24 (0)	0	2 (0)	0	0	32 (0)
Early stage biface rejects	1 (0)	5 (1)	3 (2)	2 (0)	0	0	0	0	11 (3)
Late stage biface rejects	0	4 (0)	6 (2)	4 (1)	1 (0)	0	0	0	15 (3)
Other bifaces and fragments	0	4 (1)	3 (2)	1 (0)	0	0	0	0	8 (3)
Miscellaneous stone tools	0	1 (0)	3 (2)	3 (3)	0	0	0	0	7 (5)
Cores	1 (0)	5 (4)	7 (7)	1 (1)	0	0	0	0	14 (12)
TOTAL	234 (32)	535 (123)	1469 (501)	918 (490)	7 (0)	10 (0)	7 (1)	4 (0)	3184 (1147)

TABLE 23

Total Lithic Artifact Assemblage - Cortex Percentage - Area B

	RAW MATERIALS								
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	13	23	33	54	0	0	14	0	36
Utilized flakes	0	18	43	44	--	--	--	0	38
Flake tools	29	29	57	82	--	0	--	--	53
Points	0	0	0	0	--	0	--	--	0
Early stage biface rejects	0	20	67	0	--	--	--	--	27
Late stage biface rejects	--	0	33	25	0	--	--	--	20
Other bifaces and fragments	--	25	67	0	--	--	--	--	38
Miscellaneous stone tools	--	0	67	100	--	--	--	--	71
Cores	0	80	100	100	--	--	--	--	86
TOTAL	14	23	34	53	0	0	14	0	36

Table 23 shows that in the overall assemblage from Area A, cortex is present on approximately 36 percent of the artifacts. When individual artifact types are considered, much higher cortex percentages are seen for flake tools, early stage bifaces, miscellaneous tools, and cores. Utilized flakes have cortex percentages closer to that for flakes. The different cortex percentages may indicate that the prehistoric inhabitants of Area B were using local secondary cobble resources to make a series of tools to replace damaged tools that they had brought with them to the Pollack Site. The lower cortex percentages may also indicate that some primary lithic materials were brought with them to the site as part of a curated tool kit. While living in Area B, the primary materials may have been reduced and produced the debitage with no cortex.

As was noted for Area A, it is also possible that the lower percentages of cortex are due to the fact that reduction and flaking of cobbles and pebbles does produce debitage with no cortex. Splitting of cobbles and pebbles and flaking of the outer surfaces does remove flakes with cortex, but flaking of inner portions of the cobble produces flakes with no cortex. Thus, the lower percentages of flakes with cortex in Area B may simply reflect intensive use of secondary materials, and the natural production of flakes with and without cortex in cobble reduction, rather than any special trends in raw material use by the site's inhabitants.

Cortex percentages are higher for cryptocrystalline materials, jasper and chert, compared to the other raw materials. These differences may indicate that secondary sources of cryptocrystalline materials were more commonly used than secondary materials for other materials. Based on the relationship between cortex percentage and tool production stages noted above, it is also possible that the higher cortex percentages for jasper and chert may indicate that more early stage tool production took place using these materials compared to the other materials.

TABLE 24

Total Lithic Artifact Assemblage - Raw Material Percentage by Tool Type - Area B

	RAW MATERIALS							
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other
Flakes	7	16	47	28	<1	<1	<1	<1
Utilized flakes	4	14	45	35	0	0	0	0
Flake tools	15	25	29	29	0	1	0	0
Points	3	6	9	75	0	6	0	0
Early stage biface rejects	9	45	27	18	0	0	0	0
Late stage biface rejects	0	27	40	27	7	0	0	0
Other bifaces and fragments	0	50	38	12	0	0	0	0
Miscellaneous stone tools	0	14	43	43	0	0	0	0
Cores	7	36	50	7	0	0	0	0
TOTAL	7	17	46	29	<1	<1	<1	<1

Table 24 shows the varied use of lithic raw materials among the various artifact types and jasper and chert are the most commonly used stones. Chert is the most commonly used material for all artifact types except for flake tools where jasper and chert were used with equal frequency. Only very small amounts of quartzite, rhyolite, argillite, and ironstone are present. Quartz is used less commonly than the cryptocrystalline materials, but more commonly than the rare lithic types. Because of the relatively high percentage of cortex in the artifact assemblage, most of the cryptocrystalline materials, and the quartz, were probably derived from local cobble and pebble deposits along the Leipsic River and on the surface of the Pollack Site. It is difficult to know what cobble and pebble deposits were exposed for use when Area B was inhabited during prehistoric times, but a cursory survey of the modern cobble and pebble deposits showed that numerous cryptocrystalline cobbles suitable for stone tool manufacture were present. Thus, local cobble deposits in and around Area B were the most likely sources of raw materials for the site's inhabitants.

Table 25 shows the varied tool types found in Area B. Examples of some of the tools are shown in Figure 68 including two trianguloid end scrapers (Figure 68c and d), a denticulate (Figure 68e), a wedge (Figure 68f), a concave/biconcave scraper (Figure 68g), and a bifacial side-scraper (Figure 68h). Examples of bifaces from Area B are shown in Figure 89(a-e). Not many examples of the varied tool types are present and some tool types are completely missing from the assemblage. The low number of tools may be due to the overall low artifact densities from this area of the site. However, the total lithic assemblage does include more than 3000 artifacts, and it would not be unreasonable to expect more examples of the formal tool types, such as the scrapers, other flake tools, and bifaces, to be present. A total of only twelve specialized flake tools is present, but there are 77 general utilized flakes that cannot be placed

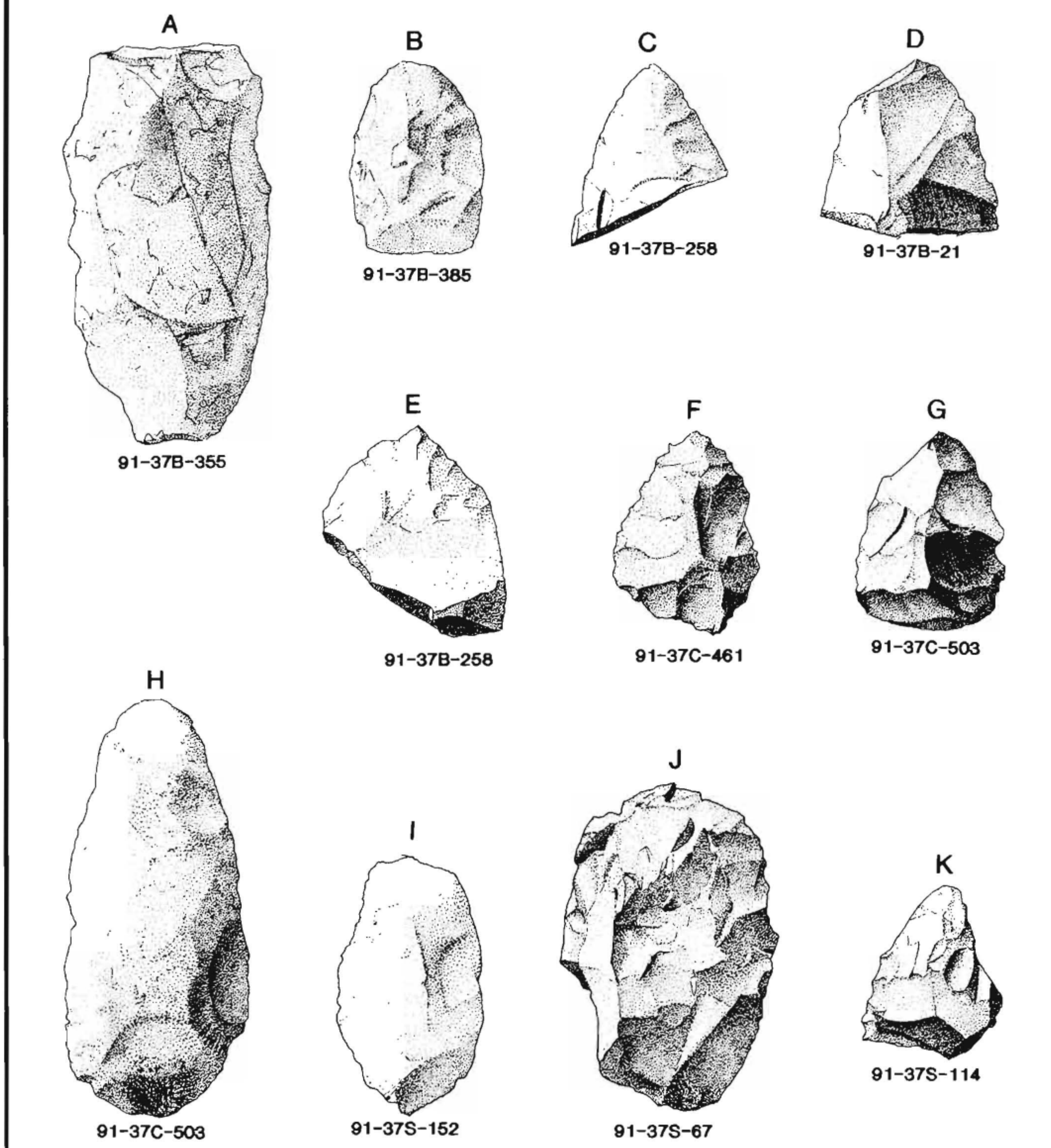
TABLE 25

Tool Types - Area B

Points/knives	32
Late stage bifaces	15
Early stage bifaces	11
Drills	0
Concave/biconcave scrapers	3
Bifacial side scrapers	2
Unifacial side scrapers	2
Trianguloid end scrapers	3
Slug-shaped unifaces	0
Wedges	2
Primary cores	12
Secondary cores	2
Denticulates	1
Gravers	0
Regular utilized flakes	72
Blade-like utilized flakes	5
Total	162

FIGURE 89

Sample Bifaces

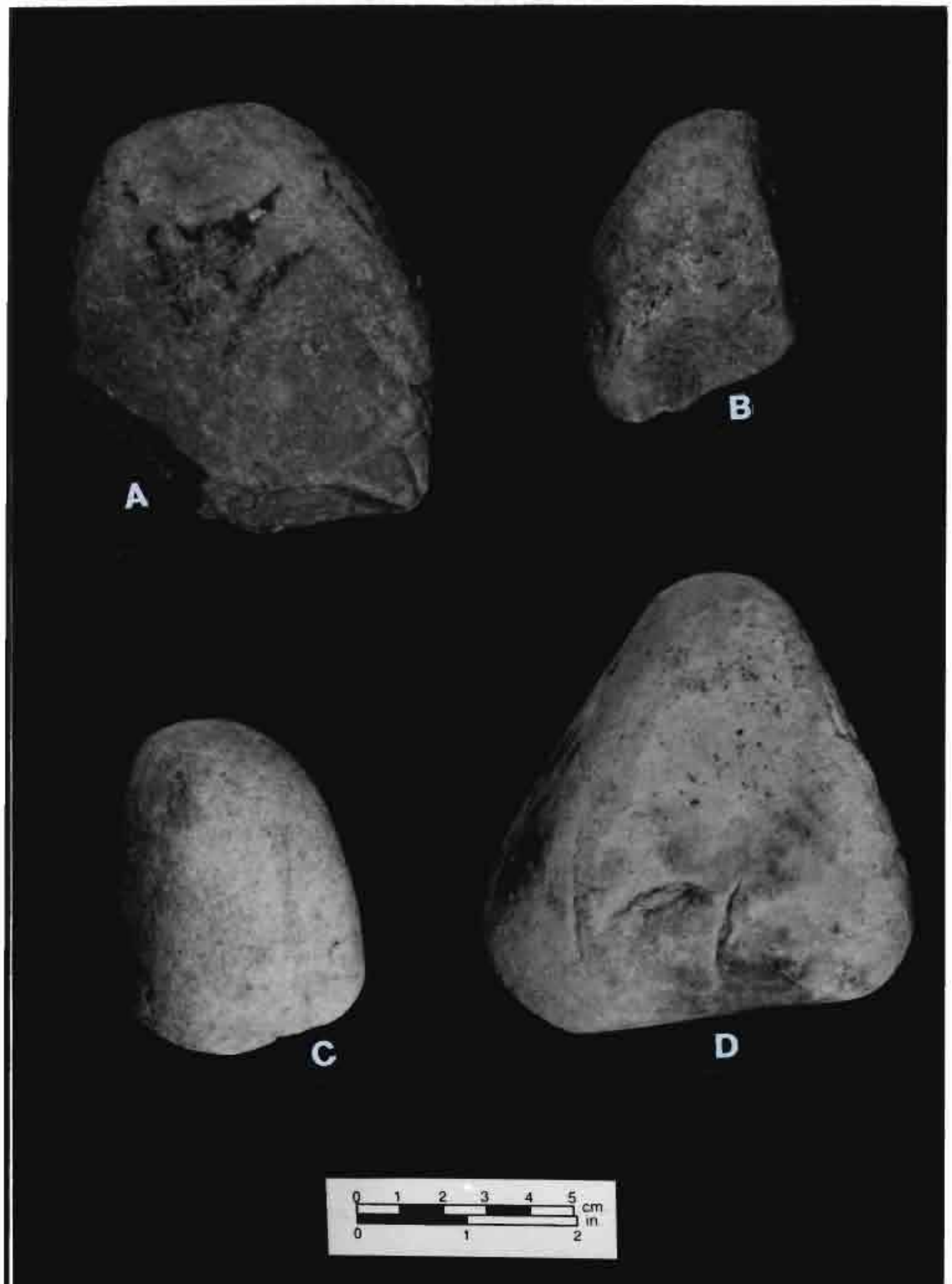


A: Quartz
B: Jasper
C: Jasper
D: Chert
E. Rhyolite
F: Jasper
G: Jasper
H: Argillite
I: Quartzite
J: Chert
K: Chert

1 inch
2 centimeters

PLATE 28

Hammerstones from Area B



A - 91-37B-185 B - 91-37B-132 C - 91-37B-457 D - 91-37B-467

into the usual formal tool categories. These data would tend to indicate that generalized flake tools, probably derived from cobble and pebble reduction, were used more commonly than formal flake tools designed to fit specific functions. Because the chronological data suggest that the occupation of the site occurred mainly during the Woodland Period, particularly during the Woodland II Period, this technological trend occurred relatively late in Delaware's prehistory. Similar technological trends have been observed at other late prehistoric sites in the region (Custer, Hoseth, Cheshaek, Guttman, and Iplenski 1993).

Five hammerstones were also found in Area B (Plate 28) and can be placed into two main size categories. Two of the hammerstones weighed approximately 200 grams and were rather small. The remaining three hammerstones weighed approximately 1.25 kilograms and were rather large. The varied sizes of the

TABLE 26

Lithic Artifact Assemblage and Raw Materials - Area B, Subsoil Units

	RAW MATERIALS						
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Ironstone	TOTAL
Flakes	11 (1)	111 (20)	188 (72)	57 (25)	1 (0)	1 (0)	369 (118)
Utilized flakes	0 (1)	0	2 (1)	0	0	0	2 (1)
Flake tools	1	0	1 (1)	0	0	0	2 (2)
Points	0	0	0	1 (0)	0	0	1 (0)
Early stage biface rejects	0	1 (0)	0	0	0	0	1 (0)
Late stage biface rejects	0	0	1 (0)	0	0	0	1 (0)
Other bifaces and fragments	0	0	0	1 (0)	0	0	1 (0)
TOTAL	12 (2)	112 (20)	192 (74)	59 (25)	1 (0)	1 (0)	377 (121)

TABLE 27

Lithic Artifact Assemblage - Cortex Percentage - Area B, Subsoil Units

	RAW MATERIALS						
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Ironstone	TOTAL
Flakes	9	18	38	44	0	0	32
Utilized flakes	--	--	50	--	--	--	50
Flake tools	100	--	100	--	--	--	100
Points	--	--	--	0	--	--	0
Early stage biface rejects	--	0	--	--	--	--	0
Late stage biface rejects	--	--	0	--	--	--	0
Other bifaces and fragments	--	--	--	0	--	--	0
TOTAL	17	18	39	42	0	0	32

hammerstones indicate that different stone tool manufacturing activities took place with the larger hammerstones being used for initial stages of tool production, and the smaller ones being used for later stages. The large hammerstones would be particularly useful for splitting cobbles and pebbles (see discussion in Geier 1990).

Because a sample of artifacts from the subsoil units was gathered from the excavations, these artifacts were analyzed separately from the feature artifacts and can be compared to them. There was an insufficient number of tools for analysis and comparison; however, the general patterns of raw material use and use of primary and secondary materials can be considered. Table 26 shows the summary catalog of raw material use for different tool types and cortex frequencies for the subsoil assemblage, and Tables 27 and 28 show cortex percentages and raw material percentages for individual tool types for the same assemblage. Tables 29 - 31 show the same data for the lithic assemblage from features.

TABLE 28

Lithic Artifact Assemblage - Raw Material Percentage by Tool Type - Area B, Subsoil Units

	RAW MATERIALS					
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Ironstone
Flakes	3	30	51	15	<1	<1
Utilized flakes	0	0	100	0	0	0
Flake tools	50	0	50	0	0	0
Points	0	0	0	100	0	0
Early stage biface rejects	0	100	0	0	0	0
Late stage biface rejects	0	0	100	0	0	0
Other bifaces and fragments	0	0	0	100	0	0
TOTAL	3	30	51	16	<1	<1

TABLE 29

Lithic Artifact Assemblage and Raw Materials - Area B, Features

	RAW MATERIALS								
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	124 (16)	179 (43)	741 (219)	377 (203)	1 (0)	4 (0)	1 (0)	2 (0)	1429 (481)
Utilized flakes	0	7 (1)	7 (3)	2 (0)	0	0	0	0	16 (4)
Flake tools	5 (1)	14 (4)	9 (7)	12 (9)	0	1 (0)	0	0	41 (21)
Points	1 (0)	1 (0)	2 (0)	11 (0)	0	0	0	0	15 (0)
Early stage biface rejects	1 (0)	3 (1)	1 (0)	1 (0)	0	0	0	0	6 (1)
Late stage biface rejects	0	2 (0)	1 (0)	3 (1)	0	0	0	0	6 (1)
Other bifaces and fragments	0	4 (1)	2 (1)	0	0	0	0	0	6 (2)
Miscellaneous stone tools	0	0	3 (2)	2 (2)	0	0	0	0	5 (4)
Cores	1 (0)	0	3 (3)	0	0	0	0	0	4 (3)
TOTAL	132 (17)	210 (50)	769 (235)	408 (215)	1 (0)	5 (0)	1 (0)	2 (0)	1528 (517)

In general, the cortex percentages (Tables 27 and 30) are very similar to one another and show the same patterns noted for the general assemblage. Likewise, the raw material percentages for the individual artifact types (Tables 28 and 31) are very similar. Thus, the artifacts from the subsoil are very similar to those from features in Area B. If the subsoil areas do indeed represent tool production areas, as was suggested based on the distribution data, then the similarities between the feature and the subsoil artifacts suggest that the features served as receptacles for debris from similar tool manufacturing activities. And, given the fact that the pit features would have been inside the houses, then it is likely that the tool manufacturing took place inside of the houses. Similar activity patterns have been noted at other sites (e.g., Custer and Hodny 1989) and have been linked to cold-weather occupations of houses.

TABLE 30

Lithic Artifact Assemblage - Cortex Percentage - Area B, Features

	RAW MATERIALS								
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	13	24	30	54	0	0	0	0	34
Utilized flakes	--	14	43	0	--	--	--	--	25
Flake tools	20	29	78	75	--	0	--	--	51
Points	0	0	0	0	--	--	--	--	0
Early stage biface rejects	0	33	0	0	--	--	--	--	17
Late stage biface rejects	--	0	0	33	--	--	--	--	17
Other bifaces and fragments	--	25	50	--	--	--	--	--	33
Miscellaneous stone tools	--	--	67	100	--	--	--	--	80
Cores	0	--	100	--	--	--	--	--	75
TOTAL	13	24	31	53	0	0	0	0	34

TABLE 31

Lithic Artifact Assemblage - Raw Material Percentage by Tool Type - Area B, Features

	RAW MATERIALS							
TOOL TYPE	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other
Flakes	9	13	52	26	<1	<1	<1	<1
Utilized flakes	0	44	44	12	0	0	0	0
Flake tools	12	34	22	29	0	2	0	0
Points	7	7	13	73	0	0	0	0
Early stage biface rejects	17	50	17	17	0	0	0	0
Late stage biface rejects	0	33	17	50	0	0	0	0
Other bifaces and fragments	0	67	33	0	0	0	0	0
Miscellaneous stone tools	0	0	60	40	0	0	0	0
Cores	25	0	75	0	0	0	0	0
TOTAL	9	14	50	27	<1	<1	<1	<1